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Application has been made to the Singapore Exchange Securities Trading Limited (the "**SGX-ST**") for permission to deal in and for quotation of the Warrants (defined below). The SGX-ST takes no responsibility for the contents of this document, makes no representation as to its accuracy or completeness and expressly disclaims any liability whatsoever for any loss howsoever arising from or in reliance upon the whole or any part of the contents of this document. Admission to the Official List of the SGX-ST is not to be taken as an indication of the merits of UBS AG, acting through its London Branch, the Index, the Shares or the Warrants.

**Base Listing Document  
relating to Warrants  
to be issued by**

**UBS AG**

(Incorporated with limited liability in Switzerland)  
**acting through its London Branch**

This document is published for the purpose of obtaining a listing on the SGX-ST of warrants to be issued from time to time by UBS AG (the "**Issuer**") acting through its London Branch. The warrants include American style physical delivery call warrants on single equities ("**American Style Physical Delivery Call Warrants**"), European style physical delivery call warrants on single equities ("**European Style Physical Delivery Call Warrants**"), American style cash settled call warrants on single equities ("**American Style Cash Settled Call Warrants**"), European style cash settled call warrants on single equities ("**European Style Cash Settled Call Warrants**"), American style physical delivery basket call warrants on a basket of equities ("**American Style Physical Delivery Basket Call Warrants**"), European style physical delivery basket call warrants on a basket of equities ("**European Style Physical Delivery Basket Call Warrants**"), American style cash settled basket call warrants on a basket of equities ("**American Style Cash Settled Basket Call Warrants**"), European style cash settled basket call warrants on a basket of equities ("**European Style Cash Settled Basket Call Warrants**"), American style index call warrants on indices ("**American Style Index Call Warrants**"), European style index call warrants on indices ("**European Style Index Call Warrants**"), European style cash settled call warrants on single unit funds ("**European Style Cash Settled Call Warrants on Single Unit Funds**"), European style cash settled long/short certificates on single equities (the "**Equity Certificates**"), European style cash settled long/short certificates on indices (the "**Index Certificates**"; together with the Equity Certificates, the "**Certificates**"), American style physical delivery put warrants on single equities ("**American Style Physical Delivery Put Warrants**"), European style physical delivery put warrants on single equities ("**European Style Physical Delivery Put Warrants**"), American style cash settled put warrants on single equities ("**American Style Cash Settled Put Warrants**"), European style cash settled put warrants on single equities ("**European Style Cash Settled Put Warrants**"), American style cash settled basket put warrants on a basket of equities ("**American Style Cash Settled Basket Put Warrants**"), European style cash settled basket put warrants on a basket of equities ("**European Style Cash Settled Basket Put Warrants**"), American style index put warrants on indices ("**American Style Index Put Warrants**"), European style index put warrants on indices ("**European Style Index Put Warrants**"), European style cash settled put warrants on single unit funds ("**European Style Cash Settled Put Warrants on Single Unit Funds**") and such other warrants to be issued from time to time by the Issuer (together the "**Warrants**" save that where the context requires references to the "**Warrants**"

shall mean the American Style Physical Delivery Call Warrants, European Style Physical Delivery Call Warrants, American Style Cash Settled Call Warrants, European Style Cash Settled Call Warrants, American Style Physical Delivery Basket Call Warrants, European Style Physical Delivery Basket Call Warrants, American Style Cash Settled Basket Call Warrants, European Style Cash Settled Basket Call Warrants, American Style Index Call Warrants, European Style Index Call Warrants, European Style Cash Settled Call Warrants on Single Unit Funds, Equity Certificates, Index Certificates, American Style Physical Delivery Put Warrants, European Style Physical Delivery Put Warrants, American Style Cash Settled Put Warrants, European Style Cash Settled Put Warrants, American Style Cash Settled Basket Put Warrants, European Style Cash Settled Basket Put Warrants, American Style Index Put Warrants, European Style Index Put Warrants, European Style Cash Settled Put Warrants on Single Unit Funds, or such other warrants to be issued from time to time by the Issuer, as the case may be).

This document is published in connection with a listing of the Warrants on the SGX-ST for the purpose of giving information with regard to the Issuer and the Warrants. The additional terms relating to each series of Warrants will be set out in a supplemental listing document (each a "**Supplemental Listing Document**") which will be supplemental to, and should be read in conjunction with, this document.

This document does not constitute or form part of any offer, or invitation, to subscribe for or to sell, or solicitation of any offer to subscribe for or to purchase, Warrants or other securities of the Issuer, nor is it calculated to invite, nor does it permit the making of, offers by the public to subscribe for or purchase for cash or other consideration Warrants or other securities of the Issuer.

**The Warrants are complex products. You should exercise caution in relation to them. Investors are warned that the price of the Warrants may fall in value as rapidly as it may rise and holders may sustain a total loss of their investment.**

**Prospective purchasers should therefore ensure that they understand the nature of the Warrants and carefully study the risk factors set out in this document and, where necessary, seek professional advice before they invest in the Warrants.**

**The information in this document does not take into account the investment objectives or financial position of any particular investor. Accordingly, nothing in this document should be construed as a recommendation or invitation by the Issuer or any associate of the Issuer or any other person concerning investment in the Warrants or any security underlying the Warrants.**

**The Warrants are classified as capital markets products other than prescribed capital markets products<sup>1</sup> and Specified Investment Products (SIPs)<sup>2</sup>, and may only be sold to retail investors with enhanced safeguards, including an assessment of such investors' investment knowledge or experience.**

**The Warrants constitute general unsecured contractual obligations of the Issuer and of no other person and if you purchase the Warrants you are relying upon the creditworthiness of the Issuer and have no rights under the Warrants against, if applicable, the company which has issued the underlying securities or any companies forming part of any indices to which the Warrants relate.**

As at the date of this Base Listing Document, the Issuer's long term credit rating by Standard & Poor's Credit Market Services Europe Limited is A+, by Moody's Deutschland GmbH is Aa3 and by Fitch Ratings Limited is AA-.

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<sup>1</sup> As defined in the Securities and Futures (Capital Markets Products) Regulations 2018.

<sup>2</sup> As defined in the MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products.

The Issuer is regulated by, among others, the Swiss Federal Banking Commission. In the United Kingdom, it is authorised by the Prudential Regulatory Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulatory Authority.

Subject as set out below, the Issuer accepts full responsibility for the information contained in this document in relation to itself and the Warrants. To the best of the knowledge and belief of the Issuer (which has taken all reasonable care to ensure that such is the case), the information contained in this document for which it accepts responsibility is in accordance with the facts and does not omit anything likely to affect the import of such information. This document should be read in conjunction with the relevant Supplemental Listing Document.

No persons have been authorised to give any information or to make any representation save as contained in this document or otherwise authorised by the Issuer in connection with the Warrants and, if given or made, such information or representation must not be relied upon as having been authorised by the Issuer. Neither the delivery of this document nor any sale of any Warrants shall under any circumstances create any implication that there has been no change in the affairs of the Issuer or its subsidiaries and associates since the date hereof. **This document does not constitute an offer by, or an invitation on behalf of, the Issuer to subscribe for or purchase any of the Warrants.**

This document does not constitute an offer or solicitation by or on behalf of the Issuer or the Manager(s) to purchase or subscribe for any of the Warrants. The distribution of this document and the offering of the Warrants may, in certain jurisdictions, be restricted by law. The Issuer requires persons into whose possession this document comes to inform themselves of and observe all such restrictions. The Issuer does not assume any fiduciary responsibility or liability for any consequences financial or otherwise arising from the subscription or acquisition of the Warrants. An investor should make his own appraisal of the risks and should consult to the extent necessary its own legal, financial, tax, accounting and other professional advisors in this respect prior to any subscription or acquisition of the Warrants.

In particular, the Warrants have not been, and will not be, registered under the United States Securities Act of 1933, as amended (the "**Securities Act**"). Subject to certain exceptions, Warrants, or interests therein, may not at any time be offered, sold, resold or delivered, directly or indirectly, in the United States or to, or for the account or benefit of, any U.S. person (as defined in Regulation S under the Securities Act) or to others for offering, sale or resale in the United States or to any such U.S. person. Offers and sales of Warrants, or interests therein, in the United States or to U.S. persons would constitute a violation of United States securities laws unless made in compliance with registration requirements of the Securities Act or pursuant to an exemption therefrom.

The SGX-ST has made no assessment of, nor taken any responsibility for, the financial soundness of the Issuer or the merits of investing in the Warrants, nor have they verified the accuracy or the truthfulness of statements made or opinions expressed in this document.

The Issuer and/or its affiliates may repurchase Warrants at any time and any Warrant which is repurchased may be offered from time to time in one or more transactions in the over-the-counter market or otherwise at prevailing market prices or in negotiated transactions, at the discretion of the Issuer and/or its affiliates. Investors should not therefore make any assumption as to the number of Warrants in issue at any time.

The Issuer undertakes, in respect of each series of Warrants, during the period of 14 days from the date of the relevant Supplemental Listing Document of such series of Warrants to make available for inspection by the holders of such series of Warrants at the office of Allen & Gledhill LLP at One Marina Boulevard #28-00, Singapore 018989, a copy of the latest publicly available audited financial statements and the latest issued annual report and interim report (if any) of the Issuer and this Base Listing Document.

This document includes the terms and conditions of each of the American Style Physical Delivery Call Warrants, European Style Physical Delivery Call Warrants, American Style Cash Settled Call Warrants, European Style Cash Settled Call Warrants, American Style Physical Delivery Basket Call Warrants, European Style Physical Delivery Basket Call Warrants, American Style Cash Settled Basket Call Warrants, European Style Cash Settled Basket Call Warrants, American Style Index Call Warrants, European Style Index Call Warrants, European Style Cash Settled Call Warrants on Single Unit Funds, Equity Certificates, Index Certificates, American Style Physical Delivery Put Warrants, European Style Physical Delivery Put Warrants, American Style Cash Settled Put Warrants, European Style Cash Settled Put Warrants, American Style Cash Settled Basket Put Warrants, European Style Cash Settled Basket Put Warrants, American Style Index Put Warrants, European Style Index Put Warrants and European Style Cash Settled Put Warrants on Single Unit Funds (together, the "**Conditions**" or the "**Conditions of the Warrants**", save that where the context requires references to the Conditions or the Conditions of the Warrants shall mean the terms and conditions of the American Style Physical Delivery Call Warrants, the terms and conditions of the European Style Physical Delivery Call Warrants, the terms and conditions of the American Style Cash Settled Call Warrants, the terms and conditions of the European Style Cash Settled Call Warrants, the terms and conditions of the American Style Physical Delivery Basket Call Warrants, the terms and conditions of the European Style Physical Delivery Basket Call Warrants, the terms and conditions of the American Style Cash Settled Basket Call Warrants, the terms and conditions of the European Style Cash Settled Basket Call Warrants, the terms and conditions of the American Style Index Call Warrants, the terms and conditions of the European Style Index Call Warrants, the terms and conditions of the European Style Cash Settled Call Warrants on Single Unit Funds, the terms and conditions of the Equity Certificates, the terms and conditions of the Index Certificates, the terms and conditions of the American Style Physical Delivery Put Warrants, the terms and conditions of the European Style Physical Delivery Put Warrants, the terms and conditions of the American Style Cash Settled Put Warrants, the terms and conditions of the European Style Cash Settled Put Warrants, the terms and conditions of the American Style Cash Settled Basket Put Warrants, the terms and conditions of the European Style Cash Settled Basket Put Warrants, the terms and conditions of the American Style Index Put Warrants, the terms and conditions of the European Style Index Put Warrants and the terms and conditions of the European Style Cash Settled Put Warrants on Single Unit Funds, as the case may be).

All references herein to "**Singapore dollars**" and "**S\$**" are to the lawful currency of Singapore, to "**CHF**" are to the lawful currency of Switzerland, to "**EUR**" are to the currency introduced at the third stage of European economic and monetary union pursuant to the Treaty establishing the European Community, as amended from time to time, to "**US dollar**" and "**USD**" are to the lawful currency of the United States of America, to "**Yen**" are to the lawful currency of Japan, to "**GBP**" are to the lawful currency of the United Kingdom and to "**BRL**" are to the lawful currency of Brazil.

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## RISK FACTORS

The following risk factors are relevant to the Warrants:-

- (a) investment in Warrants involves substantial risks including market risk, liquidity risk, and the risk that the Issuer will be unable to satisfy its obligations under the Warrants. Investors should ensure that they understand the nature of all these risks before making a decision to invest in the Warrants. You should consider carefully whether Warrants are suitable for you in light of your experience, objectives, financial position and other relevant circumstances. Warrants are not suitable for inexperienced investors;
- (b) the Warrants constitute direct, general and unsecured contractual obligations of the Issuer and if you purchase the Warrants you are relying upon the creditworthiness of the Issuer and have no rights under the Warrants against any other person. In particular, it should be noted that the Issuer issues a large number of financial instruments, including Warrants, on a global basis and, at any given time, the financial instruments outstanding may be substantial. If you purchase the Warrants you are relying upon the creditworthiness of the Issuer and have no rights under the Warrants against (i) the company which has issued the underlying shares, (ii) the trustee or manager of the underlying funds; or (iii) the sponsor of the underlying indices or any companies forming part of any indices or funds to which the Warrants relate. The Issuer has substantially no obligation to a holder of the Warrants other than to pay amounts and/or deliver securities in accordance with the terms thereof as set forth herein and in the relevant Supplemental Listing Document. The Issuer does not in any respect underwrite or guarantee the performance of any Warrant. Any profit or loss realised by a holder of the Warrants in respect of a Warrant upon exercise or otherwise due to changes in the value of such Warrant, or the shares, baskets of shares, indices or units of a fund underlying such Warrant, is solely for the account of such holder of the Warrants. In addition, the Issuer shall have the absolute discretion to put in place any hedging transaction or arrangement which it deems appropriate in connection with any Warrant or the applicable underlying securities or indices. A reduction in the rating, if any, accorded to outstanding debt securities of the Issuer by any one of its rating agencies could result in a reduction in the trading value of the Warrants;
- (c) in the case of Warrants relating to a share or shares, share index or units of a fund, certain events relating to such shares or units of a fund, or the underlying company or fund, may cause adverse movements in the value and price of the underlying share, or units of a fund or other security, as a result of which, the holders of the Warrants may, in certain circumstances, sustain a total loss of their investment if, for Call Warrants, the price of the underlying share or unit of a fund or the level of underlying index falls below or is equal to the relevant exercise price or strike level on the relevant expiry date and, for Put Warrants, the price of the underlying share or unit of a fund or the level of underlying index is equal to or higher than the relevant exercise price or strike level on the relevant expiry date;
- (d) due to their nature, the Warrants can be volatile instruments and may be subject to considerable fluctuations in value. The price of the Warrants may fall in value as rapidly as it may rise due to, including but not limited to, variations in the frequency and magnitude of the changes in the price of the underlying share or units of a fund or the level of the index, dividends and interest rates, the time remaining to expiry and the creditworthiness of the Issuer;
- (e) fluctuations in the price of the underlying share, units of a fund and other security will affect the price of the Warrants but not necessarily in the same magnitude and direction, therefore, prospective investors intending to purchase Warrants to hedge their market risk associated with investing in the underlying share, units of a fund or other security which may be specified in the relevant Supplemental Listing Document, should recognise the complexities of utilising the Warrants in this manner;

- (f) as indicated in the Conditions and as shall be indicated in the applicable Supplemental Listing Document, a holder of the Warrants must tender a specified number of Warrants at any one time in order to exercise. Thus, holders of the Warrants with fewer than the specified minimum number of Warrants in a particular series will either have to sell their Warrants or purchase additional Warrants, incurring transactions costs in each case, in order to realise their investment;
- (g) if, whilst any of the American Style Physical Delivery Call Warrants, European Style Physical Delivery Call Warrants, American Style Cash Settled Call Warrants, European Style Cash Settled Call Warrants, American Style Physical Delivery Basket Call Warrants, European Style Physical Delivery Basket Call Warrants, American Style Cash Settled Basket Call Warrants, European Style Cash Settled Basket Call Warrants, American Style Index Call Warrants, European Style Index Call Warrants, European Style Cash Settled Call Warrants on Single Unit Funds, Equity Certificates, Index Certificates, American Style Physical Delivery Put Warrants, European Style Physical Delivery Put Warrants, American Style Cash Settled Put Warrants, European Style Cash Settled Put Warrants, American Style Cash Settled Basket Put Warrants, European Style Cash Settled Basket Put Warrants, American Style Index Put Warrants, European Style Index Put Warrants and European Style Cash Settled Put Warrants on Single Unit Funds remain unexercised, trading in the underlying shares or units of a fund on the relevant stock exchange is suspended, trading of options or futures relating to the relevant index on any options or futures exchanges is suspended, or options or futures generally on any options and/or futures exchanges on which options or futures relating to the relevant index are traded is suspended, or if the relevant index for whatever reason is not calculated trading in the relevant Warrants may be suspended for a similar period;
- (h) in the case of American Style Physical Delivery Call Warrants, European Style Physical Delivery Call Warrants, American Style Cash Settled Call Warrants, European Style Cash Settled Call Warrants, American Style Physical Delivery Basket Call Warrants, European Style Physical Delivery Basket Call Warrants, American Style Cash Settled Basket Call Warrants, European Style Cash Settled Basket Call Warrants, American Style Index Call Warrants, European Style Index Call Warrants, European Style Cash Settled Call Warrants on Single Unit Funds, Equity Certificates, Index Certificates, American Style Physical Delivery Put Warrants, European Style Physical Delivery Put Warrants, American Style Cash Settled Put Warrants, European Style Cash Settled Put Warrants, American Style Cash Settled Basket Put Warrants, European Style Cash Settled Basket Put Warrants, American Style Index Put Warrants, European Style Index Put Warrants and European Style Cash Settled Put Warrants on Single Unit Funds, investors should note that the Issuer's obligations to pay amounts and/or deliver securities in accordance with the terms thereof as set forth herein shall be discharged by delivery of the aggregate Cash Settlement Amount (if positive) or crediting to the Free Balance of the Issuer's securities account with the CDP such aggregate number of securities to be delivered to all holders of the Warrants in accordance with the agreement with the Warrant Agent;
- (i) in the case of American Style Physical Delivery Call Warrants, European Style Physical Delivery Call Warrants, American Style Physical Delivery Basket Call Warrants or European Style Physical Delivery Basket Call Warrants, investors should note that in the event of there being a Settlement Disruption Event (as defined in the Conditions) or a Market Disruption Event (as defined in the Conditions) delivery of the shares may be delayed, all as more fully described in the Conditions;
- (j) in the case of American Style Physical Delivery Call Warrants, European Style Physical Delivery Call Warrants, American Style Cash Settled Call Warrants, European Style Cash Settled Call Warrants, American Style Physical Delivery Basket Call Warrants, European Style Physical Delivery Basket Call Warrants, American Style Cash Settled Basket Call Warrants, European Style Cash Settled Basket Call Warrants, Equity Certificates, American Style Physical Delivery Put Warrants, European Style Physical Delivery Put Warrants, American Style Cash Settled Put Warrants, European Style Cash Settled Put Warrants, American Style Cash Settled Basket Put Warrants or European Style Cash Settled Basket Put Warrants, certain events relating to the



shares of the underlying company require or, as the case may be, permit the Issuer to make certain adjustments or amendments to the Conditions;

- (k) in the case of American Style Index Call Warrants, European Style Index Call Warrants, Index Certificates, American Style Index Put Warrants and European Style Index Put Warrants, certain events relating to indices permit the Issuer to make certain determinations in respect of the indices and thus, permit the Issuer to make certain adjustments or amendments to the Conditions;
- (l) in the case of European Style Cash Settled Call Warrants on Single Unit Funds and European Style Cash Settled Put Warrants on Single Unit Funds, certain event relating to the relevant fund may permit the Issuer to make certain determinations in respect of the fund and thus, permit the Issuer to make certain adjustments or amendments to the Conditions;
- (m) in the case of American Style Index Call Warrants, European Style Index Call Warrants, Index Certificates, American Style Index Put Warrants and European Style Index Put Warrants, a level for the relevant index may be published by the index sponsor at a time when one or more shares comprised in the index are not trading. If this occurs on a Valuation Date (as defined in the Conditions) or an Observation Date (as defined in the relevant Supplemental Listing Document), as the case may be, and there is no Market Disruption Event under the terms of the relevant Warrants then the value of such shares may not be included in the closing level of the index. In addition, certain events relating to the index (including a material change in the formula or the method of calculating the index or a failure to publish the index) permits the Issuer to determine the level of the index on the basis of the formula or method last in effect prior to such change of formula;
- (n) a European Style Physical Delivery Call Warrant, a European Style Cash Settled Call Warrant, a European Style Physical Delivery Basket Call Warrant, a European Style Cash Settled Basket Call Warrant, a European Style Index Call Warrant, a European Style Cash Settled Call Warrants on Single Unit Funds, an Equity Certificate, an Index Certificate, a European Style Physical Delivery Put Warrant, a European Style Cash Settled Put Warrant, a European Style Cash Settled Basket Put Warrant, a European Style Index Put Warrant and a European Style Cash Settled Put Warrants on Single Unit Funds is only exercisable on its respective expiry date and may not be exercised by holders of the Warrants prior to such expiry date. Accordingly, if on such expiry date the Cash Settlement Amount (where applicable) is zero or negative, a holder of the Warrants will lose the value of his investment;
- (o) investors should note that there may be an exchange rate risk in the case of American Style Cash Settled Call Warrants, European Style Cash Settled Call Warrants, American Style Cash Settled Basket Call Warrants, European Style Cash Settled Basket Call Warrants, American Style Index Call Warrants, European Style Index Call Warrants, European Style Cash Settled Call Warrants on Single Unit Funds, Equity Certificates, Index Certificates, American Style Cash Settled Put Warrants, European Style Cash Settled Put Warrants, American Style Cash Settled Basket Put Warrants, European Style Cash Settled Basket Put Warrants, American Style Index Put Warrants, European Style Index Put Warrants and European Style Cash Settled Put Warrants on Single Unit Funds where the Cash Settlement Amount may be converted from a foreign currency into Singapore dollars. Exchange rates between currencies are determined by forces of supply and demand in the foreign exchange markets. These forces are, in turn, affected by factors such as international balances of payments and other economic and financial conditions, government intervention in currency markets and currency trading speculation. Fluctuations in foreign exchange rates, foreign political and economic developments, and the imposition of exchange controls or other foreign governmental laws or restrictions applicable to such investments may affect the foreign currency market price and the exchange rate-adjusted equivalent price of the Warrants. Fluctuations in the exchange rate of any one currency may be offset by fluctuations in the exchange rate of other relevant currencies;

- (p) investors should note that it is not possible to predict the price at which the Warrants will trade in the secondary market or whether such market will be liquid or illiquid. To the extent Warrants of a particular issue are exercised, the number of Warrants of such issue outstanding will decrease, resulting in a diminished liquidity for the remaining Warrants of such issue. A decrease in the liquidity of an issue of Warrants may cause, in turn, an increase in the volatility associated with the price of such issue of Warrants. The Issuer may, but is not obligated to, at any time, purchase Warrants at any price in the open market or by tender or private agreement. Any Warrants so purchased may be held or resold or surrendered for cancellation. To the extent that an issue of Warrants becomes illiquid, an investor may have to exercise such Warrants to realise value;
- (q) two or more risk factors may simultaneously have an effect on the value of a Warrant such that the effect of any individual risk factor may not be predicted. No assurance can be given as to the effect any combination of risk factors may have on the value of a Warrant;
- (r) investors should note that they may be required to pay stamp taxes or other documentary charges in accordance with the laws and practices of the country where the Warrants are transferred. Investors who are in any doubt as to their tax position should consult their own independent tax advisers. In addition, investors should be aware that tax regulations and their application by the relevant taxation authorities change from time to time. Accordingly, it is not possible to predict the precise tax treatment which will apply at any given time. Investors should refer to the Taxation Section in pages 278 to 281 of this document;
- (s) investors should note that the Issuer may enter into discount, commission or fee arrangements with brokers and/or any of its subsidiaries or affiliates with respect to the primary or secondary market in the Warrants. The arrangements may result in the benefit to investors in Warrants buying and selling Warrants through nominated brokers by reducing or eliminating the commission payable by such holders of the Warrants. In the event that the commission payable by holders of the Warrants is eliminated, fee arrangements between the Issuer and brokers and/or any of its subsidiaries or affiliates will continue to apply. Investors in the Warrants should note that any brokers with whom the Issuer has a commission arrangement does not, and cannot be expected to, deal exclusively in the Warrants, therefore any broker and/or any of its subsidiaries or affiliates may from time to time engage in transactions involving the shares in the underlying company, units in the underlying fund, other securities and/or structured products of other issuers over the same shares in the same underlying company, units in the same underlying fund or other securities as the Warrants for their proprietary accounts and/or accounts of their clients. The fact that the same broker may deal simultaneously for different clients in competing products in the market place may affect the value of the Warrants and present certain conflicts of interests;
- (t) various potential and actual conflicts of interest may arise from the overall activities of the Issuer and any of its subsidiaries and affiliates.

The Issuer and any of its subsidiaries and affiliates are diversified financial institutions with relationships in countries around the world. These entities engage in a wide range of commercial and investment banking, brokerage, funds management, hedging transactions and investment and other activities for their own account or the account of others. In addition, the Issuer and any of its subsidiaries and affiliates, in connection with their other business activities, may possess or acquire material information about the underlying shares, baskets of shares, indices and/or units of a fund. Such activities and information may involve or otherwise affect issuers of underlying shares, baskets of shares, indices and/or units of a fund in a manner that may cause consequences adverse to the holders of the Warrants or otherwise create conflicts of interests in connection with the issue of Warrants by the Issuer. Such actions and conflicts may include, without limitation, the exercise of voting power, the purchase and sale of securities, financial

advisory relationships and exercise of creditor rights. The Issuer and any of its subsidiaries and affiliates have no obligation to disclose such information about the underlying shares, baskets of shares, indices and/or units of a fund or such activities. The Issuer and any of its subsidiaries and affiliates and their officers and directors may engage in any such activities without regard to the issue of Warrants by the Issuer or the effect that such activities may directly or indirectly have on any Warrant.

In the case of Index Certificates, an affiliate of the Issuer may act as the index sponsor. Potential conflict of interests may arise. This may result in consequences which may be adverse to holders of the Warrants. The Issuer assumes no responsibility whatsoever for such consequences and their impact on holders of the Warrants. However, any risk of conflict of interest will be limited since (i) the index rules are pre-determined, publicly available and based on observable market parameters; and (ii) the index will be calculated by an independent calculation agent;

- (u) in the ordinary course of their business, including without limitation in connection with the Issuer or its appointed designated market maker's market making activities, the Issuer and any of its respective subsidiaries and affiliates may effect transactions for their own account or for the account of their customers and hold long or short positions in the underlying shares, baskets of shares, indices and/or units of a fund, or related derivatives. In addition, in connection with the offering of any Warrants, the Issuer and any of its respective subsidiaries and affiliates may enter into one or more hedging transactions with respect to the underlying shares, baskets of shares, indices and/or units of a fund or related derivatives. In connection with such hedging or market-making activities or with respect to proprietary or other trading activities by the Issuer and any of its respective subsidiaries and its affiliates, the Issuer and any of its respective subsidiaries and affiliates may enter into transactions in the underlying shares, baskets of shares, indices and/or units of fund or related derivatives which may affect the market price, liquidity or value of the Warrants and which may affect the interests of holders of the Warrants;
- (v) certain risks relating to the Issuer's operating environment and strategy, including those as set out in Appendix 2 of this document, may impact the Issuer's ability to execute its strategy and directly affect its business activities, financial condition, results of operations and prospects. As a broad-based international financial services firm, the Issuer is inherently exposed to risks that become apparent only with the benefit of hindsight, risks of which it is not presently aware or which it currently does not consider to be material could also materially affect its business activities, financial condition, results of operations and prospects. The sequence in which the risk factors are set out in Appendix 2 of this document is not indicative of their likelihood of occurrence or the potential magnitude of their financial consequences;
- (w) as the Warrants are represented by a global warrant certificate which will be deposited with The Central Depository (Pte) Limited ("**CDP**"):
  - (i) investors should note that no definitive certificate will be issued in relation to the Warrants;
  - (ii) there will be no register of holders of the Warrants and each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants by way of interest (to the extent of such number) in the global warrant certificate in respect of those Warrants represented thereby shall be treated as the holder of such number of Warrants;
  - (iii) investors will need to rely on any statements received from their brokers/custodians as evidence of their interest in the Warrants; and

- (iv) notices to such holders of the Warrants will be published on the website of the SGX-ST. Investors will need to check the website of the SGX-ST regularly and/or rely on their brokers/custodians to obtain such notices;
- (x) in the case of European Style Cash Settled Call Warrants on Single Unit Funds and European Style Cash Settled Put Warrants on Single Unit Funds, investors shall note that neither the Issuer nor any of its subsidiaries and affiliates has the ability to control or predict the actions of the trustee or the manager of the relevant fund. Neither the trustee nor the manager of the relevant fund (i) is involved in the offer of the Warrants in any way, or (ii) has any obligation to consider your interest in taking any corporate actions that might affect the value of the Warrants.

The Issuer has no role in the relevant fund. The manager of the relevant fund is responsible for making investment and other trading decisions with respect to the management of the fund consistent with its investment objectives and in compliance with the investment restrictions as set out in the constitutive documents of the relevant fund. The manner in which the relevant fund is managed and the timing of actions may have a significant impact on the performance of the relevant fund. Hence, the market price of the relevant units of a fund is subject to these risks; and

- (y) risk factors relating to the Certificates:
  - (i) investors should note that there are leveraged risks because the Certificates integrate a leverage within the leveraged index or integrate a leverage mechanism, as the case may be, and the Certificates will amplify the movements in the increase, and in the decrease, of the value of the securities or derivatives comprised in the underlying reference index or the index, or the underlying securities, as the case may be, and if the investment results in a loss, any such loss will be increased by the leverage factor of the leveraged index or the Certificates, as the case may be. As such, investors could lose more than they would if they had invested directly in the securities or derivatives comprised in the underlying reference index or the index, or the underlying securities, as the case may be;
  - (ii) when held for longer than a day, the performance of the Certificates could be more or less than the leverage factor that is embedded within the leveraged index or the Certificates, as the case may be. The performance of the Certificates each day is locked in, and any subsequent returns are based on what was achieved the previous day. This process, referred to as compounding, may lead to a performance difference from the leverage factor that is embedded within the leveraged index or the Certificates, as the case may be, over a period longer than one day. This difference may be amplified in a volatile market with a sideways trend, where market movements are not clear in direction, whereby investors may sustain substantial losses;
  - (iii) since the Certificates relate to the level of an index or the price of an underlying security, certain events relating to the index or index components, or the underlying securities, may cause adverse movements in the value and the level of the index or index components, or the price of the underlying securities, as a result of which, the Certificate Holders (as defined in the Conditions of the Certificates) may, in extreme circumstances, sustain a significant loss of their investment if the level of the index or the price of the underlying securities has fallen or risen sharply, as the case may be;
  - (iv) investors should note that (A) in case of Certificates that integrate a leverage within the leveraged index, the Air Bag Mechanism (as defined in the relevant Supplemental Listing

Document) reduces the impact on the leveraged index if the underlying reference index falls or rises, as the case may be, further, but will also maintain a reduced exposure to the underlying reference index in the event the underlying reference index starts to rise or fall, as the case may be, after the Air Bag Mechanism is triggered, thereby reducing its ability to recoup losses; (B) in case of Certificates that integrate a leverage mechanism, the Air Bag Mechanism reduces the impact on the Leverage Strategy/Leverage Inverse Strategy (as defined in the relevant Supplemental Listing Document) if the index or the underlying security falls or rises, as the case may be, further, but will also maintain a reduced exposure to the index or the underlying security in the event the index or the underlying security starts to rise or fall, as the case may be, after the Air Bag Mechanism is triggered, thereby reducing its ability to recoup losses;

- (v) there is no assurance that the Air Bag Mechanism will prevent investors from losing the entire value of their investment, in the event of (i) an overnight fall or rise, as the case may be, in the underlying reference index or the index, or the underlying securities, as the case may be, where there is a certain percentage (as specified in the relevant Supplemental Listing Document) or greater gap between the previous day closing level or price and the opening level or price of the underlying reference index or the index, or the underlying securities, as the case may be, the following day, as the Air Bag Mechanism will only be triggered when market opens the following day or (ii) a sharp intraday fall or rise, as the case may be, in the underlying reference index or the index, or the underlying securities, as the case may be, of certain percentage (as specified in the relevant Supplemental Listing Document) or greater during the observation period compared to the reference level or price, being: (a) if air bag event has not been previously triggered on the same day, the previous closing level or price of the underlying reference index or the index, or the underlying securities, as the case may be, or (b) if one or more air bag events have been previously triggered on the same day, the latest new observed level or price;
- (vi) certain events may, pursuant to the terms and conditions of the Certificates, trigger (A) the implementation of methods of adjustment or (B) the early termination of the Certificates. The Issuer will give the investors reasonable notice of any early termination. If the Issuer terminates the Certificates early, then the Issuer will, if and to the extent permitted by applicable law, pay an amount to each Certificate Holder in respect of each Certificate held by such holder equal to the fair market value of the Certificate less the cost to the Issuer of unwinding any underlying related hedging arrangements, all as determined by the Issuer in its sole and absolute discretion. The performance of this commitment shall depend on (A) general market conditions and (B) the liquidity conditions of the underlying instrument(s) and, as the case may be, of any other hedging transactions. Investors should note that the amount repaid by the Issuer may be less than the amount initially invested. Investors may refer to the Condition 13 of the Equity Certificates on pages 143 to 144 and the Condition 11 of the Index Certificates on pages 151 to 152 of this document for more information;
- (vii) in the case of the Index Certificates, an affiliate of the Issuer may act as the index sponsor. If the hedging activities of the Issuer and any of its subsidiaries and affiliates in connection with the leveraged index or the index, as the case may be, are disrupted, the index sponsor may decide to terminate calculations in relation to the leveraged index or the index, as the case may be, sooner than another index sponsor would in comparable circumstances. Such a termination may trigger the early redemption of the Certificates;

- (viii) the total return on an investment in any Certificate may be affected by the Hedging Fee Factor (as defined in the relevant Supplemental Listing Document), Management Fee (as defined in the relevant Supplemental Listing Document) and Gap Premium (as defined in the relevant Supplemental Listing Document); and
- (ix) investors holding their position overnight should note that they would be required to bear the annualised cost which consists of the Management Fee and Gap Premium, which are calculated daily and applied to the value of the Certificates, as well as certain costs embedded within the leveraged index or the Leverage Strategy/Leverage Inverse Strategy, as the case may be, including the annualised costs of funding, referencing a publically published interbank offered rate plus spread or the annualised costs for borrowing stocks in order to take an inverse exposure on the underlying reference index or the index, or the underlying securities, as the case may be, and the transaction costs (if applicable), computed as a function of leverage and daily performance or daily inverse performance of the underlying reference index or the index, or the underlying securities, as the case may be.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE AMERICAN STYLE PHYSICAL DELIVERY CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions) and, in particular, the Warrants will not be secured by Shares.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

### 2. Warrant Rights, Exercise Price and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise, payment of the Exercise Price (as defined below) and on compliance with Condition 4, to delivery

of a number of Shares equal to the Conversion Ratio, subject to adjustment as provided in Condition 6.

**"Conversion Ratio"** means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Price.* Exercise Price means the amount as may be specified by the Issuer.
- (c) *Exercise Expenses.* Warrantholders will be required to pay all charges which they incur on or in respect of or in connection with the purchase and transfer of Shares upon the exercise of the Warrants, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with such purchase and transfer of Shares.

In addition, Warrantholders will be required to pay a sum equal to all the expenses payable by the seller and the transferor of the relevant Shares, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with the purchase and transfer of or agreement to purchase and transfer the Shares to which the relevant Warrants and/or the exercise of the Warrants relate (the above charges and expenses incurred by Warrantholders and the above seller's and transferor's expenses are together referred to as the **"Exercise Expenses"**).

An amount equivalent to the Exercise Expenses must be paid by the Warrantholders together with the Exercise Price in accordance with Condition 4. In certain circumstances, part of the Exercise Expenses may be required to be paid by Warrantholders after the exercise of the Warrants but prior to the credit of the Warrantholders' securities accounts with CDP with the relevant number of Shares.

- (d) *No Rights.* The purchase of Warrants does not confer on the Warrantholder any right (whether in respect of voting, dividend or other distributions in respect of the Shares or otherwise) which the holder of a Share may have.

### 3. **Exercise Period**

- (a) *Exercise Period.* The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4 at any time during the period (the **"Exercise Period"**) beginning at 9:00 a.m. (Singapore time) on the Dealing Commencement Date (or, if later, the first day of dealings in the Warrants on the Singapore Exchange Securities Trading Limited (the **"SGX-ST"**)) and ending at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day.
- (b) *Suspension Period.* A **"Suspension Period"** occurs if the Issuer determines (in its absolute discretion) that (i) the ability of the Warrantholder or the Issuer to perform their respective payment and delivery obligations pursuant to an exercise of Warrants has been or could be expected to be materially adversely affected as a result of the suspension of, or a material limitation on, trading in the Shares or a general suspension of, or a material limitation on, trading on the Relevant Stock Exchange or (ii) otherwise a transfer of the Shares on exercise of the Warrants cannot be effected through the settlement system of CDP. The Warrantholder shall make payment for, and the Issuer shall effect the delivery of, the Shares on the first Business Day after the end of the



Suspension Period in accordance with Condition 4(g) (and so that, in calculating the number of days between the relevant Exercise Date (as defined in Condition 4(b)(ii)) and the date on which Shares are transferred, the Suspension Period shall be excluded) and notice thereof shall be given to the Warrantholders in accordance with Condition 9.

- (c) *Expiry.* Any Warrant with respect to which an Exercise Date has not occurred or has not been deemed to have occurred during the Exercise Period shall expire immediately thereafter and all rights of the Warrantholder and obligations of the Issuer with respect to such Warrant shall cease.

#### 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.
- (b) *Delivery of an Exercise Notice.*
  - (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an "**Exercise Notice**"), together with the payments specified in Condition 4(c)(ii) below, such delivery to be made at any time during the Exercise Period. Warrants may not be exercised at any other time.
  - (ii) The date upon which a Warrant is, or is to be treated as, exercised (an "**Exercise Date**") shall be the Business Day on which an Exercise Notice is delivered to the Warrant Agent and in respect of which there is a valid exercise of Warrants in accordance with the requirements of these Conditions, provided that any Exercise Notice received by the Warrant Agent after 12:00 noon (Singapore time) on any Business Day shall be deemed to have been delivered on the next following Business Day.
- (c) *Exercise Notice.* The Exercise Notice shall:-
  - (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
  - (ii) be accompanied by payments by way of banker's draft or other forms of payment, in each case in immediately available funds, in favour of the Issuer for the aggregate of the Exercise Price for the total number of Shares to be purchased and for such of the aggregate of the Exercise Expenses as may be determined by the Warrant Agent at that time or, if later, as soon as the same shall have been determined by the Warrant Agent;
  - (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
  - (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;

- (v) specify the number of the Warrantholder's securities account with CDP to be credited with the Shares and irrevocably instruct CDP to credit (if applicable) the "Free" balance of such securities account with the Shares; and
- (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Exercise Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice.

If the Exercise Expenses or the Exercise Price in respect of any Warrants being exercised are not received in accordance with Conditions 2(c) and 4(c) for any reason, any such payment may, with the consent of the Issuer (which consent may be granted or withheld at the Issuer's absolute discretion), be effected as soon as possible after delivery of the Exercise Notice or, as the case may be, prior to transfer of the relevant Shares being effected by CDP, but without prejudice to the rights of the Issuer or of any other person in respect of the actions or omissions of the Warrantholder in question. In no event will any payment be accepted after 12:00 noon (Singapore time) on the Expiry Date.

- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will, on the Exercise Date, earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (g) *Delivery of Shares.* Subject to a valid exercise of the Warrants in accordance with these Conditions and to Condition 4(h) below, and subject as provided below in the case of a Settlement Disruption Event (as defined below), the Issuer will no later than the date (the "**Physical Settlement Date**") falling seven Business Days following the Exercise Date ensure that such aggregate number of Shares to be delivered to all Warrantholders pursuant to the Conditions, are credited to the "Free" Balance of the Issuer's securities account with the CDP and the Warrant Agent will then deliver, or procure the delivery of, the Shares to the Warrantholder. The delivery of the Shares shall be evidenced by a transfer in the records of CDP of such Shares to the Warrantholder's securities account with CDP as specified in the relevant Exercise Notice. Notwithstanding the foregoing, such delivery shall not take place until the Warrantholder shall have accounted to the Warrant Agent for unpaid Exercise Expenses to the extent that they were not or could not be paid on the Exercise Date. The Issuer shall not be obliged to account to any Warrantholder for any amount or entitlement it receives by way of dividend or other

distributions in respect of the Shares, the record date for which falls prior to the date on which the Issuer delivers or procures the delivery of such Shares.

If a Settlement Disruption Event exists on any Business Day from and including the Exercise Date to and including the Physical Settlement Date, then the Physical Settlement Date shall be postponed by the number of Business Days upon which there has been a Settlement Disruption Event unless a Settlement Disruption Event prevents settlement on each of the seven Business Days immediately following the original date that, but for the Settlement Disruption Event, would have been a Physical Settlement Date. In that case: (i) if the Shares can be delivered in any other commercially reasonable manner on the tenth Business Day immediately following the original Physical Settlement Date then they shall so be delivered; and (ii) if the Shares cannot be delivered in any other commercially reasonable manner, the Physical Settlement Date shall be postponed until settlement can reasonably be effected under this Condition or in any other commercially reasonable manner.

**"Settlement Disruption Event"** means an event beyond the control of the Issuer as a result of which (A) it is unable to deliver Shares pursuant to an exercise of Warrants as a result of the suspension of, or a material limitation on, trading in the Shares or a general suspension of, or a material limitation on, trading on the Relevant Stock Exchange or (B) otherwise a transfer of Shares on exercise of Warrants cannot be effected through the settlement system of CDP.

If, as a result of a Settlement Disruption Event, it is not possible for the Issuer to deliver or procure the delivery of the Shares to the exercising Warrantholder through the Warrant Agent, all as set out above, on or before the original Physical Settlement Date, the Issuer shall procure that the exercising Warrantholder is notified (in accordance with Condition 9(a)) of the postponement of the Physical Settlement Date.

The Issuer's obligations to deliver Shares shall be discharged by crediting the aggregate number of Shares to be delivered to the Warrantholders to the "Free" Balance of the Issuer's securities account with the CDP in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (h) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form or which is not accompanied by the payment referred to in Condition 4(c)(ii) above shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (i) *Business Day.* In these Conditions, a **"Business Day"** shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.
- (j) *Relationship of agency or trust.* These Conditions shall not be construed so as to give rise to any relationship of agency or trust between the Issuer or its agent or nominee and any exercising Warrantholder in its capacity as beneficial owner of Shares, or any other

such beneficial owner of Shares, and neither the Issuer nor its agent or nominee shall owe any duty of a fiduciary nature to either such Warrantholder or such beneficial owner in respect of such Shares.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Conversion Ratio will be adjusted on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

The Conversion Ratio will be adjusted to:-

$$\text{Adjusted Conversion Ratio} = \frac{1 + M}{1 + (R/S) \times M} \times C$$

Where: -

C	:	Existing Conversion Ratio immediately prior to the Rights Offer
S	:	Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares are traded on a cum-Rights basis
R	:	Subscription price per Share as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
M	:	Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Conversion Ratio being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Conversion Ratio. In addition, the Issuer shall also adjust the Exercise Price accordingly.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are

given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Conversion Ratio shall be increased on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = (1 + N) \times C$$

Where:-

C	:	Existing Conversion Ratio immediately prior to the Bonus Issue
N	:	Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares for each Share held prior to the Bonus Issue

No adjustment of the Conversion Ratio will be made if the adjustment to the Conversion Ratio is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (c) *Share Splits or Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Conversion Ratio in effect immediately prior thereto shall be increased (in the case of a Subdivision) or the Conversion Ratio decreased (in the case of a Consolidation) accordingly, in each case on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (d) *Merger or Consolidation.* If it is announced that the Company:-

- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
- (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where the Company is the surviving corporation in a merger) the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants

related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.
- (g) *Excess Shares.* If an exercise of a number of Warrants specified in an Exercise Notice would (if not for the provisions of this Condition 6(g)) result in the relevant Warrantholder becoming entitled to delivery of a number of Shares which is not equal to a board lot of the Shares at such time or an integral multiple thereof, then:-
  - (i) the Issuer shall not transfer to the relevant Warrantholder, and the Warrantholder shall cease to be entitled to receive in respect of the relevant exercise of Warrants, that number of Shares (the "**Excess Shares**") which exceeds the amount of such board lot or integral multiple thereof; and
  - (ii) the relevant Warrantholder shall be entitled to receive a cash amount from the Issuer (to be paid at the same time as the delivery of Shares to which that Warrantholder has become entitled, in accordance with these Conditions, is made) equal to the closing price on the Business Day immediately preceding the

Exercise Date (as derived from the daily publications of the Relevant Stock Exchange or, if no such quotation is available, the most recently available closing price (subject, in each case, to adjustments determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like)) of one Share multiplied by the number of the Excess Shares.

## 7. Purchases

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantholders; Modification

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantholders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Shares are, or, upon the delisting become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock



Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application

was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantheholders generally (without considering the circumstances of any individual Warrantheholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantheholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantheholder in respect of each Warrant held by such Warrantheholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantheholder in such manner as shall be notified to the Warrantheholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantheholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for delivery of the Shares in respect of the Warrants will become void unless made within six years of the Exercise Date and, thereafter, any Shares deliverable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE PHYSICAL DELIVERY CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions) and, in particular, the Warrants will not be secured by Shares.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

### 2. Warrant Rights, Exercise Price and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise, payment of the Exercise Price (as defined below) and on compliance with Condition 4, to delivery

of a number of Shares equal to the Conversion Ratio, subject to adjustment as provided in Condition 6.

**“Conversion Ratio”** means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Price.* Exercise Price means the amount as may be specified by the Issuer.
- (c) *Exercise Expenses.* Warrantholders will be required to pay all charges which they incur on or in respect of or in connection with the purchase and transfer of Shares upon the exercise of the Warrants, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with such purchase and transfer of Shares.

In addition, Warrantholders will be required to pay a sum equal to all the expenses payable by the seller and the transferor of the relevant Shares, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with the purchase and transfer of or agreement to purchase and transfer the Shares to which the relevant Warrants and/or the exercise of the Warrants relate (the above charges and expenses incurred by Warrantholders and the above seller's and transferor's expenses are together referred to as the **"Exercise Expenses"**).

An amount equivalent to the Exercise Expenses must be paid by the Warrantholders together with the Exercise Price in accordance with Condition 4. In certain circumstances, part of the Exercise Expenses may be required to be paid by Warrantholders after the exercise of the Warrants but prior to the credit of the Warrantholders' securities accounts with CDP with the relevant number of Shares.

- (d) *No Rights.* The purchase of Warrants does not confer on the Warrantholder any right (whether in respect of voting, dividend or other distributions in respect of the Shares or otherwise) which the holder of a Share may have.

### 3. Expiry Date

The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4, at or prior to 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. Any Warrant which has not been exercised at or prior to 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, shall expire immediately thereafter and all rights of the Warrantholder and obligations of the Issuer with respect to such Warrant shall cease.

### 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.
- (b) *Delivery of an Exercise Notice.*
  - (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant

Agent Agreement and obtainable from the Warrant Agent (an "**Exercise Notice**"), together with the payments specified in Condition 4(c)(ii) below, such delivery to be made at or prior to 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. Warrants may not be exercised at any other time.

- (ii) The date upon which a Warrant is, or is to be treated as, exercised shall be the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day.

(c) *Exercise Notice.* The Exercise Notice shall:-

- (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
- (ii) be accompanied by payments by way of banker's draft or other forms of payment, in each case in immediately available funds, in favour of the Issuer for the aggregate of the Exercise Price for the total number of Shares to be purchased and for such of the aggregate of the Exercise Expenses as may be determined by the Warrant Agent at that time or, if later, as soon as the same shall have been determined by the Warrant Agent;
- (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
- (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
- (v) specify the number of the Warrantholder's securities account with CDP to be credited with the Shares and irrevocably instruct CDP to credit (if applicable) the "Free" balance of such securities account with the Shares; and
- (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Expiry Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice.

If the Exercise Expenses or the Exercise Price in respect of any Warrants being exercised are not received in accordance with Conditions 2(c) and 4(c) for any reason, any such payment may, with the consent of the Issuer (which consent may be granted or withheld at the Issuer's absolute discretion), be effected as soon as possible after

delivery of the Exercise Notice or, as the case may be, prior to transfer of the relevant Shares being effected by CDP, but without prejudice to the rights of the Issuer or of any other person in respect of the actions or omissions of the Warrantholder in question. In no event will any payment be accepted after 12:00 noon (Singapore time) on the Expiry Date.

- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *Suspension Period.* A "**Suspension Period**" occurs if the Issuer determines (in its absolute discretion) that (i) the ability of the Warrantholder or the Issuer to perform their respective payment and delivery obligations pursuant to an exercise of Warrants has been or could be expected to be materially adversely affected as a result of the suspension of, or a material limitation on, trading in the Shares or a general suspension of, or a material limitation on, trading on the Relevant Stock Exchange or (ii) otherwise a transfer of the Shares on exercise of the Warrants cannot be effected through the settlement system of CDP. The Warrantholder shall make payment for, and the Issuer shall effect the delivery of, the Shares on the first Business Day after the end of the Suspension Period in accordance with Condition 4(h) (and so that, in calculating the number of days between the relevant Expiry Date and the date on which Shares are transferred, the Suspension Period shall be excluded) and notice thereof shall be given to the Warrantholders in accordance with Condition 9.

The Issuer's obligations to deliver Shares shall be discharged by delivery in accordance with this Condition 4(e).

- (g) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (h) *Delivery of Shares.* Subject to a valid exercise of the Warrants in accordance with these Conditions and to Condition 4(h) below, and subject as provided below in the case of a Settlement Disruption Event (as defined below), the Issuer will no later than the date (the "**Physical Settlement Date**") falling seven Business Days following the Expiry Date ensure that such aggregate number of Shares to be delivered to all Warrantholders pursuant to the Conditions, are credited to the "Free" Balance of the Issuer's securities account with the CDP and the Warrant Agent will then deliver, or procure the delivery of, the Shares to the Warrantholder. The delivery of the Shares shall be evidenced by a transfer in the records of CDP of such Shares to the Warrantholder's securities account with CDP as specified in the relevant Exercise Notice. Notwithstanding the foregoing, such delivery shall not take place until the Warrantholder shall have accounted to the Warrant Agent for unpaid Exercise Expenses to the extent that they were not or could not be paid on the Expiry Date. The Issuer shall not be obliged to account to any Warrantholder for any amount or entitlement it receives by way of dividend or other distributions in respect of the Shares, the record date for which falls prior to the date on which the Issuer delivers or procures the delivery of such Shares.

If a Settlement Disruption Event exists on any Business Day from and including the Expiry Date to and including the Physical Settlement Date, then the Physical Settlement Date shall be postponed by the number of Business Days upon which there has been a

Settlement Disruption Event unless a Settlement Disruption Event prevents settlement on each of the seven Business Days immediately following the original date that, but for the Settlement Disruption Event, would have been a Physical Settlement Date. In that case: (i) if the Shares can be delivered in any other commercially reasonable manner on the tenth Business Day immediately following the original Physical Settlement Date then they shall so be delivered; and (ii) if the Shares cannot be delivered in any other commercially reasonable manner, the Physical Settlement Date shall be postponed until settlement can reasonably be effected under this Condition or in any other commercially reasonable manner.

**"Settlement Disruption Event"** means an event beyond the control of the Issuer as a result of which (A) it is unable to deliver Shares pursuant to an exercise of Warrants as a result of the suspension of, or a material limitation on, trading in the Shares or a general suspension of, or a material limitation on, trading on the Relevant Stock Exchange or (B) otherwise a transfer of Shares on exercise of Warrants cannot be effected through the settlement system of CDP.

If, as a result of a Settlement Disruption Event, it is not possible for the Issuer to deliver or procure the delivery of the Shares to the exercising Warrantholder through the Warrant Agent, all as set out above, on or before the original Physical Settlement Date, the Issuer shall procure that the exercising Warrantholder is notified (in accordance with Condition 9(a)) of the postponement of the Physical Settlement Date.

The Issuer's obligations to deliver Shares shall be discharged by crediting the aggregate number of Shares to be delivered to the Warrantholders to the "Free" Balance of the Issuer's securities account with the CDP in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (i) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form or which is not accompanied by the payment referred to in Condition 4(c)(ii) above shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (j) *Business Day.* In these Conditions, a **"Business Day"** shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.
- (k) *Relationship of agency or trust.* These Conditions shall not be construed so as to give rise to any relationship of agency or trust between the Issuer or its agent or nominee and any exercising Warrantholder in its capacity as beneficial owner of Shares, or any other such beneficial owner of Shares, and neither the Issuer nor its agent or nominee shall owe any duty of a fiduciary nature to either such Warrantholder or such beneficial owner in respect of such Shares.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Conversion Ratio will be adjusted on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

The Conversion Ratio will be adjusted to:-

$$\text{Adjusted Conversion Ratio} = \frac{1 + M}{1 + (R/S) \times M} \times C$$

Where: -

C	:	Existing Conversion Ratio immediately prior to the Rights Offer
S	:	Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares are traded on a cum-Rights basis
R	:	Subscription price per Share as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
M	:	Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Conversion Ratio being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Conversion Ratio. In addition, the Issuer shall also adjust the Exercise Price accordingly.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).



- (b) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Conversion Ratio shall be increased on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = (1 + N) \times C$$

Where:-

- C : Existing Conversion Ratio immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares for each Share held prior to the Bonus Issue

No adjustment of the Conversion Ratio will be made if the adjustment to the Conversion Ratio is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (c) *Share Splits or Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Conversion Ratio in effect immediately prior thereto shall be increased (in the case of a Subdivision) or the Conversion Ratio decreased (in the case of a Consolidation) accordingly, in each case on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (d) *Merger or Consolidation.* If it is announced that the Company:-

- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
- (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where the Company is the surviving corporation in a merger) the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.
- (g) *Excess Shares.* If an exercise of a number of Warrants specified in an Exercise Notice would (if not for the provisions of this Condition 6(g)) result in the relevant Warrantholder becoming entitled to delivery of a number of Shares which is not equal to a board lot of the Shares at such time or an integral multiple thereof, then:-
  - (i) the Issuer shall not transfer to the relevant Warrantholder, and the Warrantholder shall cease to be entitled to receive in respect of the relevant exercise of Warrants, that number of Shares (the "**Excess Shares**") which exceeds the amount of such board lot or integral multiple thereof; and
  - (ii) the relevant Warrantholder shall be entitled to receive a cash amount from the Issuer (to be paid at the same time as the delivery of Shares to which that Warrantholder has become entitled, in accordance with these Conditions, is made) equal to the closing price on the Business Day immediately preceding the Expiry Date (as derived from the daily publications of the Relevant Stock Exchange or, if no such quotation is available, the most recently available closing price (subject, in each case, to adjustments determined by the Issuer to be

necessary to reflect any capitalisation, rights issue, distribution or the like)) of one Share multiplied by the number of the Excess Shares.

## 7. Purchases

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantholders; Modification

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantholders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Shares are, or, upon the delisting become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such

adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation

or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for delivery of the Shares in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any Shares deliverable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE AMERICAN STYLE CASH SETTLED CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise. The Warrants do not entitle Warrantholders to the delivery of any Shares and, in particular, the Warrants will not be secured by Shares and do not entitle Warrantholders to any interest in any Shares.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2), where:

(1) is equal to (i) the arithmetic mean of the closing prices of one Share (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like) for each Valuation Date (as defined below), LESS (ii) the Exercise Price for the time being; and

(2) is the Conversion Ratio.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred, then that Valuation Date shall be postponed until the first succeeding Business Day (as defined below) on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the two Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Business Day shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and
- (B) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on that second Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Exercise Date (as defined below), then (1) the Business Day immediately preceding the Exercise Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

"**Conversion Ratio**" means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

"**Market Disruption Event**" means the occurrence or existence on a Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Shares requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Shares if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material



as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**"Valuation Date"** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Business Days immediately preceding the Exercise Date relating to such exercise.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **"Exercise Expenses"**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.
- (c) *No Rights.* The purchase of Warrants does not confer on the Warrantholder any right (whether in respect of voting, dividend or other distributions in respect of the Shares or otherwise) which the holder of a Share may have.

### 3. Exercise Period

- (a) *Exercise Period.* The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4 at any time during the period (the **"Exercise Period"**) beginning at 9:00 a.m. (Singapore time) on the Dealing Commencement Date (or, if later, the first day of dealings in the Warrants on the Singapore Exchange Securities Trading Limited (the **"SGX-ST"**)) and ending at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, provided that if on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Cash Settlement Amount (less any Exercise Expenses) is positive, then a valid Exercise Notice will be deemed to have been delivered on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, by every Warrantholder.
- (b) *Expiry.* Any Warrant with respect to which an Exercise Date has not occurred or has not been deemed to have occurred during the Exercise Period shall expire immediately thereafter and all rights of the Warrantholder and obligations of the Issuer with respect to such Warrant shall cease.

### 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.
- (b) *Delivery of an Exercise Notice.*
  - (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an **"Exercise Notice"**), such delivery to be made at any time during the Exercise Period. Warrants may not be exercised at any other time.
  - (ii) The date upon which a Warrant is, or is to be treated as, exercised (an **"Exercise Date"**) shall be the Business Day on which an Exercise Notice is delivered to the

Warrant Agent and in respect of which there is a valid exercise of Warrants in accordance with the requirements of these Conditions, provided that any Exercise Notice received by the Warrant Agent after 12:00 noon (Singapore time) on any Business Day shall be deemed to have been delivered on the next following Business Day.

(c) *Exercise Notice.* The Exercise Notice shall:-

- (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
- (ii) contain an irrevocable instruction to the Issuer to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount;
- (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
- (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
- (v) specify an address for the payment of the aggregate Cash Settlement Amount (less any Exercise Expenses) to be sent to; and
- (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Exercise Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice, and to the Issuer and the Warrant Agent to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount.
- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will, on the Exercise Date, earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.

- (g) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (h) *Settlement.* Subject to a valid exercise of Warrants in accordance with these Conditions, the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(h) shall be delivered at the risk and expense of the Warrantholder, to such address as the Warrantholder has specified in the Exercise Notice, or if no such details are specified, posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.
- (i) *Automatic Exercise.* Each Exercise Amount which has not been exercised in the manner set out in Condition 4(b) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and in respect of which the Cash Settlement Amount (less any Exercise Expenses) which would be payable by the Issuer on exercise on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, is positive shall be deemed automatically exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, so that the Warrantholders shall not be required to serve an Exercise Notice. The Cash Settlement Amount less the Exercise Expenses in respect of each Exercise Amount shall be paid in the manner set out in Condition 4(h) above.
- (j) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.

- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Conversion Ratio will be adjusted on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = \frac{1 + M}{1 + (R/S) \times M} \times C$$

Where:-

C	:	Existing Conversion Ratio immediately prior to the Rights Offer
S	:	Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares are traded on a cum-Rights basis
R	:	Subscription price per Share as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
M	:	Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Conversion Ratio being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Conversion Ratio. In addition, the Issuer shall also adjust the Exercise Price accordingly.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Conversion Ratio shall be increased on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = (1 + N) \times C$$

Where:-

- C : Existing Conversion Ratio immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares for each Share held prior to the Bonus Issue

provided that if the adjustment to be made would result in the Conversion Ratio being changed by one per cent. or less, all as determined by the Issuer, then no adjustment will be made on the Conversion Ratio. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (c) *Share Splits or Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Conversion Ratio in effect immediately prior thereto shall be increased (in the case of a Subdivision) or the Conversion Ratio decreased (in the case of a Consolidation) accordingly, in each case on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect. In addition, the Issuer shall also adjust the Exercise Price accordingly.
- (d) *Merger or Consolidation.* If it is announced that the Company:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
  - (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where the Company is the surviving corporation in a merger) the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantheolders, make such adjustments to the entitlements of the Warrantheolders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantheolders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantheolders; Modification**

- (a) *Meetings of Warrantheolders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantheolders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantheolders.

Such a meeting may be convened by the Issuer or by Warrantheolders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantheolders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantheolders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantheolders shall be binding on all the Warrantheolders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantheolders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantheolders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantheolders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantheolders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantheolder or to which a Warrantheolder is entitled or which the Issuer shall have agreed to deliver to a Warrantheolder may be delivered by hand or sent by post addressed to the Warrantheolder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantheolders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantheolder.
- (b) *Notices.* All notices to Warrantheolders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the

voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

## 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's



obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**"Change in Law"** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### 14. **Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each

Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

**15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Exercise Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

**16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE CASH SETTLED CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise. The Warrants do not entitle Warrantholders to the delivery of any Shares and, in particular, the Warrants will not be secured by Shares and do not entitle Warrantholders to any interest in any Shares.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2), where:

(1) is equal to (i) the arithmetic mean of the closing prices of one Share (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like) for each Valuation Date (as defined below), LESS (ii) the Exercise Price for the time being; and

(2) is the Conversion Ratio.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred, then that Valuation Date shall be postponed until the first succeeding Business Day (as defined below) on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the two Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Business Day shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and
- (B) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on that second Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Expiry Date, then (1) the Business Day immediately preceding the Expiry Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

"**Conversion Ratio**" means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

"**Market Disruption Event**" means the occurrence or existence on a Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Shares requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Shares if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material

as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**"Valuation Date"** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Business Days immediately preceding the Expiry Date relating to such exercise.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **"Exercise Expenses"**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.
- (c) *No Rights.* The purchase of Warrants does not confer on the Warrantholder any right (whether in respect of voting, dividend or other distributions in respect of the Shares or otherwise) which the holder of a Share may have.

### 3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Warrants shall be deemed to expire at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day.

### 4. Exercise of Warrants

- (a) *Exercise.* Warrants may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) *Automatic Exercise.* Warrantholders shall not be required to deliver an exercise notice. Exercise of Warrants shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Warrants shall be deemed to have been automatically exercised at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Warrants shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants shall be deemed to have expired at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Warrantholders shall not be entitled to receive any payment from the Issuer in respect of the Warrants.
- (c) *Settlement.* In respect of Warrants which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk

and expense of the Warrantholder and posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (d) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (e) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Conversion Ratio will be adjusted on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = \frac{1 + M}{1 + (R/S) \times M} \times C$$

Where:-

- C : Existing Conversion Ratio immediately prior to the Rights Offer
- S : Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares are traded on a cum-Rights basis
- R : Subscription price per Share as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right

M : Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Conversion Ratio being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Conversion Ratio. In addition, the Issuer shall also adjust the Exercise Price accordingly.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Conversion Ratio shall be increased on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = (1 + N) \times C$$

Where:-

C : Existing Conversion Ratio immediately prior to the Bonus Issue

N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares for each Share held prior to the Bonus Issue

No adjustment of the Conversion Ratio will be made if the adjustment to the Conversion Ratio is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (c) *Share Splits or Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Conversion Ratio in effect immediately prior thereto shall be increased (in the case of a Subdivision) or the Conversion Ratio decreased (in the case of a Consolidation) accordingly, in each case on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect. In addition, the Issuer shall also adjust the Exercise Price accordingly.
- (d) *Merger or Consolidation.* If it is announced that the Company:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or

- (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where the Company is the surviving corporation in a merger) the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.



## 7. Purchases

The Issuer or any of its respective subsidiaries may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantholders; Modification

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.

- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## **10. Liquidation**

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## **11. Further Issues**

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## **12. Delisting**

- (a) *Delisting.* If at any time the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation

whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such termination in any particular jurisdiction).

- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantheolders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantheolder in respect of each Warrant held by such Warrantheolder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantheolder in such manner as shall be notified to the Warrantheolder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantheolder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE AMERICAN STYLE PHYSICAL DELIVERY BASKET CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

References in these Conditions to "**Company**" shall be a reference to a company comprising one of the Companies and references to "**Shares**" shall be a reference to the shares of the Companies or, as the context requires, to the shares of a particular Company.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions) and, in particular, the Warrants will not be secured by Shares.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights, Exercise Price and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warranthead, upon due exercise, payment of the Exercise Price (as defined below) and on compliance with Condition 4, to delivery of a number of Shares equal to the Conversion Ratio, subject to adjustment as provided in Condition 6.

**"Conversion Ratio"** means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Price.* Exercise Price means the amount as may be specified by the Issuer.
- (c) *Exercise Expenses.* Warrantheaders will be required to pay all charges which they incur on or in respect of or in connection with the purchase and transfer of Shares upon the exercise of the Warrants, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with such purchase and transfer of Shares.

In addition, Warrantheaders will be required to pay a sum equal to all the expenses payable by the seller and the transferor of the relevant Shares, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with the purchase and transfer of or agreement to purchase and transfer the Shares to which the relevant Warrants and/or the exercise of the Warrants relate (the above charges and expenses incurred by Warrantheaders and the above seller's and transferor's expenses are together referred to as the **"Exercise Expenses"**).

An amount equivalent to the Exercise Expenses must be paid by the Warrantheaders together with the Exercise Price in accordance with Condition 4. In certain circumstances, part of the Exercise Expenses may be required to be paid by Warrantheaders after the exercise of the Warrants but prior to the credit of the Warrantheaders' securities accounts with CDP with the relevant number of Shares.

- (d) *No Rights.* The purchase of Warrants does not confer on the Warranthead any right (whether in respect of voting, dividend or other distributions in respect of the Shares or otherwise) which the holder of a Share may have.

## 3. Exercise Period

- (a) *Exercise Period.* The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4 at any time during the period (the **"Exercise Period"**) beginning at 9:00 a.m. (Singapore time) on the Dealing Commencement Date (or, if later, the first day of dealings in the Warrants on the Singapore Exchange Securities Trading Limited (the **"SGX-ST"**)) and ending at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day.
- (b) *Expiry.* Any Warrant with respect to which an Exercise Date has not occurred or has not been deemed to have occurred during the Exercise Period shall expire immediately thereafter and all rights of the Warranthead and obligations of the Issuer with respect to such Warrant shall cease.

#### 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.
- (b) *Delivery of an Exercise Notice.*
  - (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an "**Exercise Notice**"), together with the payments specified in Condition 4(c)(ii) below, such delivery to be made at any time during the Exercise Period. Warrants may not be exercised at any other time.
  - (ii) The date upon which a Warrant is, or is to be treated as, exercised (an "**Exercise Date**") shall be the Business Day on which an Exercise Notice is delivered to the Warrant Agent and in respect of which there is a valid exercise of Warrants in accordance with the requirements of these Conditions, provided that any Exercise Notice received by the Warrant Agent after 12:00 noon (Singapore time) on any Business Day shall be deemed to have been delivered on the next following Business Day.
- (c) *Exercise Notice.* The Exercise Notice shall:-
  - (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
  - (ii) be accompanied by payments by way of banker's draft or other forms of payment, in each case in immediately available funds, in favour of the Issuer for the aggregate of the Exercise Price for the total number of Shares to be purchased and for such of the aggregate of the Exercise Expenses as may be determined by the Warrant Agent at that time or, if later, as soon as the same shall have been determined by the Warrant Agent;
  - (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
  - (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
  - (v) specify the number of the Warrantholder's securities account with CDP to be credited with the Shares and irrevocably instruct CDP to credit (if applicable) the "Free" balance of such securities account with the Shares; and
  - (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Exercise Date shall be notified to the Warrantholder as soon as practicable after

determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice.

If the Exercise Expenses or the Exercise Price in respect of any Warrants being exercised are not received in accordance with Conditions 2(c) and 4(c) for any reason, any such payment may, with the consent of the Issuer (which consent may be granted or withheld at the Issuer's absolute discretion), be effected as soon as possible after delivery of the Exercise Notice or, as the case may be, prior to transfer of the relevant Shares being effected by CDP, but without prejudice to the rights of the Issuer or of any other person in respect of the actions or omissions of the Warrantholder in question. In no event will any payment be accepted after 12:00 noon (Singapore time) on the Expiry Date.

- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will, on the Exercise Date, earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (g) *Delivery of Shares.* Subject to a valid exercise of the Warrants in accordance with these Conditions and to Condition 4(h) below, and subject as provided below in the case of a Settlement Disruption Event (as defined below), the Issuer will no later than the date (the "**Physical Settlement Date**") falling seven Business Days following the Exercise Date ensure that such aggregate number of Shares to be delivered to all Warrantholders pursuant to the Conditions, are credited to the "Free" Balance of the Issuer's securities account with the CDP and the Warrant Agent will then deliver, or procure the delivery of, the Shares to the Warrantholder. The delivery of the Shares shall be evidenced by a transfer in the records of CDP of such Shares to the Warrantholder's securities account with CDP as specified in the relevant Exercise Notice. Notwithstanding the foregoing, such delivery shall not take place until the Warrantholder shall have accounted to the Warrant Agent for unpaid Exercise Expenses to the extent that they were not or could not be paid on the Exercise Date. The Issuer shall not be obliged to account to any Warrantholder for any amount or entitlement it receives by way of dividend or other distributions in respect of the Shares, the record date for which falls prior to the date on which the Issuer delivers or procures the delivery of such Shares.

If a Settlement Disruption Event exists on any Business Day from and including the Exercise Date to and including the Physical Settlement Date, then the Physical Settlement Date shall be postponed by the number of Business Days upon which there has been a Settlement Disruption Event unless a Settlement Disruption Event prevents settlement on each of the seven Business Days immediately following the original date



that, but for the Settlement Disruption Event, would have been a Physical Settlement Date. In that case: (i) if the Shares can be delivered in any other commercially reasonable manner on the tenth Business Day immediately following the original Physical Settlement Date then they shall so be delivered; and (ii) if the Shares cannot be delivered in any other commercially reasonable manner, the Physical Settlement Date shall be postponed until settlement can reasonably be effected under this Condition or in any other commercially reasonable manner.

**"Settlement Disruption Event"** means an event beyond the control of the Issuer as a result of which (A) it is unable to deliver Shares pursuant to an exercise of Warrants as a result of the suspension of, or a material limitation on, trading in the Shares or a general suspension of, or a material limitation on, trading on the Relevant Stock Exchange or (B) otherwise a transfer of Shares on exercise of Warrants cannot be effected through the settlement system of CDP.

If, as a result of a Settlement Disruption Event, it is not possible for the Issuer to deliver or procure the delivery of the Shares to the exercising Warrantholder through the Warrant Agent, all as set out above, on or before the original Physical Settlement Date, the Issuer shall procure that the exercising Warrantholder is notified (in accordance with Condition 9(a)) of the postponement of the Physical Settlement Date.

The Issuer's obligations to deliver Shares shall be discharged by crediting the aggregate number of Shares to be delivered to the Warrantholders to the "Free" Balance of the Issuer's securities account with the CDP in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (h) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form or which is not accompanied by the payment referred to in Condition 4(c)(ii) above shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (i) *Business Day.* In these Conditions, a **"Business Day"** shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.
- (j) *Relationship of agency or trust.* These Conditions shall not be construed so as to give rise to any relationship of agency or trust between the Issuer or its agent or nominee and any exercising Warrantholder in its capacity as beneficial owner of Shares, or any other such beneficial owner of Shares, and neither the Issuer nor its agent or nominee shall owe any duty of a fiduciary nature to either such Warrantholder or such beneficial owner in respect of such Shares.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint

another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.

- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever any of the Companies shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Basket Component that relates to the Share(s) of the Company making the Rights Offer will be adjusted to take effect on the Business Day following the last day on which Shares (of the Company making the Rights Offer) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\begin{array}{l} \text{Adjusted Basket Component} \\ \text{insofar as it relates to the Share(s)} \\ \text{of the Company making the} \\ \text{Rights Offer} \end{array} = \frac{1 + M}{1 + (R/S) \times M} \times E$$

Where:-

E	:	Existing Basket Component insofar as it relates to the Share(s) of the Company making the Rights Offer immediately prior to the Rights Offer
S	:	Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares (of the Company making the Rights Offer) are traded on a cum-Rights basis
R	:	Subscription price per Share (of the Company making the Rights Offer) as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
M	:	Number of new Share(s) (whether a whole or a fraction) per existing Share (of the Company making the Rights Offer) each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Basket Component being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Basket Component. In addition, the Issuer shall also adjust the Exercise Price.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new

Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever any of the Companies shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the relevant Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Basket Component that relates to the Share(s) of the Company making the Bonus Issue will be increased on the Business Day following the last day on which Shares (of the Company making the Bonus Issue) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

Adjusted Basket Component  
insofar as it relates to the Share(s) of =  $(1 + N) \times E$   
the Company making the Bonus Issue

Where:-

- E : Existing Basket Component insofar as it relates to the Share(s) of the Company making the Bonus Issue immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares (of the Company making the Bonus Issue) for each Share held prior to the Bonus Issue

No adjustment of the Basket Component will be made if the adjustment to the Basket Component is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer.

- (c) *Share Splits or Consolidations.* If and whenever any of the Companies shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Basket Component insofar as it relates to the Share(s) of the Company making the Subdivision in effect immediately prior thereto shall be increased or the Basket Component insofar as it relates to the Share(s) of the Company making the Consolidation will be decreased accordingly, in each case, on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect.
- (d) *Merger or Consolidation.* If it is announced that any of the Companies:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
  - (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where that Company is the surviving corporation in a merger), the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the

adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Share(s), as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.
- (g) *Excess Shares.* If an exercise of a number of Warrants specified in an Exercise Notice would (if not for the provisions of this Condition 6(g)) result in the relevant Warrantholder becoming entitled to delivery of a number of Shares which is not equal to a board lot of the Shares at such time or an integral multiple thereof, then:-
  - (i) the Issuer shall not transfer to the relevant Warrantholder and the Warrantholder shall cease to be entitled to receive in respect of the relevant exercise of Warrants, that number of Shares (the "**Excess Shares**") which exceeds the amount of such board lot or integral multiple thereof; and

- (ii) the relevant Warrantholder shall be entitled to receive a cash amount from the Issuer (to be paid at the same time as the delivery of Shares to which that Warrantholder has become entitled, in accordance with these Conditions, is made) equal to the closing price on the Business Day immediately preceding the Exercise Date (as derived from the daily publications of the Relevant Stock Exchange or, if no such quotation is available, the most recently available closing price (subject, in each case, to adjustments determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like)) of one Share multiplied by the number of the Excess Shares.

## 7. Purchases

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantholders; Modification

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantholders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory

provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## **9. Notices**

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## **10. Liquidation**

In the event of a liquidation or dissolution of any of the Companies or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of any of the Companies, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## **11. Further Issues**

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## **12. Delisting**

- (a) *Delisting.* If at any time any of the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).

- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where any of the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any

applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for delivery of the Shares in respect of the Warrants will become void unless made within six years of the Exercise Date and, thereafter, any Shares deliverable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.



*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE PHYSICAL DELIVERY BASKET CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

References in these Conditions to "**Company**" shall be a reference to a company comprising one of the Companies and references to "**Shares**" shall be a reference to the shares of the Companies or, as the context requires, to the shares of a particular Company.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions) and, in particular, the Warrants will not be secured by Shares.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights, Exercise Price and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warranthead, upon due exercise, payment of the Exercise Price (as defined below) and on compliance with Condition 4, to delivery of a number of Shares equal to the Conversion Ratio, subject to adjustment as provided in Condition 6.

“**Conversion Ratio**” means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Price.* Exercise Price means the amount as may be specified by the Issuer.
- (c) *Exercise Expenses.* Warrantheaders will be required to pay all charges which they incur on or in respect of or in connection with the purchase and transfer of Shares upon the exercise of the Warrants, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with such purchase and transfer of Shares.

In addition, Warrantheaders will be required to pay a sum equal to all the expenses payable by the seller and the transferor of the relevant Shares, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with the purchase and transfer of or agreement to purchase and transfer the Shares to which the relevant Warrants and/or the exercise of the Warrants relate (the above charges and expenses incurred by Warrantheaders and the above seller's and transferor's expenses are together referred to as the “**Exercise Expenses**”).

An amount equivalent to the Exercise Expenses must be paid by the Warrantheaders together with the Exercise Price in accordance with Condition 4. In certain circumstances, part of the Exercise Expenses may be required to be paid by Warrantheaders after the exercise of the Warrants but prior to the credit of the Warrantheaders' securities accounts with CDP with the relevant number of Shares.

- (d) *No Rights.* The purchase of Warrants does not confer on the Warranthead any right (whether in respect of voting, dividend or other distributions in respect of the Shares or otherwise) which the holder of a Share may have.

## 3. Expiry Date

The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4, at or prior to 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. Any Warrant which has not been exercised at or prior to 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, shall expire immediately thereafter and all rights of the Warranthead and obligations of the Issuer with respect to such Warrant shall cease.

## 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.

(b) *Delivery of an Exercise Notice.*

- (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an "**Exercise Notice**"), together with the payments specified in Condition 4(c)(ii) below, such delivery to be made at or prior to 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. Warrants may not be exercised at any other time.
- (ii) The date upon which a Warrant is, or is to be treated as, exercised shall be the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day.

(c) *Exercise Notice.* The Exercise Notice shall:-

- (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
- (ii) be accompanied by payments by way of banker's draft or other forms of payment, in each case in immediately available funds, in favour of the Issuer for the aggregate of the Exercise Price for the total number of Shares to be purchased and for such of the aggregate of the Exercise Expenses as may be determined by the Warrant Agent at that time or, if later, as soon as the same shall have been determined by the Warrant Agent;
- (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
- (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
- (v) specify the number of the Warrantholder's securities account with CDP to be credited with the Shares and irrevocably instruct CDP to credit (if applicable) the "Free" balance of such securities account with the Shares; and
- (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the

Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice.

If the Exercise Expenses or the Exercise Price in respect of any Warrants being exercised are not received in accordance with Conditions 2(c) and 4(c) for any reason, any such payment may, with the consent of the Issuer (which consent may be granted or withheld at the Issuer's absolute discretion), be effected as soon as possible after delivery of the Exercise Notice or, as the case may be, prior to transfer of the relevant Shares being effected by CDP, but without prejudice to the rights of the Issuer or of any other person in respect of the actions or omissions of the Warrantholder in question. In no event will any payment be accepted after 12:00 noon (Singapore time) on the Expiry Date.

- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (g) *Delivery of Shares.* Subject to a valid exercise of the Warrants in accordance with these Conditions and to Condition 4(h) below, and subject as provided below in the case of a Settlement Disruption Event (as defined below), the Issuer will no later than the date (the "**Physical Settlement Date**") falling seven Business Days following the Expiry Date ensure that such aggregate number of Shares to be delivered to all Warrantholders pursuant to the Conditions, are credited to the "Free" Balance of the Issuer's securities account with the CDP and the Warrant Agent will then deliver, or procure the delivery of, the Shares to the Warrantholder. The delivery of the Shares shall be evidenced by a transfer in the records of CDP of such Shares to the Warrantholder's securities account with CDP as specified in the relevant Exercise Notice. Notwithstanding the foregoing, such delivery shall not take place until the Warrantholder shall have accounted to the Warrant Agent for unpaid Exercise Expenses to the extent that they were not or could not be paid on the Expiry Date. The Issuer shall not be obliged to account to any Warrantholder for any amount or entitlement it receives by way of dividend or other distributions in respect of the Shares, the record date for which falls prior to the date on which the Issuer delivers or procures the delivery of such Shares.

If a Settlement Disruption Event exists on any Business Day from and including the Expiry Date to and including the Physical Settlement Date, then the Physical Settlement Date shall be postponed by the number of Business Days upon which there has been a Settlement Disruption Event unless a Settlement Disruption Event prevents settlement on each of the seven Business Days immediately following the original date that, but for the Settlement Disruption Event, would have been a Physical Settlement Date. In that case: (i) if the Shares can be delivered in any other commercially reasonable manner on the tenth Business Day immediately following the original Physical Settlement Date then they shall so be delivered; and (ii) if the Shares cannot be delivered in any other commercially reasonable manner, the Physical Settlement Date shall be postponed until settlement can reasonably be effected under this Condition or in any other commercially reasonable manner.

**"Settlement Disruption Event"** means an event beyond the control of the Issuer as a result of which (A) it is unable to deliver Shares pursuant to an exercise of Warrants as a result of the suspension of, or a material limitation on, trading in the Shares or a general suspension of, or a material limitation on, trading on the Relevant Stock Exchange or (B) otherwise a transfer of Shares on exercise of Warrants cannot be effected through the settlement system of CDP.

If, as a result of a Settlement Disruption Event, it is not possible for the Issuer to deliver or procure the delivery of the Shares to the exercising Warrantholder through the Warrant Agent, all as set out above, on or before the original Physical Settlement Date, the Issuer shall procure that the exercising Warrantholder is notified (in accordance with Condition 9(a)) of the postponement of the Physical Settlement Date.

The Issuer's obligations to deliver Shares shall be discharged by crediting the aggregate number of Shares to be delivered to the Warrantholders to the "Free" Balance of the Issuer's securities account with the CDP in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (h) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form or which is not accompanied by the payment referred to in Condition 4(c)(ii) above shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (i) *Business Day.* In these Conditions, a **"Business Day"** shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.
- (j) *Relationship of agency or trust.* These Conditions shall not be construed so as to give rise to any relationship of agency or trust between the Issuer or its agent or nominee and any exercising Warrantholder in its capacity as beneficial owner of Shares, or any other such beneficial owner of Shares, and neither the Issuer nor its agent or nominee shall owe any duty of a fiduciary nature to either such Warrantholder or such beneficial owner in respect of such Shares.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the

Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever any of the Companies shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Basket Component that relates to the Share(s) of the Company making the Rights Offer will be adjusted to take effect on the Business Day following the last day on which Shares (of the Company making the Rights Offer) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\begin{array}{l} \text{Adjusted Basket Component} \\ \text{insofar as it relates to the Share(s)} \\ \text{of the Company making the} \\ \text{Rights Offer} \end{array} = \frac{1 + M}{1 + (R/S) \times M} \times E$$

Where:-

- E : Existing Basket Component insofar as it relates to the Share(s) of the Company making the Rights Offer immediately prior to the Rights Offer
- S : Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares (of the Company making the Rights Offer) are traded on a cum-Rights basis
- R : Subscription price per Share (of the Company making the Rights Offer) as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
- M : Number of new Share(s) (whether a whole or a fraction) per existing Share (of the Company making the Rights Offer) each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Basket Component being changed by one per cent. or less, as determined by the Issuer, then no adjustment shall be made to the Basket Component.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever any of the Companies shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the relevant Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Basket Component that relates to the Share(s) of the Company making the Bonus Issue will be increased on the Business Day following the last day on which Shares (of the Company making the Bonus Issue) must be standing to the credit of a securities

account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

Adjusted Basket Component  
 insofar as it relates to the Share(s) of =  $(1 + N) \times E$   
 the Company making the Bonus Issue

Where:-

- E : Existing Basket Component insofar as it relates to the Share(s) of the Company making the Bonus Issue immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares (of the Company making the Bonus Issue) for each Share held prior to the Bonus Issue

No adjustment of the Basket Component will be made if the adjustment to the Basket Component is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer.

- (c) *Share Splits or Consolidations.* If and whenever any of the Companies shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Basket Component insofar as it relates to the Share(s) of the Company making the Subdivision in effect immediately prior thereto shall be increased or the Basket Component insofar as it relates to the Share(s) of the Company making the Consolidation will be decreased accordingly, in each case, on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect.
- (d) *Merger or Consolidation.* If it is announced that any of the Companies:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
  - (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where that Company is the surviving corporation in a merger), the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Share(s), as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as

determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.
- (g) *Excess Shares.* If an exercise of a number of Warrants specified in an Exercise Notice would (if not for the provisions of this Condition 6(g)) result in the relevant Warrantholder becoming entitled to delivery of a number of Shares which is not equal to a board lot of the Shares at such time or an integral multiple thereof, then:-
  - (i) the Issuer shall not transfer to the relevant Warrantholder and the Warrantholder shall cease to be entitled to receive in respect of the relevant exercise of Warrants, that number of Shares (the "**Excess Shares**") which exceeds the amount of such board lot or integral multiple thereof; and
  - (ii) the relevant Warrantholder shall be entitled to receive a cash amount from the Issuer (to be paid at the same time as the delivery of Shares to which that Warrantholder has become entitled, in accordance with these Conditions, is made) equal to the closing price on the Business Day immediately preceding the Expiry Date (as derived from the daily publications of the Relevant Stock Exchange or, if no such quotation is available, the most recently available closing price (subject, in each case, to adjustments determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like)) of one Share multiplied by the number of the Excess Shares.



## 7. Purchases

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantholders; Modification

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantholders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post

addressed to the Warrantholder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.

- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## **10. Liquidation**

In the event of a liquidation or dissolution of any of the Companies or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of any of the Companies, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## **11. Further Issues**

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## **12. Delisting**

- (a) *Delisting.* If at any time any of the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where any of the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or

administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for delivery of the Shares in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any Shares deliverable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE AMERICAN STYLE CASH SETTLED BASKET CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

References in these Conditions to "**Company**" shall be a reference to a company comprising one of the Companies and references to "**Shares**" shall be a reference to the shares of the Companies or, as the context requires, to the shares of a particular Company.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise. The Warrants do not entitle Warrantholders to the delivery of any Shares and, in particular, the Warrants will not be secured by Shares and do not entitle Warrantholders to any interest in any Shares.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding

any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2), where:

(1) is equal to (i) the aggregate for all the Shares constituting the basket as specified by the Issuer for the time being of the amount derived by multiplying (A) the number or fraction of the relevant Shares constituting the basket by (B) the arithmetic mean of the respective closing prices of such Shares (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like) for each Valuation Date (as defined below), LESS (ii) the Exercise Price for the time being; and

(2) is the Conversion Ratio.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred in respect of a Basket Component, then that Valuation Date for that Basket Component shall be postponed until the first succeeding Business Day (as defined below) on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the two Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Business Day shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and
- (B) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on that second Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Exercise Date, then (1) the Business Day immediately preceding the Exercise Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

The Valuation Date for the unaffected Basket Components shall remain unchanged.

"**Conversion Ratio**" means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

"**Market Disruption Event**" means the occurrence or existence on a Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Shares requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen

circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Shares if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**"Valuation Date"** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Business Days immediately preceding the Exercise Date relating to such exercise.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **"Exercise Expenses"**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.
- (c) *No Rights.* The purchase of Warrants does not confer on the Warrantholder any right (whether in respect of voting, dividend or other distributions in respect of the Shares or otherwise) which the holder of a Share may have.

### 3. Exercise Period

- (a) *Exercise Period.* The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4 at any time during the period (the **"Exercise Period"**) beginning at 9:00 a.m. (Singapore time) on the Dealing Commencement Date (or, if later, the first day of dealings in the Warrants on the Singapore Exchange Securities Trading Limited (the **"SGX-ST"**)) and ending at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, provided that if on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Cash Settlement Amount (less any Exercise Expenses) is positive, then a valid Exercise Notice will be deemed to have been delivered on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, by every Warrantholder.
- (b) *Expiry.* Any Warrant with respect to which an Exercise Date has not occurred or has not been deemed to have occurred during the Exercise Period shall expire immediately thereafter and all rights of the Warrantholder and obligations of the Issuer with respect to such Warrant shall cease.

### 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.

(b) *Delivery of an Exercise Notice.*

- (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an "**Exercise Notice**"), together with the payments specified in Condition 4(c)(ii) below, such delivery to be made at any time during the Exercise Period. Warrants may not be exercised at any other time.
- (ii) The date upon which a Warrant is, or is to be treated as, exercised (an "**Exercise Date**") shall be the Business Day on which an Exercise Notice is delivered to the Warrant Agent and in respect of which there is a valid exercise of Warrants in accordance with the requirements of these Conditions, provided that any Exercise Notice received by the Warrant Agent after 12:00 noon (Singapore time) on any Business Day shall be deemed to have been delivered on the next following Business Day.

(c) *Exercise Notice.* The Exercise Notice shall:-

- (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
- (ii) contain an irrevocable instruction to the Issuer to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount;
- (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
- (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
- (v) specify an address for the payment of the aggregate Cash Settlement Amount (less any Exercise Expenses) to be sent to; and
- (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Exercise Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice, and to the Issuer and the Warrant Agent to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount.



- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will, on the Exercise Date, earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (g) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form or which is not accompanied by the payment referred to in Condition 4(c)(ii) above shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (h) *Settlement.* Subject to a valid exercise of Warrants in accordance with these Conditions, the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(h) shall be delivered at the risk and expense of the Warrantholder, to such address as the Warrantholder has specified in the Exercise Notice, or if no such details are specified, posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.
- (i) *Automatic Exercise.* Each Exercise Amount which has not been exercised in the manner set out in Condition 4(b) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and in respect of which the Cash Settlement Amount (less any Exercise Expenses) which would be payable by the Issuer on exercise on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, is positive shall be deemed automatically exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, so that the Warrantholders shall not be required to serve an Exercise Notice. The Cash Settlement Amount less the Exercise Expenses in respect of each Exercise Amount shall be paid in the manner set out in Condition 4(h) above.

- (j) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantheolders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantheolders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantheolders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever any of the Companies shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Basket Component that relates to the Share(s) of the Company making the Rights Offer will be adjusted to take effect on the Business Day following the last day on which Shares (of the Company making the Rights Offer) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\begin{array}{l} \text{Adjusted Basket Component} \\ \text{insofar as it relates to the Share(s)} \\ \text{of the Company making the} \\ \text{Rights Offer} \end{array} = \frac{1 + M}{1 + (R/S) \times M} \times E$$

Where:-

- |   |   |                                                                                                                                                                                                          |
|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E | : | Existing Basket Component insofar as it relates to the Share(s) of the Company making the Rights Offer immediately prior to the Rights Offer                                                             |
| S | : | Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares (of the Company making the Rights Offer) are traded on a cum-Rights basis |
| R | : | Subscription price per Share (of the Company making the Rights Offer) as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right             |
| M | : | Number of new Share(s) (whether a whole or a fraction) per existing Share (of the Company making the Rights Offer) each holder thereof is entitled to subscribe                                          |

Provided that if the adjustment to be made would result in the Basket Component being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Basket Component.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever any of the Companies shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the relevant Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Basket Component that relates to the Share(s) of the Company making the Bonus Issue will be increased on the Business Day following the last day on which Shares (of the Company making the Bonus Issue) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

Adjusted Basket Component  
insofar as it relates to the Share(s) of =  $(1 + N) \times E$   
the Company making the Bonus Issue

Where:-

E	:	Existing Basket Component insofar as it relates to the Share(s) of the Company making the Bonus Issue immediately prior to the Bonus Issue
N	:	Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares (of the Company making the Bonus Issue) for each Share held prior to the Bonus Issue

No adjustment of the Basket Component will be made (i) for a Bonus Issue with an intrinsic value of less than three per cent. of the market value of the Share(s) of the Company making the Bonus Issue on the last Business Day on which such Shares are traded on a cum-Bonus basis or (ii) if the adjustment to the Basket Component is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer.

- (c) *Share Splits or Consolidations.* If and whenever any of the Companies shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Basket Component insofar as it relates to the Share(s) of the Company making the Subdivision in effect immediately prior thereto shall be increased or the Basket Component insofar as it relates to the Share(s) of the Company making the Consolidation will be decreased accordingly, in each case, on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect.

(d) *Merger or Consolidation.* If it is announced that any of the Companies:-

- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
- (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where that Company is the surviving corporation in a merger), the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Share(s), as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance

of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantholders; Modification**

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantholders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of any of the Companies or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of any of the Companies, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time any of the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where any of the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders,

make such adjustments to the entitlements of Warrantheolders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantheolders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantheolders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation

or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantheolders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantheolder in respect of each Warrant held by such Warrantheolder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantheolder in such manner as shall be notified to the Warrantheolder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantheolder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Exercise Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.



*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE CASH SETTLED BASKET CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

References in these Conditions to "**Company**" shall be a reference to a company comprising one of the Companies and references to "**Shares**" shall be a reference to the shares of the Companies or, as the context requires, to the shares of a particular Company.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise. The Warrants do not entitle Warrantholders to the delivery of any Shares and, in particular, the Warrants will not be secured by Shares and do not entitle Warrantholders to any interest in any Shares.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding

any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2), where:

(1) is equal to (i) the aggregate for all the Shares constituting the basket as specified by the Issuer for the time being of the amount derived by multiplying (A) the number or fraction of the relevant Shares constituting the basket by (B) the arithmetic mean of the respective closing prices of such Shares (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like) for each Valuation Date (as defined below), LESS (ii) the Exercise Price for the time being; and

(2) is the Conversion Ratio.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred in respect of a Basket Component, then that Valuation Date for that Basket Component shall be postponed until the first succeeding Business Day (as defined below) on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the two Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Business Day shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and
- (B) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on that second Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Expiry Date, then (1) the Business Day immediately preceding the Expiry Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

The Valuation Date for the unaffected Basket Components shall remain unchanged.

"**Conversion Ratio**" means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

"**Market Disruption Event**" means the occurrence or existence on the Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Shares requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen

circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Shares if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**"Valuation Date"** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Business Days immediately preceding the Expiry Date relating to such exercise.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **"Exercise Expenses"**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.
- (c) *No Rights.* The purchase of Warrants does not confer on the Warrantholder any right (whether in respect of voting, dividend or other distributions in respect of the Shares or otherwise) which the holder of a Share may have.

### 3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Warrants shall be deemed to expire at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day.

### 4. Exercise of Warrants

- (a) *Exercise.* Warrants may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) *Automatic Exercise.* Warrantholders shall not be required to deliver an exercise notice. Exercise of Warrants shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Warrants shall be deemed to have been automatically exercised at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Warrants shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants shall be deemed to have expired at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Warrantholders shall not be entitled to receive any payment from the Issuer in respect of the Warrants.
- (c) *Settlement.* In respect of Warrants which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant

Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Warrantholder and posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (d) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (e) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever any of the Companies shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Basket Component that relates to the Share(s) of the Company making the Rights Offer will be adjusted to take effect on the Business Day following the last day on which Shares (of the Company making the Rights Offer) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\begin{array}{l} \text{Adjusted Basket Component} \\ \text{insofar as it relates to the Share(s)} \\ \text{of the Company making the} \\ \text{Rights Offer} \end{array} = \frac{1 + M}{1 + (R/S) \times M} \times E$$

Where:-

- E : Existing Basket Component insofar as it relates to the Share(s) of the Company making the Rights Offer immediately prior to the Rights Offer
- S : Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares (of the Company making the Rights Offer) are traded on a cum-Rights basis
- R : Subscription price per Share (of the Company making the Rights Offer) as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
- M : Number of new Share(s) (whether a whole or a fraction) per existing Share (of the Company making the Rights Offer) each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Basket Component being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Basket Component.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever any of the Companies shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the relevant Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Basket Component that relates to the Share(s) of the Company making the Bonus Issue will be increased on the Business Day following the last day on which Shares (of the Company making the Bonus Issue) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

Adjusted Basket Component  
insofar as it relates to the Share(s) of =  $(1 + N) \times E$   
the Company making the Bonus Issue

Where:-

- E : Existing Basket Component insofar as it relates to the Share(s) of the Company making the Bonus Issue immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares (of the Company making the Bonus Issue) for each Share held prior to the Bonus Issue

No adjustment of the Basket Component will be made (i) for a Bonus Issue with an intrinsic value of less than three per cent. of the market value of the Share(s) of the

Company making the Bonus Issue on the last Business Day on which such Shares are traded on a cum-Bonus basis or (ii) if the adjustment to the Basket Component is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer.

- (c) *Share Splits or Consolidations.* If and whenever any of the Companies shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Basket Component insofar as it relates to the Share(s) of the Company making the Subdivision in effect immediately prior thereto shall be increased or the Basket Component insofar as it relates to the Share(s) of the Company making the Consolidation will be decreased accordingly, in each case, on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect.

- (d) *Merger or Consolidation.* If it is announced that any of the Companies:-

- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
- (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where that Company is the surviving corporation in a merger), the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Share(s), as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it

believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).

- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantheolders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantheolders; Modification**

- (a) *Meetings of Warrantheolders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantheolders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantheolders.

Such a meeting may be convened by the Issuer or by Warrantheolders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantheolders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantheolders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantheolders shall be binding on all the Warrantheolders, whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantheolders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantheolders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is

made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of any of the Companies or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of any of the Companies, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time any of the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).



- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where any of the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any

applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of

any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE AMERICAN STYLE INDEX CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 10) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise and, in particular, the Warrants will not be secured by any underlying assets.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) multiplied by (2) MULTIPLIED by (3), where:

(1) is the Index Currency Amount;

(2) is equal to (i) the Closing Level LESS (ii) the Strike Level; and

(3) is the Conversion Ratio.

"**Closing Level**" means, means the level specified as such in the relevant Supplemental Listing Document subject to any adjustment in accordance with Condition 6.

"**Conversion Ratio**" means the ratio (expressed as the number of Index units to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the "**Exercise Expenses**"). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.

## 3. Exercise Period

- (a) *Exercise Period.* The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4 at any time during the period (the "**Exercise Period**") beginning at 9:00 a.m. (Singapore time) on the Dealing Commencement Date (or, if later, the first day of dealings in the Warrants on the Singapore Exchange Securities Trading Limited (the "**SGX-ST**")) and ending at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day, provided that if on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Closing Level of the Index is greater than the Strike Level and the Cash Settlement Amount (less any Exercise Expenses) is positive, then a valid Exercise Notice will be deemed to have been delivered on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, by each Warrantholder.
- (b) *Expiry.* Any Warrant with respect to which an Exercise Date (as defined below) has not occurred or has not been deemed to have occurred during the Exercise Period shall expire immediately thereafter and all rights of the Warrantholder and obligations of the Issuer with respect to such Warrant shall cease.

## 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples

thereof.

(b) *Delivery of an Exercise Notice.*

- (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an "**Exercise Notice**"), such delivery to be made at any time during the Exercise Period. Warrants may not be exercised at any other time.
- (ii) The date upon which a Warrant is, or is to be treated as, exercised (an "**Exercise Date**") shall be the Business Day on which an Exercise Notice is delivered to the Warrant Agent and in respect of which there is a valid exercise of Warrants in accordance with the requirements of these Conditions, provided that any Exercise Notice received by the Warrant Agent after 12:00 noon (Singapore time) on any Business Day shall be deemed to have been delivered on the next following Business Day.

(c) *Exercise Notice.* The Exercise Notice shall:-

- (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
- (ii) contain an irrevocable instruction to the Issuer to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount;
- (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
- (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
- (v) specify an address for the payment of the aggregate Cash Settlement Amount (less any Exercise Expenses) to be sent to; and
- (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Exercise Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice, and to the Issuer and the Warrant Agent to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount.

- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will, on the Exercise Date, earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (g) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (h) *Settlement.* Subject to a valid exercise of Warrants in accordance with these Conditions, the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(h) shall be delivered at the risk and expense of the Warrantholder, to such address as the Warrantholder has specified in the Exercise Notice, or if no such details are specified, posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

If the Issuer determines, in its sole discretion, that on the Valuation Date a Market Disruption Event has occurred, then the Issuer shall determine the Closing Level on the basis of its good faith estimate of the Closing Level that would have prevailed on that day but for the occurrence of the Market Disruption Event provided that the Issuer, if applicable, may, but shall not be obliged to, determine such Closing Level by having regard to the manner in which futures contracts relating to the Index are calculated.

**"Market Disruption Event"** means:

- (i) the occurrence or existence, on a Valuation Date, of any of:-
  - (A) the suspension or limitation of the trading of a material number of securities/commodities from time to time comprising the Index; or

- (B) the suspension or limitation of the trading of securities/commodities (1) on the SGX-ST or the Relevant Stock Exchange or (2) generally; or
  - (C) the suspension or limitation of the trading of (1) options or futures relating to the Index on any options or futures exchanges or (2) options or futures generally on any options and/or futures exchanges on which options or futures relating to the Index are traded; or
  - (D) the imposition of any exchange controls in respect of any currencies involved in determining the Cash Settlement Amount; or
  - (E) failure from the Index Sponsor to compute, publish and disseminate the level of the Index or material limitation to access the level of the Index.
- (ii) a limitation or closure of the SGX-ST or the Relevant Stock Exchange due to any unforeseen circumstances.

For the purposes of this definition, (aa) the limitation on the number of hours or days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of any exchange, and (bb) a limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of the movements in price exceeding the levels permitted by any relevant exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise due to any unforeseen circumstances) on the relevant exchange will constitute a Market Disruption Event.

**"Valuation Date"** means, the date on which the Closing Level is determined or such other date as may be specified in the relevant Supplemental Listing Document.

The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrantholder in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (i) *Automatic Exercise.* If on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Closing Level of the Index is greater than the Strike Level and the Cash Settlement Amount (less any Exercise Expenses) is positive, each Exercise Amount which has not been exercised in the manner set out in Condition 4(b) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, shall be deemed to have been automatically exercised at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and a valid Exercise Notice shall be deemed to have been delivered on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, by each relevant Warrantholder. The Cash Settlement Amount less the Exercise Expenses in respect of each Exercise Amount shall be paid in the manner set out in Condition 4(h) above. In the event on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Closing Level of the Index is less than or equal to the Strike Level and the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants which have not been exercised in the manner set out in Condition 4(b) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, shall be deemed to have expired at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and the relevant Warrantholders shall not be entitled to receive any payment from the Issuer in respect of such Warrants.



- (j) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore and an "**Index Business Day**" shall be a day on which the Index is published by the Index Sponsor or, as the case may be, the Successor Index Sponsor and where the Index closes at the normal trading hours.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments to the Index

- (a) *Successor Sponsor Calculates and Reports Index.* If the Index is (i) not calculated and announced by the Index Sponsor but is calculated and published by a successor to the Index Sponsor (the "**Successor Index Sponsor**") acceptable to the Issuer or (ii) replaced by a successor index using, in the determination of the Issuer, the same or a substantially similar formula for and method of calculation as used in the calculation of the Index, then the Index will be deemed to be the index so calculated and announced by the Successor Index Sponsor or that successor index, as the case may be.
- (b) *Modification and Cessation of Calculation of Index.* If:-
  - (i) on or prior to the Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor makes a material change in the formula for or the method of calculating the Index or in any other way materially modifies the Index (other than a modification prescribed in that formula or method to maintain the Index in the event of changes in constituent stocks, contracts or commodities and other routine events); or
  - (ii) on a Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor fails to calculate and publish the Index (other than as a result of a Market Disruption Event),

then the Issuer shall determine the Closing Level using, in lieu of a published level for the Index, the level for the Index as at that Valuation Date as determined by the Issuer in accordance with the formula for and method of calculating the Index last in effect prior to that change or failure, but using only those securities/commodities that comprised the Index immediately prior to that change or failure (other than those securities that have since ceased to be listed on the relevant exchange).

- (c) *Other Adjustments.* Except as provided in this Condition 6, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation

whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(b)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(b) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or as the case may be, amendment provided that such adjustment or as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).

- (d) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantheolders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantheolders; Modification**

- (a) *Meetings of Warrantheolders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantheolders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantheolders.

Such a meeting may be convened by the Issuer or by Warrantheolders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantheolders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantheolders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantheolders shall be binding on all the Warrantheolders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be

counted in the quorum for, any meeting of the Warrantholders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 11. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations

under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**"Change in Law"** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for not being able to find a successor to the Index Sponsor or a successor to the Index.* If (i) the Index Sponsor is not able to calculate and announce the Index and the Issuer is not able to find an acceptable successor to the Index Sponsor or (ii) the Index becomes unavailable and the Issuer is not able to find a successor to the Index, the Issuer may at its sole discretion and without obligation terminate the Warrants in accordance with Condition 11(d).
- (c) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 11(d) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such termination in any particular jurisdiction).
- (d) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantheolders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantheolder in respect of each Warrant

held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

## **12. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

## **13. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Exercise Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

## **14. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE INDEX CALL WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 10) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise and, in particular, the Warrants will not be secured by any underlying assets.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) multiplied by (2) MULTIPLIED by (3), where:

(1) is the Index Currency Amount;

(2) is equal to (i) the Closing Level LESS (ii) the Strike Level; and

(3) is the Conversion Ratio.

"**Closing Level**" means, means the level specified as such in the relevant Supplemental Listing Document subject to any adjustment in accordance with Condition 6.

"**Conversion Ratio**" means the ratio (expressed as the number of Index units to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the "**Exercise Expenses**"). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.

## 3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Warrants shall be deemed to expire at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day.

## 4. Exercise of Warrants

- (a) *Exercise.* Warrants may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) *Automatic Exercise.* Warrantholders shall not be required to deliver an exercise notice. Exercise of Warrants shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Closing Level of the Index is greater than the Strike Level and the Cash Settlement Amount (less any Exercise Expenses) is positive, all Warrants shall be deemed to have been automatically exercised at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Warrants shall be paid in the manner set out in Condition 4(c) below. In the event the Closing Level of the Index is less than or equal to the Strike Level and the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants shall be deemed to have expired at 5:00 p.m. (Singapore time) on the Expiry

Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Warrantholders shall not be entitled to receive any payment from the Issuer in respect of the Warrants.

- (c) **Settlement.** In respect of Warrants which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Warrantholder and posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

If the Issuer determines, in its sole discretion, that on the Valuation Date a Market Disruption Event has occurred, then the Issuer shall determine the Closing Level on the basis of its good faith estimate of the Closing Level that would have prevailed on that day but for the occurrence of the Market Disruption Event provided that the Issuer, if applicable, may, but shall not be obliged to, determine such Closing Level by having regard to the manner in which futures contracts relating to the Index are calculated.

**"Market Disruption Event"** means:

- (i) the occurrence or existence, on a Valuation Date, of any of:-
  - (A) the suspension or limitation of the trading of a material number of securities/commodities from time to time comprising the Index; or
  - (B) the suspension or limitation of the trading of securities/commodities (1) on the SGX-ST or the Relevant Stock Exchange or (2) generally; or
  - (C) the suspension or limitation of the trading of (1) options or futures relating to the Index on any options or futures exchanges or (2) options or futures generally on any options and/or futures exchanges on which options or futures relating to the Index are traded; or
  - (D) the imposition of any exchange controls in respect of any currencies involved in determining the Cash Settlement Amount; or
  - (E) failure from the Index Sponsor to compute, publish and disseminate the level of the Index or material limitation to access the level of the Index.
- (ii) a limitation or closure of the SGX-ST or the Relevant Stock Exchange due to any unforeseen circumstances.

For the purposes of this definition, (aa) the limitation on the number of hours or days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of any exchange, and (bb) a limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of the movements in price exceeding the levels permitted by any relevant exchange or any act



of God, war, riot, public disorder, explosion, terrorism or otherwise due to any unforeseen circumstances) on the relevant exchange will constitute a Market Disruption Event.

**"Valuation Date"** means, the date on which the Closing Level is determined or such other date as may be specified in the relevant Supplemental Listing Document.

The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (d) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (e) *Business Day.* In these Conditions, a **"Business Day"** shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore and an **"Index Business Day"** shall be a day on which the Index is published by the Index Sponsor or, as the case may be, the Successor Index Sponsor and where the Index closes at the normal trading hours.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments to the Index

- (a) *Successor Sponsor Calculates and Reports Index.* If the Index is (i) not calculated and announced by the Index Sponsor but is calculated and published by a successor to the Index Sponsor (the **"Successor Index Sponsor"**) acceptable to the Issuer or (ii) replaced by a successor index using, in the determination of the Issuer, the same or a substantially similar formula for and method of calculation as used in the calculation of the Index, then the Index will be deemed to be the index so calculated and announced by the Successor Index Sponsor or that successor index, as the case may be.
- (b) *Modification and Cessation of Calculation of Index.* If:-
  - (i) on or prior to the Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor makes a material change in the formula for or the method of calculating the Index or in any other way materially modifies the Index (other than a modification prescribed in that formula or method to maintain the Index in the event of changes in constituent stocks, contracts or commodities and other routine events); or

- (ii) on a Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor fails to calculate and publish the Index (other than as a result of a Market Disruption Event),

then the Issuer shall determine the Closing Level using, in lieu of a published level for the Index, the level for the Index as at that Valuation Date as determined by the Issuer in accordance with the formula for and method of calculating the Index last in effect prior to that change or failure, but using only those securities/commodities that comprised the Index immediately prior to that change or failure (other than those securities that have since ceased to be listed on the relevant exchange).

- (c) *Other Adjustments.* Except as provided in this Condition 6, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(b)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(b) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or as the case may be, amendment provided that such adjustment or as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (d) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantheolders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantheolders; Modification**

- (a) *Meetings of Warrantheolders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantheolders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantheolders.

Such a meeting may be convened by the Issuer or by Warrantheolders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being

remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 11. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

**“Regulatory Event”** means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the **“Relevant Affiliates”** and each of the Issuer and the Relevant Affiliates, a **“Relevant Entity”**) that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer’s obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer’s obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer’s obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer’s obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer’s capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**“Change in Law”** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for not being able to find a successor to the Index Sponsor or a successor to the Index.* If (i) the Index Sponsor is not able to calculate and announce the Index and the Issuer is not able to find an acceptable successor to the Index Sponsor or (ii) the Index becomes unavailable and the Issuer is not able to find a successor to the Index, the Issuer may at its sole discretion and without obligation terminate the Warrants in accordance with Condition 11(d).
- (c) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer’s sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 11(d) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination

provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).

- (d) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

## **12. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

## **13. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

## **14. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE CASH SETTLED CALL WARRANTS ON SINGLE UNIT FUNDS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise. The Warrants do not entitle Warrantholders to the delivery of any Units and, in particular, the Warrants will not be secured by Units and do not entitle Warrantholders to any interest in any Units.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding

any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2) and divided by (3), where:

(1) is equal to (a) the arithmetic mean of the closing prices of one Unit (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary) for each Valuation Date (as defined below), LESS (b) the Exercise Price for the time being;

(2) is the Conversion Ratio; and

(3) is the Exchange Rate.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred, then that Valuation Date shall be postponed until the first succeeding Relevant Stock Exchange Business Day (as defined below) on which there is no Market Disruption Event irrespective of whether that postponed Valuation Date would fall on a Relevant Stock Exchange Business Day that is already or is deemed to be a Valuation Date, unless there is a Market Disruption Event on each of the two Relevant Stock Exchange Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Relevant Stock Exchange Business Day shall be deemed to be that Valuation Date notwithstanding the Market Disruption Event and irrespective of whether that second Relevant Stock Exchange Business Day Valuation Date would fall on a Relevant Stock Exchange Business Day that is already or is deemed to be a Valuation Date; and
- (B) the Issuer shall determine the closing price of the Units on the basis of its good faith estimate of the bid price that would have prevailed on that second Relevant Stock Exchange Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Expiry Date, then (1) the Relevant Stock Exchange Business Day immediately preceding the Expiry Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price of the Units on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

**“Conversion Ratio”** means the ratio (expressed as the number of Units to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

**“Market Disruption Event”** means the occurrence or existence on a Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Units requested by the Fund if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Units if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**“Valuation Date”** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Relevant Stock Exchange Business Days immediately preceding the Expiry Date relating to such exercise.

**“Relevant Stock Exchange Business Day”** means, a day (other than a Saturday, Sunday, or public holiday) on which the Relevant Stock Exchange is open for dealings in Hong Kong during its normal trading hours and banks are open for business in Hong Kong.

**“Exchange Rate”** means the rate of exchange between Hong Kong dollars and the Singapore dollars (expressed as the number of units of Hong Kong dollar per one unit of Singapore dollar) on the Expiry Date (if it is not a Relevant Stock Exchange Business Day, the next following day which is a Business Day and a Relevant Stock Exchange Business Day) at or about 5:00 p.m. (Singapore time), as determined by the Issuer by reference to such source(s) as the Issuer may reasonably determine to be appropriate at such time.

- (b) *Exercise Expenses.* Warrantheolders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **“Exercise Expenses”**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantheolders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantheolders in accordance with Condition 4.
- (c) *No Rights.* The purchase of Warrants does not confer on the Warrantheolder any right (whether in respect of voting, dividend or other distributions in respect of the Units or otherwise) which the holder of a Unit may have.



### 3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Warrants shall be deemed to expire at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day.

### 4. Exercise of Warrants

- (a) *Exercise.* Warrants may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) *Automatic Exercise.* Warranholders shall not be required to deliver an exercise notice. Exercise of Warrants shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Warrants shall be deemed to have been automatically exercised at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Warrants shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants shall be deemed to have expired at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Warranholders shall not be entitled to receive any payment from the Issuer in respect of the Warrants.
- (c) *Settlement.* In respect of Warrants which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant Warranholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warranholder only (or, in the case of joint Warranholders, the first-named Warranholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Warranholder and posted to the Warranholder's address appearing in the records maintained by CDP (or, in the case of joint Warranholders, to the address of the first-named Warranholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.
- (d) *CDP not liable.* CDP shall not be liable to any Warranholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (e) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Adjustments.* Without prejudice to the rights of the Issuer under Conditions 10 and 12, the Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events occur which it believes in its sole discretion (and notwithstanding any prior adjustment made pursuant to this paragraph) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (b) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## 7. Purchases

The Issuer or any of its respective subsidiaries may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantholders; Modification

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantheolders.

Such a meeting may be convened by the Issuer or by Warrantheolders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantheolders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantheolders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantheolders shall be binding on all the Warrantheolders, whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantheolders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantheolders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantheolders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantheolder or to which a Warrantheolder is entitled or which the Issuer shall have agreed to deliver to a Warrantheolder may be delivered by hand or sent by post addressed to the Warrantheolder at his address appearing in the records maintained by CDP or, in the case of joint Warrantheolders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantheolder.
- (b) *Notices.* All notices to Warrantheolders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Termination or Liquidation

In the event of a Termination or the liquidation or dissolution of the trustee of the Fund (including any successor trustee appointed from time to time) ("**Trustee**") (in its capacity as trustee of the Fund) or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law.

For the purpose of this Condition 10, "**Termination**" means (i) the Fund is terminated, or the Trustee or the manager of the Fund (including any successor manager appointed from time to time) ("**Manager**") is required to terminate the Fund under the trust deed ("**Trust Deed**") constituting the Fund or applicable law, or the termination of the Fund commences; (ii) the Fund is held or is conceded by the Trustee or the Manager not to have been constituted or to have been imperfectly constituted; (iii) the Trustee ceases to be authorised under the Fund to hold the property of the Fund in its name and perform its obligations under the Trust Deed; or (iv) the Fund ceases to be authorised as an authorised collective investment scheme under Singapore or other applicable law.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantheolders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time the Units cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantheolders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantheolder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Units are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantheolders, make such adjustments to the entitlements of Warrantheolders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or

any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Equity Certificates may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Equity Certificates. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE CASH SETTLED LONG/SHORT CERTIFICATES ON SINGLE EQUITIES

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Certificates (which expression shall, unless the context otherwise requires, include any further certificates issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Certificates.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Certificate Holders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Certificates constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Certificates provide for cash settlement on exercise and, in particular, the Certificates will not be secured by any underlying assets. The Certificates do not entitle Certificate Holders to the delivery of any Underlying Stock, are not secured by the Underlying Stock and do not entitle Certificate Holders to any interest in any Underlying Stock.
- (c) *Transfer.* The Certificates are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Certificates in definitive form will not be issued. Transfers of Certificates may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Certificates, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Certificates shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Certificates, notwithstanding any notice to the contrary. The expression "**Certificate Holder**" shall be construed accordingly.

## 2. Certificate Rights and Exercise Expenses

- (a) *Certificate Rights.* Every Certificate entitles each Certificate Holder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Certificate, shall be an amount (if positive) payable in the Settlement Currency equal to the Closing Level multiplied by the Notional Amount per Certificate.

The "**Closing Level**", in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to:

$$\left( \frac{\text{Final Reference Level} \times \text{Final Exchange Rate}}{\text{Initial Reference Level} \times \text{Initial Exchange Rate}} - \text{Strike Level} \right) \times \text{Hedging Fee Factor}$$

If the Issuer determines, in its sole discretion, that on the Valuation Date or any Observation Date a Market Disruption Event has occurred, then that Valuation Date or Observation Date shall be postponed until the first succeeding Exchange Business Day or Underlying Stock Business Day, as the case may be, on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the five Exchange Business Days or Underlying Stock Business Days, as the case may be, immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date or an Observation Date. In that case:-

- (i) that fifth Exchange Business Day or Underlying Stock Business Day, as the case may be, shall be deemed to be the Valuation Date or the Observation Date notwithstanding the Market Disruption Event; and
- (ii) the Issuer shall determine the Final Reference Level or the relevant closing level on the basis of its good faith estimate of the Final Reference Level or the relevant closing level that would have prevailed on that fifth Exchange Business Day or Underlying Stock Business Day, as the case may be, but for the Market Disruption Event provided that the Issuer, if applicable, may, but shall not be obliged to, determine such Final Reference Level or the relevant closing level by having regard to the manner in which futures contracts relating to the Underlying Stock are calculated.

"**Market Disruption Event**" means the occurrence or existence of (i) any suspension of trading on the Relevant Stock Exchange of the Underlying Stock requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Underlying Stock if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism.

- (b) *Exercise Expenses.* Certificate Holders will be required to pay all charges which are incurred in respect of the exercise of the Certificates (the "**Exercise Expenses**"). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Certificate Holders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement



Amount prior to the date of payment of the Cash Settlement Amount to the Certificate Holders in accordance with Condition 4.

- (c) **No Rights.** The purchase of Certificates does not confer on the Certificate Holders any right (whether in respect of voting, dividend or other distributions in respect of the Underlying Stock or otherwise) which the holder of an Underlying Stock may have.

### **3. Expiry Date**

Unless automatically exercised in accordance with Condition 4(b), the Certificates shall be deemed to expire at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day.

### **4. Exercise of Certificates**

- (a) **Exercise.** Certificates may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) **Automatic Exercise.** Certificate Holders shall not be required to deliver an exercise notice. Exercise of Certificates shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates shall be deemed to have been automatically exercised at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Certificates shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Certificate Holders shall not be entitled to receive any payment from the Issuer in respect of the Certificates.
- (c) **Settlement.** In respect of Certificates which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant Certificate Holder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Expiry Date (subject to extension upon the occurrence of a Market Disruption Event (as defined above) by way of crossed cheque or other payment in immediately available funds drawn in favour of the Certificate Holder only (or, in the case of joint Certificate Holders, the first-named Certificate Holder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Certificate Holder and posted to the Certificate Holder's address appearing in the records maintained by CDP (or, in the case of joint Certificate Holders, to the address of the first-named Certificate Holder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (d) **CDP not liable.** CDP shall not be liable to any Certificate Holder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Certificates or otherwise pursuant to or in connection with these

Conditions.

- (e) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Certificates are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Certificate Holders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Certificate Holders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Certificate Holders.

## 6. Adjustments

- (a) *Potential Adjustment Event.* Following the declaration by a Company of the terms of any Potential Adjustment Event (as defined below), the Issuer will determine whether such Potential Adjustment Event has a dilutive or concentrative or other effect on the theoretical value of the Underlying Stock and, if so, will (i) make the corresponding adjustment, if any, to any one or more of the Conditions as the Issuer determines appropriate to account for that dilutive or concentrative or other effect, and (ii) determine the effective date of that adjustment. The Issuer may, but need not, determine the appropriate adjustment by reference to the adjustment in respect of such Potential Adjustment Event made by an exchange on which options or futures contracts on the Underlying Stock are traded.
- (b) *Definitions. "Potential Adjustment Event" means any of the following:*
  - (i) a subdivision, consolidation, reclassification or other restructuring of the Underlying Stock (excluding a Merger Event) or a free distribution or dividend of any such Underlying Stock to existing holders by way of bonus, capitalisation or similar issue;
  - (ii) a distribution or dividend to existing holders of the Underlying Stock of (1) such Underlying Stock, or (2) other share capital or securities granting the right to payment of dividends and/or the proceeds of liquidation of the Company equally or proportionately with such payments to holders of such Underlying Stock, or (3) share capital or other securities of another issuer acquired by the Company as a result of a "spin-off" or other similar transaction, or (4) any other type of securities, rights or warrants or other assets, in any case for payment (in cash or otherwise) at less than the prevailing market price as determined by the Issuer;
  - (iii) an extraordinary dividend;
  - (iv) a call by the Company in respect of the Underlying Stock that is not fully paid;

- (v) a repurchase by the Company of the Underlying Stock whether out of profits or capital and whether the consideration for such repurchase is cash, securities or otherwise;
  - (vi) with respect to a Company an event that results in any shareholder rights pursuant to a shareholder rights agreement or other plan or arrangement of the type commonly referred to as a “poison pill” being distributed, or becoming separated from shares of common stock or other shares of the capital stock of such Company (provided that any adjustment effected as a result of such an event shall be readjusted upon any redemption of such rights); or
  - (vii) any other event that may have, in the opinion of the Issuer, a dilutive or concentrative or other effect on the theoretical value of the Underlying Stock.
- (c) *Merger Event, Tender Offer, Nationalisation and Insolvency.* If a Merger Event, Tender Offer, Nationalisation or Insolvency occurs in relation to the Underlying Stock, the Issuer may take any action described below:
- (i) determine the appropriate adjustment, if any, to be made to any one or more of the Conditions to account for the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, and determine the effective date of that adjustment. The Issuer may, but need not, determine the appropriate adjustment by reference to the adjustment in respect of the Merger Event, Tender Offer, Nationalisation or Insolvency made by an options exchange to options on the Underlying Stock traded on that options exchange;
  - (ii) cancel the Certificates by giving notice to the Certificate Holders in accordance with Condition 9. If the Certificates are so cancelled, the Issuer will pay an amount to each Certificate Holder in respect of each Certificate held by such Certificate Holder which amount shall be the fair market value of a Certificate taking into account the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, less the cost to the Issuer and/or any of its affiliates of unwinding any underlying related hedging arrangements, all as determined by the Issuer in its reasonable discretion. Payment will be made in such manner as shall be notified to the Certificate Holders in accordance with Condition 9; or
  - (iii) following any adjustment to the settlement terms of options on the Underlying Stock on such exchange(s) or trading system(s) or quotation system(s) as the Issuer in its reasonable discretion shall select (the “**Option Reference Source**”) make a corresponding adjustment to any one or more of the Conditions, which adjustment will be effective as of the date determined by the Issuer to be the effective date of the corresponding adjustment made by the Option Reference Source. If options on the Underlying Stock are not traded on the Option Reference Source, the Issuer will make such adjustment, if any, to any one or more of the Conditions as the Issuer determines appropriate, with reference to the rules and precedents (if any) set by the Option Reference Source, to account for the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, that in the determination of the Issuer would have given rise to an adjustment by the Option Reference Source if such options were so traded.

Once the Issuer determines that its proposed course of action in connection with a Merger Event, Tender Offer, Nationalisation or Insolvency, it shall give notice to the Certificate Holders in accordance with Condition 9 stating the occurrence of the Merger Event, Tender Offer, Nationalisation or Insolvency, as the case may be, giving details thereof and the action proposed to be taken in relation thereto. Certificate Holders

should be aware that due to the nature of such events, the Issuer will not make an immediate determination of its proposed course of action or adjustment upon the announcement or occurrence of a Merger Event, Tender Offer, Nationalisation or Insolvency.

- (d) *Definitions.* “**Insolvency**” means that by reason of the voluntary or involuntary liquidation, bankruptcy, insolvency, dissolution or winding-up of or any analogous proceeding affecting a Company (i) all the Underlying Stock of that Company is required to be transferred to a trustee, liquidator or other similar official or (ii) holders of the Underlying Stock of that Company become legally prohibited from transferring them. “**Merger Date**” means the closing date of a Merger Event or, where a closing date cannot be determined under the local law applicable to such Merger Event, such other date as determined by the Issuer. “**Merger Event**” means, in respect of the Underlying Stock, any (i) reclassification or change of such Underlying Stock that results in a transfer of or an irrevocable commitment to transfer all of such Underlying Stock outstanding to another entity or person, (ii) consolidation, amalgamation, merger or binding share exchange of a Company with or into another entity or person (other than a consolidation, amalgamation, merger or binding share exchange in which such Company is the continuing entity and which does not result in reclassification or change of all of such Underlying Stock outstanding), (iii) takeover offer, exchange offer, solicitation, proposal or other event by any entity or person to purchase or otherwise obtain 100 per cent. of the outstanding Underlying Stock of the Company that results in a transfer of or an irrevocable commitment to transfer all such Underlying Stock (other than such Underlying Stock owned or controlled by such other entity or person), or (iv) consolidation, amalgamation, merger or binding share exchange of the Company or its subsidiaries with or into another entity in which the Company is the continuing entity and which does not result in a reclassification or change of all such Underlying Stock outstanding but results in the outstanding Underlying Stock (other than Underlying Stock owned or controlled by such other entity) immediately prior to such event collectively representing less than 50 per cent. of the outstanding Underlying Stock immediately following such event, in each case if the Merger Date is on or before the Valuation Date. “**Nationalisation**” means that all the Underlying Stock or all or substantially all of the assets of a Company are nationalised, expropriated or are otherwise required to be transferred to any governmental agency, authority, entity or instrumentality thereof. “**Tender Offer**” means a takeover offer, tender offer, exchange offer, solicitation, proposal or other event by any entity or person that results in such entity or person purchasing, or otherwise obtaining or having the right to obtain, by conversion or other means, greater than 10 per cent. and less than 100 per cent. of the outstanding voting shares of the Company, as determined by the Issuer, based upon the making of filings with governmental or self-regulatory agencies or such other information as the Issuer deems relevant.
- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion (and notwithstanding any prior adjustment made pursuant to the above) and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Certificates and the obligations of the Issuer, give rise to such adjustment or as the case may be, amendment provided that such adjustment or as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Certificate Holders generally (without considering the circumstances of any individual Certificate Holder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).

- (d) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Certificate Holders. The Issuer will give, or procure that there is given notice as soon as practicable of any adjustment and of the date from which such adjustment is effective in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Certificates at any price in the open market or by tender or by private treaty. Any Certificates so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Certificate Holders; Modification**

- (a) *Meetings of Certificate Holders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Certificate Holders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Certificates or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Certificate Holders.

Such a meeting may be convened by the Issuer or by Certificate Holders holding not less than ten per cent. of the Certificates for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Certificates for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Certificate Holders whatever the number of Certificates so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Certificate Holders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Certificate Holders shall be binding on all the Certificate Holders whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Certificate Holders, effect (i) any modification of the provisions of the Certificates or the Instrument which is not materially prejudicial to the interests of the Certificate Holders or (ii) any modification of the provisions of the Certificates or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Certificate Holders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Certificate Holder or to which a Certificate Holder is entitled or which the Issuer shall have agreed to deliver to a Certificate Holder may be delivered by hand or sent by post addressed to the Certificate Holder at his address appearing in the records maintained by CDP or, in the case of joint Certificate Holders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Certificate Holder.
- (b) *Notices.* All notices to Certificate Holders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Certificate, give notice of the date of expiry of such Certificate in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Certificates will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Certificate Holders, to create and issue further certificates so as to form a single series with the Certificates.

## 12. Delisting

- (a) *Delisting.* If at any time, the Underlying Stock ceases to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Certificates as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Certificate Holders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Certificate Holder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Certificate Holders save in the case of manifest error. Notice of any adjustments or

amendments shall be given to the Certificate Holders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Certificates if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Certificates (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Certificates have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Certificates or hedging the Issuer's obligations under the Certificates, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Certificates, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Certificates, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Certificates or to hedge the Issuer's obligations under the Certificates, (c) to perform obligations in connection with, the Certificates or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Certificates) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Certificates.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Certificates have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Certificates have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Certificates are issued, or the change in the interpretation or application or practice relating thereto, existing when the Certificates are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Certificates are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Certificates in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Certificates and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Certificate Holders generally (without considering the circumstances of any individual Certificate Holder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Certificates early, then the Issuer will give notice to the Certificate Holders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Certificate Holder in respect of each Certificate held by such Certificate Holder an amount calculated by it as the fair market value of the Certificate immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Certificate Holder in such manner as shall be notified to the Certificate Holder in accordance with Condition 9.

#### **14. Governing Law**

The Certificates, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Certificate Holder (by its purchase of the Certificates) shall be deemed to have submitted for all purposes in connection with the Certificates, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Certificates will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Certificates shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.



*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Index Certificates may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Index Certificates. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE CASH SETTLED LONG/SHORT CERTIFICATES

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Certificates (which expression shall, unless the context otherwise requires, include any further certificates issued pursuant to Condition 10) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Certificates.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Certificate Holders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Certificates constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Certificates provide for cash settlement on exercise and, in particular, the Certificates will not be secured by any underlying assets.
- (c) *Transfer.* The Certificates are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Certificates in definitive form will not be issued. Transfers of Certificates may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Certificates, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Certificates shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Certificates, notwithstanding any notice to the contrary. The expression "**Certificate Holder**" shall be construed accordingly.

## 2. Certificate Rights and Exercise Expenses

- (a) *Certificate Rights.* Every Certificate entitles each Certificate Holder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Certificate, shall be an amount (if positive) payable in the Settlement Currency equal to the Closing Level multiplied by the Notional Amount per Certificate.

The "**Closing Level**", in respect of each Certificate, shall be an amount payable in the Settlement Currency equal to:

$$\left( \frac{\text{Final Reference Level} \times \text{Final Exchange Rate}}{\text{Initial Reference Level} \times \text{Initial Exchange Rate}} - \text{Strike Level} \right) \times \text{Hedging Fee Factor}$$

- (b) *Exercise Expenses.* Certificate Holders will be required to pay all charges which are incurred in respect of the exercise of the Certificates (the "**Exercise Expenses**"). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Certificate Holders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Certificate Holders in accordance with Condition 4.

## 3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Certificates shall be deemed to expire at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day.

## 4. Exercise of Certificates

- (a) *Exercise.* Certificates may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) *Automatic Exercise.* Certificate Holders shall not be required to deliver an exercise notice. Exercise of Certificates shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Certificates shall be deemed to have been automatically exercised at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Certificates shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero, all Certificates shall be deemed to have expired at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Certificate Holders shall not be entitled to receive any payment from the Issuer in respect of the Certificates.
- (c) *Settlement.* In respect of Certificates which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant Certificate Holder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five

Business Days following the Expiry Date (subject to extension upon the occurrence of a Market Disruption Event (as defined below)) by way of crossed cheque or other payment in immediately available funds drawn in favour of the Certificate Holder only (or, in the case of joint Certificate Holders, the first-named Certificate Holder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Certificate Holder and posted to the Certificate Holder's address appearing in the records maintained by CDP (or, in the case of joint Certificate Holders, to the address of the first-named Certificate Holder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

If the Issuer determines, in its sole discretion, that on the Valuation Date or any Observation Date a Market Disruption Event has occurred, then that Valuation Date or Observation Date shall be postponed until the first succeeding Index Business Day (as defined below) on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the five Index Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date or an Observation Date. In that case:-

- (i) that fifth Index Business Day shall be deemed to be the Valuation Date or the Observation Date notwithstanding the Market Disruption Event; and
- (ii) the Issuer shall determine the Final Reference Level or the relevant closing level on the basis of its good faith estimate of the Final Reference Level or the relevant closing level that would have prevailed on that fifth Index Business Day but for the Market Disruption Event provided that the Issuer, if applicable, may, but shall not be obliged to, determine such Final Reference Level or the relevant closing level by having regard to the manner in which futures contracts relating to the Leveraged Index/Underlying Reference Index/Index/PR Index are calculated.

**"Market Disruption Event"** means:

- (i) the occurrence or existence of any of:-
  - (A) the suspension or limitation of the trading of a material number of securities/commodities from time to time comprising the Leveraged Index/Underlying Reference Index/Index/PR Index; or
  - (B) the suspension or limitation of the trading of securities/commodities (1) on the SGX-ST or the Relevant Stock Exchange or (2) generally; or
  - (C) the suspension or limitation of the trading of (1) options or futures relating to the Leveraged Index/Underlying Reference Index/Index/PR Index on any options or futures exchanges or (2) options or futures generally on any options and/or futures exchanges on which options or futures relating to the Leveraged Index/Underlying Reference Index/Index/PR Index are traded; or
  - (D) the imposition of any exchange controls in respect of any currencies involved in determining the Cash Settlement Amount; or
  - (E) failure from the Leveraged Index/Underlying Reference Index/Index/PR Index Sponsor to compute, publish and disseminate the level of the Leveraged Index/Underlying Reference Index/Index/PR Index, or material limitation to access the level of Leveraged Index/Underlying Reference Index/Index/PR Index.

- (ii) a limitation or closure of the SGX-ST or the Relevant Stock Exchange due to any unforeseen circumstances.

For the purposes of this definition, (aa) the limitation on the number of hours or days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of any exchange, and (bb) a limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of the movements in price exceeding the levels permitted by any relevant exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise due to any unforeseen circumstances) on the relevant exchange will constitute a Market Disruption Event.

The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (d) *CDP not liable.* CDP shall not be liable to any Certificate Holder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Certificates or otherwise pursuant to or in connection with these Conditions.
- (e) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore and an "**Index Business Day**" shall be a day on which the Leveraged Index or the Index, as the case may be, is published by the Index Sponsor or, as the case may be, the Successor Index Sponsor (as defined below) and where the Leveraged Index or the Index closes at the normal trading hours.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Certificates are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Certificate Holders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Certificate Holders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Certificate Holders.

## 6. Adjustments to the Leveraged Index/Underlying Reference Index/Index/PR Index

- (a) *Successor Sponsor Calculates and Reports Leveraged Index, Underlying Reference Index, Index or PR Index.* If the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, is (i) not calculated and announced by the relevant Index Sponsor but is calculated and published by a successor to the relevant Index Sponsor (the "**Successor Index Sponsor**") acceptable to the Issuer or (ii) replaced by a successor index using, in the determination of the Issuer, the same or a substantially similar formula for and method of calculation as used in the calculation of the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, then the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, will be deemed to be the index so calculated and

announced by the relevant Successor Index Sponsor or that successor index, as the case may be.

(b) *Modification and Cessation of Calculation of the Leveraged Index/Underlying Reference Index/Index/PR Index.* If:-

- (i) on or prior to the Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor makes a material change in the formula for or the method of calculating the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, or in any other way materially modifies the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, (other than a modification prescribed in that formula or method to maintain the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, in the event of changes in constituent stocks, contracts or commodities and other routine events); or
- (ii) on or prior to the Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor fails to calculate and publish the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, (other than as a result of a Market Disruption Event),

then the Issuer shall determine the closing level of the Leverage Strategy/Leverage Inverse Strategy/Leveraged Index on any Observation Date using, in lieu of a published level for the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, the level for the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, as at that Observation Date as determined by the Issuer in accordance with the formula for and method of calculating the Leveraged Index, the Underlying Reference Index, the Index or the PR Index, as the case may be, last in effect prior to that change or failure, but using only those securities/commodities that comprised the Underlying Reference Index or the PR Index, as the case may be, immediately prior to that change or failure (other than those securities that have since ceased to be listed on the relevant exchange).

- (c) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Certificate Holders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Certificates at any price in the open market or by tender or by private treaty. Any Certificates so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Certificate Holders; Modification**

- (a) *Meetings of Certificate Holders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Certificate Holders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Certificates or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day

on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Certificate Holders.

Such a meeting may be convened by the Issuer or by Certificate Holders holding not less than ten per cent. of the Certificates for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Certificates for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Certificate Holders whatever the number of Certificates so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Certificate Holders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Certificate Holders shall be binding on all the Certificate Holders whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Certificate Holders, effect (i) any modification of the provisions of the Certificates or the Instrument which is not materially prejudicial to the interests of the Certificate Holders or (ii) any modification of the provisions of the Certificates or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Certificate Holders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Certificate Holder or to which a Certificate Holder is entitled or which the Issuer shall have agreed to deliver to a Certificate Holder may be delivered by hand or sent by post addressed to the Certificate Holder at his address appearing in the records maintained by CDP or, in the case of joint Certificate Holders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Certificate Holder.
- (b) *Notices.* All notices to Certificate Holders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Certificate, give notice of the date of expiry of such Certificate in the manner prescribed above.

## 10. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Certificate Holders, to create and issue further certificates so as to form a single series with the Certificates.

## 11. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Certificates if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Certificates (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Certificates have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Certificates or hedging the Issuer's obligations under the Certificates, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Certificates, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Certificates, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Certificates or to hedge the Issuer's obligations under the Certificates, (c) to perform obligations in connection with, the Certificates or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Certificates) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Certificates.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Certificates have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Certificates have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Certificates are issued, or the change in the interpretation or application or practice relating thereto, existing when the Certificates are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Certificates are issued).

- (b) *Early Termination for not being able to find a successor to the index sponsor or a successor to the Leveraged Index or the Index, as the case may be.* If (i) the index sponsor is not able to calculate and announce the Leveraged Index or the Index, as the case may be, and the

Issuer is not able to find an acceptable successor to the index sponsor or (ii) the Leveraged Index or the Index, as the case may be, becomes unavailable and the Issuer is not able to find a successor to the Leveraged Index or the Index, the Issuer may at its sole discretion and without obligation terminate the Certificates in accordance with Condition 11(d).

- (c) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Certificates in accordance with Condition 11(d) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Certificates and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Certificate Holders generally (without considering the circumstances of any individual Certificate Holder or the tax or other consequences of such termination in any particular jurisdiction).
- (d) *Termination.* If the Issuer terminates the Certificates early, then the Issuer will give notice to the Certificate Holders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Certificate Holder in respect of each Certificate held by such Certificate Holder an amount calculated by it as the fair market value of the Certificate immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Certificate Holder in such manner as shall be notified to the Certificate Holder in accordance with Condition 9.

## **12. Governing Law**

The Certificates, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Certificate Holder (by its purchase of the Certificates) shall be deemed to have submitted for all purposes in connection with the Certificates, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

## **13. Prescription**

Claims against the Issuer for payment of any amount in respect of the Certificates will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Certificates shall be forfeited and shall revert to the Issuer.

## **14. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.



*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE AMERICAN STYLE PHYSICAL DELIVERY PUT WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions).
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

### 2. Warrant Rights, Exercise Price and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to sell to the Issuer a number of Shares equal to the Conversion Ratio, subject to adjustment as provided in Condition 6.

**"Conversion Ratio"** means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Price.* Exercise Price means the amount as may be specified by the Issuer.
- (c) *Exercise Expenses.* Warrantholders will be required to pay all charges which they incur on or in respect of or in connection with the sale and transfer of Shares upon the exercise of the Warrants, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with such sale and transfer of Shares.

In addition, Warrantholders will be required to pay a sum equal to all the expenses payable by the purchaser and the transferee of the relevant Shares, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with the sale and transfer of or agreement to sell and transfer the Shares to which the relevant Warrants and/or the exercise of the Warrants relate (the above charges and expenses incurred by Warrantholders and the above purchaser's and transferee's expenses are together referred to as the **"Exercise Expenses"**).

An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Exercise Price in accordance with Condition 4. In certain circumstances, part of the Exercise Expenses may be required to be paid by Warrantholders after the exercise of the Warrants but prior to the credit of the Issuer's securities account with CDP with the relevant number of Shares. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Exercise Price prior to the date of payment of the Exercise Price to the Warrantholders in accordance with Condition 4.

### 3. **Exercise Period**

- (a) *Exercise Period.* The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4 at any time during the period (the **"Exercise Period"**) beginning at 9:00 a.m. (Singapore time) on the Dealing Commencement Date (or, if later, the first day of dealings in the Warrants on the Singapore Exchange Securities Trading Limited (the **"SGX-ST"**)) and ending at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day.
- (b) *Suspension Period.* A **"Suspension Period"** occurs if the Issuer determines (in its absolute discretion) that (i) the ability of the Warrantholder or the Issuer to perform their respective delivery and payment obligations pursuant to an exercise of Warrants has been or could be expected to be materially adversely affected as a result of the suspension of, or a material limitation on, trading in the Shares or a general suspension of, or a material limitation on, trading on the Relevant Stock Exchange or (ii) otherwise a transfer of the Shares on exercise of the Warrants cannot be effected through the settlement system of CDP. The Warrantholder shall effect the delivery of, and the Issuer shall make payment for, the Shares on the first Business Day after the end of the Suspension Period in accordance with Condition 4(h) (and so that, in calculating the number of days between the relevant Exercise Date (as defined in Condition 4(b)(ii)) and the date on which Shares are transferred, the Suspension Period shall be excluded) and

notice thereof shall be given to the Warrantholders in accordance with Condition 9.

- (c) *Expiry.* Any Warrant with respect to which an Exercise Date (as defined below) has not occurred or has not been deemed to have occurred during the Exercise Period shall expire immediately thereafter and all rights of the Warrantholder and obligations of the Issuer with respect to such Warrant shall cease.

#### 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.
- (b) *Delivery of an Exercise Notice.*
  - (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an "**Exercise Notice**"), such delivery to be made at any time during the Exercise Period. Warrants may not be exercised at any other time.
  - (ii) The date upon which a Warrant is, or is to be treated as, exercised (an "**Exercise Date**") shall be the Business Day on which an Exercise Notice is delivered to the Warrant Agent and in respect of which there is a valid exercise of Warrants in accordance with the requirements of these Conditions, provided that any Exercise Notice received by the Warrant Agent after 12:00 noon (Singapore time) on any Business Day shall be deemed to have been delivered on the next following Business Day.
  - (iii) The Issuer shall, as from the date on which the relevant Shares are credited to its securities account with CDP, become beneficially entitled to all rights attaching to such Shares.
- (c) *Exercise Notice.* The Exercise Notice shall:-
  - (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
  - (ii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
  - (iii) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
  - (iv) specify the number of Shares being sold and transferred by the Warrantholder to the Issuer;
  - (v) declare and confirm that the Warrantholder has not less than the number of Shares in respect of which the Warrants are exercised in the "Free" balance (if applicable) of such Warrantholder's securities account with CDP;

- (vi) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Share being sold and transferred pursuant to the exercise of the Warrants and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Shares being sold and transferred;
- (vii) contain an irrevocable instruction to the Issuer to deduct any Exercise Expenses from the Exercise Price, and specify an address for the payment of the aggregate Exercise Price (less any Exercise Expenses) to be sent to; and
- (viii) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Exercise Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice:-
  - (i) to exercise the number of Warrants specified in such Exercise Notice and to transfer the Shares to be sold and transferred to the Issuer upon the exercise of such Warrants and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice and to CDP to debit the number of Shares to be sold and transferred to the Issuer upon the exercise of such Warrants from the Warrantholder's securities account with CDP, and to the Issuer and the Warrant Agent to deduct the aggregate Exercise Expenses from the aggregate Exercise Price;
  - (ii) that the Shares to which the Exercise Notice relates are sold to the Issuer with full title guarantee and free from all liens, charges, equitable interests and encumbrances and together with all rights then or subsequently attached thereto;
  - (iii) that the Warrantholder has observed the laws of all relevant territories, obtained any requisite consents, complied with all applicable formalities and paid any transfer or other taxes due from him in respect of his exercise of the Warrants and sale and transfer of Shares the subject of the Exercise Notice and that he has not taken or omitted to take any action which would result in the Issuer acting in breach of any applicable legal or regulatory requirements in respect of the exercise of his Warrants; and
  - (iv) that such delivery constitutes the Issuer as the Warrantholder's attorney and/or agent, and an instruction to the Issuer as such, to:-
    - (A) complete and execute any and all forms and take any and all actions which are necessary or desirable to give effect to the transfer of Shares the subject of the Exercise Notice; and
    - (B) procure the transfer of the relevant Shares from the Warrantholder to the Issuer.
- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall

verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will, on the Exercise Date, earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.

- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (g) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (h) *Settlement.* Subject to a valid exercise of Warrants in accordance with these Conditions, the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the aggregate Exercise Price in the Settlement Currency. The aggregate Exercise Price (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Exercise Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(h) shall be delivered at the risk and expense of the Warrantholder, to such address as the Warrantholder has specified in the Exercise Notice, or if no such details are specified, posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). The Issuer's obligations to pay the Exercise Price shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.
- (i) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.

- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Conversion Ratio will be adjusted to take effect on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = \frac{1 + M}{1 + (R/S) \times M} \times C$$

Where:-

C	:	Existing Conversion Ratio immediately prior to the Rights Offer
S	:	Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares are traded on a cum-Rights basis
R	:	Subscription price per Share as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
M	:	Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Conversion Ratio being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Conversion Ratio. In addition, the Issuer shall also adjust the Exercise Price accordingly.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Conversion Ratio shall be increased on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = (1 + N) \times C$$

Where:-

- C : Existing Conversion Ratio immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares for each Share held prior to the Bonus Issue

No adjustment of the Conversion Ratio will be made if the adjustment to the Conversion Ratio is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (c) *Share Splits or Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Conversion Ratio in effect immediately prior thereto shall be increased (in the case of a Subdivision) or the Conversion Ratio decreased (in the case of a Consolidation) accordingly, in each case on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect. In addition, the Issuer shall also adjust the Exercise Price accordingly.
- (d) *Merger or Consolidation.* If it is announced that the Company:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
  - (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where the Company is the surviving corporation in a merger) the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantheolders, make such adjustments to the entitlements of the Warrantheolders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantheolders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.
- (g) *Excess Shares.* If an exercise of a number of Warrants specified in an Exercise Notice would (if not for the provisions of this Condition 6 (g)) result in the relevant Warrantheolder becoming entitled to sell and transfer a number of Shares which is not equal to a board lot of the Shares at such time or an integral multiple thereof, then:-
  - (i) the relevant Warrantheolder shall not be entitled to sell and transfer to the Issuer, and the Issuer shall cease to be obliged to purchase in respect of such exercise, that number of Shares (the "**Excess Shares**") which exceeds the amount of such board lot or integral multiple thereof; and
  - (ii) the Issuer shall be entitled to deduct from the Exercise Price a cash amount equal to the closing price on the Business Day immediately preceding the relevant Exercise Date (as derived from the daily publications of the Relevant Stock Exchange or, if no such quotation is available, the most recently available closing price (subject, in each case, to any adjustments determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like)) of one Share multiplied by the number of the Excess Shares.

## 7. Purchases

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantheolders; Modification

- (a) *Meetings of Warrantheolders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantheolders to consider



any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantheholders.

Such a meeting may be convened by the Issuer or by Warrantheholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantheholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantheholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantheholders shall be binding on all the Warrantheholders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantheholders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantheholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantheholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantheholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantheholder or to which a Warrantheholder is entitled or which the Issuer shall have agreed to deliver to a Warrantheholder may be delivered by hand or sent by post addressed to the Warrantheholder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantheholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantheholder.
- (b) *Notices.* All notices to Warrantheholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable,

notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

#### **10. Liquidation**

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

#### **11. Further Issues**

The Issuer shall be at liberty from time to time, without the consent of the Warrantheolders, to create and issue further warrants so as to form a single series with the Warrants.

#### **12. Delisting**

- (a) *Delisting.* If at any time the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantheolders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantheolder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantheolders, make such adjustments to the entitlements of Warrantheolders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantheolders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantheolders in accordance with Condition 9 as soon as practicable after they are determined.

#### **13. Early Termination**

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance

thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

**"Regulatory Event"** means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the **"Relevant Affiliates"** and each of the Issuer and the Relevant Affiliates, a **"Relevant Entity"**) that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**"Change in Law"** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of

any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).

- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Exercise Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE PHYSICAL DELIVERY PUT WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions).
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

### 2. Warrant Rights, Exercise Price and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to sell to the Issuer a number of Shares equal to the Conversion Ratio, subject to adjustment as provided in Condition 6.

**"Conversion Ratio"** means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Price.* Exercise Price means the amount as may be specified by the Issuer.
- (c) *Exercise Expenses.* Warrantheolders will be required to pay all charges which they incur on or in respect of or in connection with the sale and transfer of Shares upon the exercise of the Warrants, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with such sale and transfer of Shares.

In addition, Warrantheolders will be required to pay a sum equal to all the expenses payable by the purchaser and the transferee of the relevant Shares, including without limitation any applicable depository charges, transaction or exercise charges imposed by CDP, stamp duty, clearing fees, agent's expenses, scrip fees, levies, registration charges and other expenses payable on or in respect of or in connection with the sale and transfer of or agreement to sell and transfer the Shares to which the relevant Warrants and/or the exercise of the Warrants relate (the above charges and expenses incurred by Warrantheolders and the above purchaser's and transferee's expenses are together referred to as the "**Exercise Expenses**").

An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Exercise Price in accordance with Condition 4. In certain circumstances, part of the Exercise Expenses may be required to be paid by Warrantheolders after the exercise of the Warrants but prior to the credit of the Issuer's securities account with CDP with the relevant number of Shares. Notwithstanding the foregoing, the Warrantheolders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Exercise Price prior to the date of payment of the Exercise Price to the Warrantheolders in accordance with Condition 4.

### 3. **Expiry Date**

The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4, at or prior to 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day. Any Warrant which has not been exercised at or prior to 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, shall expire immediately thereafter and all rights of the Warrantheolder and obligations of the Issuer with respect to such Warrant shall cease.

### 4. **Exercise of Warrants**

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.
- (b) *Delivery of an Exercise Notice.*
  - (i) In order to exercise the Warrants, the Warrantheolder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an "**Exercise Notice**"), such delivery to be made at or prior to 12:00 noon (Singapore time) on

the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. Warrants may not be exercised at any other time.

- (ii) The date upon which a Warrant is, or is to be treated as, exercised shall be the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day.
- (iii) The Issuer shall, as from the date on which the relevant Shares are credited to its securities account with CDP, become beneficially entitled to all rights attaching to such Shares.

(c) *Exercise Notice.* The Exercise Notice shall:-

- (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
- (ii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
- (iii) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
- (iv) specify the number of Shares being sold and transferred by the Warrantholder to the Issuer;
- (v) declare and confirm that the Warrantholder has not less than the number of Shares in respect of which the Warrants are exercised in the "Free" balance (if applicable) of such Warrantholder's securities account with CDP;
- (vi) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Share being sold and transferred pursuant to the exercise of the Warrants and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Shares being sold and transferred;
- (vii) contain an irrevocable instruction to the Issuer to deduct any Exercise Expenses from the Exercise Price, and specify an address for the payment of the aggregate Exercise Price (less any Exercise Expenses) to be sent to; and
- (viii) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Expiry Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice:-

- (i) to exercise the number of Warrants specified in such Exercise Notice and to transfer the Shares to be sold and transferred to the Issuer upon the exercise of such Warrants and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice and to CDP to debit the number of Shares to be sold and transferred to the Issuer upon the exercise of such Warrants from the Warrantholder's securities account with CDP, and to the Issuer and the Warrant Agent to deduct the aggregate Exercise Expenses from the aggregate Exercise Price;
- (ii) that the Shares to which the Exercise Notice relates are sold to the Issuer with full title guarantee and free from all liens, charges, equitable interests and encumbrances and together with all rights then or subsequently attached thereto;
- (iii) that the Warrantholder has observed the laws of all relevant territories, obtained any requisite consents, complied with all applicable formalities and paid any transfer or other taxes due from him in respect of his exercise of the Warrants and sale and transfer of Shares the subject of the Exercise Notice and that he has not taken or omitted to take any action which would result in the Issuer acting in breach of any applicable legal or regulatory requirements in respect of the exercise of his Warrants; and
- (iv) that such delivery constitutes the Issuer as the Warrantholder's attorney and/or agent, and an instruction to the Issuer as such, to:-
  - (A) complete and execute any and all forms and take any and all actions which are necessary or desirable to give effect to the transfer of Shares the subject of the Exercise Notice; and
  - (B) procure the transfer of the relevant Shares from the Warrantholder to the Issuer.
- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *Suspension Period.* A "**Suspension Period**" occurs if the Issuer determines (in its absolute discretion) that (i) the ability of the Warrantholder or the Issuer to perform their respective delivery and payment obligations pursuant to an exercise of Warrants has been or could be expected to be materially adversely affected as a result of the suspension of, or a material limitation on, trading in the Shares or a general suspension of, or a material limitation on, trading on the Relevant Stock Exchange or (ii) otherwise a transfer of the Shares on exercise of the Warrants cannot be effected through the settlement system of CDP. The Warrantholder shall effect the delivery of, and the Issuer shall make payment for, the Shares on the first Business Day after the end of the Suspension Period in accordance with Condition 4(h) (and so that, in calculating the number of days between the relevant Expiry Date and the date on which Shares are transferred, the Suspension Period shall be excluded) and notice thereof shall be given to the Warrantholders in accordance with Condition 9.
- (g) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action



taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.

- (h) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (i) *Settlement.* Subject to a valid exercise of Warrants in accordance with these Conditions, the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the aggregate Exercise Price in the Settlement Currency. The aggregate Exercise Price (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Expiry Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(h) shall be delivered at the risk and expense of the Warrantholder, to such address as the Warrantholder has specified in the Exercise Notice, or if no such details are specified, posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). The Issuer's obligations to pay the Exercise Price shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.
- (j) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Conversion Ratio will be adjusted to take effect on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = \frac{1 + M}{1 + (R/S) \times M} \times C$$

Where:-

- C : Existing Conversion Ratio immediately prior to the Rights Offer
- S : Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares are traded on a cum-Rights basis
- R : Subscription price per Share as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
- M : Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Conversion Ratio being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Conversion Ratio. In addition, the Issuer shall also adjust the Exercise Price accordingly.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Conversion Ratio shall be increased on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = (1 + N) \times C$$

Where:-

- C : Existing Conversion Ratio immediately prior to the Bonus Issue

N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares for each Share held prior to the Bonus Issue

No adjustment of the Conversion Ratio will be made if the adjustment to the Conversion Ratio is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (c) *Share Splits or Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Conversion Ratio in effect immediately prior thereto shall be increased (in the case of a Subdivision) or the Conversion Ratio decreased (in the case of a Consolidation) accordingly, in each case on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect. In addition, the Issuer shall also adjust the Exercise Price accordingly.
- (d) *Merger or Consolidation.* If it is announced that the Company:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
  - (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where the Company is the surviving corporation in a merger) the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.
- (g) *Excess Shares.* If an exercise of a number of Warrants specified in an Exercise Notice would (if not for the provisions of this Condition 6 (g)) result in the relevant Warrantholder becoming entitled to sell and transfer a number of Shares which is not equal to a board lot of the Shares at such time or an integral multiple thereof, then:-
  - (i) the relevant Warrantholder shall not be entitled to sell and transfer to the Issuer, and the Issuer shall cease to be obliged to purchase in respect of such exercise, that number of Shares (the "**Excess Shares**") which exceeds the amount of such board lot or integral multiple thereof; and
  - (ii) the Issuer shall be entitled to deduct from the Exercise Price a cash amount equal to the closing price on the Business Day immediately preceding the relevant Expiry Date (as derived from the daily publications of the Relevant Stock Exchange or, if no such quotation is available, the most recently available closing price (subject, in each case, to any adjustments determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like)) of one Share multiplied by the number of the Excess Shares.

## 7. Purchases

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantholders; Modification

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day

on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantholders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

## 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

**“Regulatory Event”** means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the **“Relevant Affiliates”** and each of the Issuer and the Relevant Affiliates, a **“Relevant Entity”**) that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer’s obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer’s obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer’s obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer’s obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer’s capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**“Change in Law”** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer’s sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).

- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.



*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE AMERICAN STYLE CASH SETTLED PUT WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2), where:

(1) is equal to (i) the Exercise Price for the time being LESS (ii) the arithmetic mean of the closing prices of one Share (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like) for each Valuation Date (as defined below); and

(2) is the Conversion Ratio.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred, then that Valuation Date shall be postponed until the first succeeding Business Day (as defined below) on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the two Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Business Day shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and
- (B) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on that second Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Exercise Date (as defined below), then (1) the Business Day immediately preceding the Exercise Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

"**Conversion Ratio**" means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

"**Market Disruption Event**" means the occurrence or existence on a Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Shares requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Shares if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material

as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**"Valuation Date"** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Business Days immediately preceding the Exercise Date relating to such exercise.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **"Exercise Expenses"**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.

### 3. Exercise Period

- (a) *Exercise Period.* The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4 at any time during the period (the **"Exercise Period"**) beginning at 9:00 a.m. (Singapore time) on the Dealing Commencement Date (or, if later, the first day of dealings in the Warrants on the Singapore Exchange Securities Trading Limited (the **"SGX-ST"**)) and ending at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, provided that if on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Cash Settlement Amount (less any Exercise Expenses) is positive, then a valid Exercise Notice will be deemed to have been delivered on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, by every Warrantholder.
- (b) *Expiry.* Any Warrant with respect to which an Exercise Date has not occurred or has not been deemed to have occurred during the Exercise Period shall expire immediately thereafter and all rights of the Warrantholder and obligations of the Issuer with respect to such Warrant shall cease.

### 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.
- (b) *Delivery of an Exercise Notice.*
  - (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an **"Exercise Notice"**), such delivery to be made at any time during the Exercise Period. Warrants may not be exercised at any other time.
  - (ii) The date upon which a Warrant is, or is to be treated as, exercised (an **"Exercise Date"**) shall be the Business Day on which an Exercise Notice is delivered to the Warrant Agent and in respect of which there is a valid exercise of Warrants in accordance with the requirements of these Conditions, provided that any Exercise Notice received by the Warrant Agent after 12:00 noon (Singapore time)

on any Business Day shall be deemed to have been delivered on the next following Business Day.

- (c) *Exercise Notice.* The Exercise Notice shall:-
- (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
  - (ii) contain an irrevocable instruction to the Issuer to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount;
  - (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
  - (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
  - (v) specify an address for the payment of the aggregate Cash Settlement Amount (less any Exercise Expenses) to be sent to; and
  - (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Exercise Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice, and to the Issuer and the Warrant Agent to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount.
- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will, on the Exercise Date, earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (g) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be

incomplete or not in proper form shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.

- (h) *Settlement.* Subject to a valid exercise of Warrants in accordance with these Conditions, the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(h) shall be delivered at the risk and expense of the Warrantholder, to such address as the Warrantholder has specified in the Exercise Notice, or if no such details are specified, posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.
- (i) *Automatic Exercise.* Each Exercise Amount which has not been exercised in the manner set out in Condition 4(b) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and in respect of which the Cash Settlement Amount (less any Exercise Expenses) which would be payable by the Issuer on exercise on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, is positive shall be deemed automatically exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, so that the Warrantholders shall not be required to serve an Exercise Notice. The Cash Settlement Amount less the Exercise Expenses in respect of each Exercise Amount shall be paid in the manner set out in Condition 4(h) above.
- (j) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these

Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Conversion Ratio will be adjusted to take effect on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = \frac{1 + M}{1 + (R/S) \times M} \times C$$

Where:-

C	:	Existing Conversion Ratio immediately prior to the Rights Offer
S	:	Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares are traded on a cum-Rights basis
R	:	Subscription price per Share as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
M	:	Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Conversion Ratio being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Conversion Ratio. In addition, the Issuer shall also adjust the Exercise Price accordingly.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Conversion Ratio shall be increased on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = (1 + N) \times C$$

Where:-

- C : Existing Conversion Ratio immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares for each Share held prior to the Bonus Issue

No adjustment of the Conversion Ratio will be made if the adjustment to the Conversion Ratio is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (c) *Share Splits or Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Conversion Ratio in effect immediately prior thereto shall be increased (in the case of a Subdivision) or the Conversion Ratio decreased (in the case of a Consolidation) accordingly, in each case on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect. In addition, the Issuer shall also adjust the Exercise Price accordingly.
- (d) *Merger or Consolidation.* If it is announced that the Company:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
  - (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where the Company is the surviving corporation in a merger) the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantheolders, make such adjustments to the entitlements of the Warrantheolders on exercise (including, if appropriate, by

converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantholders; Modification**

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.



An Extraordinary Resolution passed at any meeting of the Warrantheolders shall be binding on all the Warrantheolders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantheolders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantheolders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantheolders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantheolders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantheolder or to which a Warrantheolder is entitled or which the Issuer shall have agreed to deliver to a Warrantheolder may be delivered by hand or sent by post addressed to the Warrantheolder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantheolders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantheolder.
- (b) *Notices.* All notices to Warrantheolders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

## 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts),

unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**"Change in Law"** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantheholders generally (without considering the circumstances of any individual Warrantheholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantheholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantheholder in respect of each Warrant held by such Warrantheholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantheholder in such manner as shall be notified to the Warrantheholder in accordance with Condition 9.

#### 14. Governing Law

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantheholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in

connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

**15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Exercise Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

**16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE CASH SETTLED PUT WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2), where:

(1) is equal to (i) the Exercise Price for the time being LESS (ii) the arithmetic mean of the closing prices of one Share (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like) for each Valuation Date (as defined below); and

(2) is the Conversion Ratio.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred, then that Valuation Date shall be postponed until the first succeeding Business Day (as defined below) on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the two Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Business Day shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and
- (B) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on that second Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Expiry Date, then (1) the Business Day immediately preceding the Expiry Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

"**Conversion Ratio**" means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

"**Market Disruption Event**" means the occurrence or existence on a Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Shares requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Shares if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material

as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**"Valuation Date"** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Business Days immediately preceding the Expiry Date relating to such exercise.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **"Exercise Expenses"**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.

### 3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Warrants shall be deemed to expire at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day.

### 4. Exercise of Warrants

- (a) *Exercise.* Warrants may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) *Automatic Exercise.* Warrantholders shall not be required to deliver an exercise notice. Exercise of Warrants shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Warrants shall be deemed to have been automatically exercised at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Warrants shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants shall be deemed to have expired at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Warrantholders shall not be entitled to receive any payment from the Issuer in respect of the Warrants.
- (c) *Settlement.* In respect of Warrants which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Warrantholder and posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be

discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (d) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (e) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever the Company shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Conversion Ratio will be adjusted to take effect on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = \frac{1 + M}{1 + (R/S) \times M} \times C$$

Where:-

C	:	Existing Conversion Ratio immediately prior to the Rights Offer
S	:	Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares are traded on a cum-Rights basis
R	:	Subscription price per Share as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
M	:	Number of new Share(s) (whether a whole or a fraction) per existing Share each holder thereof is entitled to subscribe



Provided that if the adjustment to be made would result in the Conversion Ratio being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Conversion Ratio. In addition, the Issuer shall also adjust the Exercise Price accordingly.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever the Company shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Conversion Ratio shall be increased on the Business Day following the last day on which Shares must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

$$\text{Adjusted Conversion Ratio} = (1 + N) \times C$$

Where:-

- C : Existing Conversion Ratio immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares for each Share held prior to the Bonus Issue

No adjustment of the Conversion Ratio will be made if the adjustment to the Conversion Ratio is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer. In addition, the Issuer shall also adjust the Exercise Price accordingly.

- (c) *Share Splits or Consolidations.* If and whenever the Company shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Conversion Ratio in effect immediately prior thereto shall be increased (in the case of a Subdivision) or the Conversion Ratio decreased (in the case of a Consolidation) accordingly, in each case on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect. In addition, the Issuer shall also adjust the Exercise Price accordingly.
- (d) *Merger or Consolidation.* If it is announced that the Company:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
  - (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where the Company is the surviving corporation in a merger) the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no

later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## 7. Purchases

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantheolders; Modification

- (a) *Meetings of Warrantheolders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantheolders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantheolders.

Such a meeting may be convened by the Issuer or by Warrantheolders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantheolders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantheolders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantheolders shall be binding on all the Warrantheolders, whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantheolders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantheolders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantheolders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantheolder or to which a Warrantheolder is entitled or which the Issuer shall have agreed to deliver to a Warrantheolder may be delivered by hand or sent by post addressed to the Warrantheolder at his address appearing in the records maintained by CDP or, in the case of joint Warrantheolders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantheolder.
- (b) *Notices.* All notices to Warrantheolders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of the Company or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of the Company, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

## 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

**“Regulatory Event”** means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the **“Relevant Affiliates”** and each of the Issuer and the Relevant Affiliates, a **“Relevant Entity”**) that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer’s obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer’s obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer’s obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer’s obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer’s capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**“Change in Law”** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer’s sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).

- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE AMERICAN STYLE CASH SETTLED BASKET PUT WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

References in these Conditions to "**Company**" shall be a reference to a company comprising one of the Companies and references to "**Shares**" shall be a reference to the shares of the Companies or, as the context requires, to the shares of a particular Company.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding

any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2), where:

(1) is equal to (i) the Exercise Price for the time being, LESS (ii) the aggregate for all the Shares constituting the basket as specified by the Issuer for the time being of the amount derived by multiplying (A) the number or fraction of the relevant Shares constituting the basket by (B) the arithmetic mean of the respective closing prices of such Share (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like) for each Valuation Date (as defined below); and

(2) is the Conversion Ratio.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred in respect of a Basket Component, then that Valuation Date for that Basket Component shall be postponed until the first succeeding Business Day (as defined below) on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the two Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Business Day shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and
- (B) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on that second Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Exercise Date, then (1) the Business Day immediately preceding the Exercise Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

The Valuation Date for the unaffected Basket Components shall remain unchanged.

"**Conversion Ratio**" means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

"**Market Disruption Event**" means the occurrence or existence on a Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Shares requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen



circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Shares if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**"Valuation Date"** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Business Days immediately preceding the Exercise Date (as defined below) relating to such exercise.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **"Exercise Expenses"**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.

### 3. Exercise Period

- (a) *Exercise Period.* The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4 at any time during the period (the **"Exercise Period"**) beginning at 9:00 a.m. (Singapore time) on the Dealing Commencement Date (or, if later, the first day of dealings in the Warrants on the Singapore Exchange Securities Trading Limited (the **"SGX-ST"**)) and ending at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, provided that if on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Cash Settlement Amount (less any Exercise Expenses) is positive, then a valid Exercise Notice will be deemed to have been delivered on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, by every Warrantholder.
- (b) *Expiry.* Any Warrant with respect to which an Exercise Date has not occurred or has not been deemed to have occurred during the Exercise Period shall expire immediately thereafter and all rights of the Warrantholder and obligations of the Issuer with respect to such Warrant shall cease.

### 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples thereof.
- (b) *Delivery of an Exercise Notice.*
  - (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an **"Exercise**

**Notice")**, such delivery to be made at any time during the Exercise Period. Warrants may not be exercised at any other time.

- (ii) The date upon which a Warrant is, or is to be treated as, exercised (an "**Exercise Date**") shall be the Business Day on which an Exercise Notice is delivered to the Warrant Agent and in respect of which there is a valid exercise of Warrants in accordance with the requirements of these Conditions, provided that any Exercise Notice received by the Warrant Agent after 12:00 noon (Singapore time) on any Business Day shall be deemed to have been delivered on the next following Business Day.

(c) *Exercise Notice.* The Exercise Notice shall:-

- (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
- (ii) contain an irrevocable instruction to the Issuer to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount;
- (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
- (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
- (v) specify an address for the payment of the aggregate Cash Settlement Amount (less any Exercise Expenses) to be sent to; and
- (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Exercise Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice, and to the Issuer and the Warrant Agent to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount.
- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will, on the Exercise Date, earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.

- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (g) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (h) *Settlement.* Subject to a valid exercise of Warrants in accordance with these Conditions, the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(h) shall be delivered at the risk and expense of the Warrantholder, to such address as the Warrantholder has specified in the Exercise Notice, or if no such details are specified, posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.
- (i) *Automatic Exercise.* Each Exercise Amount which has not been exercised in the manner set out in Condition 4(b) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and in respect of which the Cash Settlement Amount (less any Exercise Expenses) which would be payable by the Issuer on exercise on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, is positive shall be deemed automatically exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, so that the Warrantholders shall not be required to serve an Exercise Notice. The Cash Settlement Amount less the Exercise Expenses in respect of each Exercise Amount of Warrants so deemed to be exercised shall be paid in the manner set out in Condition 4(h) above.
- (j) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever any of the Companies shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Basket Component that relates to the Share(s) of the Company making the Rights Offer will be adjusted to take effect on the Business Day following the last day on which Shares (of the Company making the Rights Offer) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\begin{array}{l} \text{Adjusted Basket Component} \\ \text{insofar as it relates to the Share(s)} \\ \text{of the Company making the} \\ \text{Rights Offer} \end{array} = \frac{1 + M}{1 + (R/S) \times M} \times E$$

Where:-

- |   |   |                                                                                                                                                                                                          |
|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E | : | Existing Basket Component insofar as it relates to the Share(s) of the Company making the Rights Offer immediately prior to the Rights Offer                                                             |
| S | : | Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares (of the Company making the Rights Offer) are traded on a cum-Rights basis |
| R | : | Subscription price per Share (of the Company making the Rights Offer) as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right             |
| M | : | Number of new Share(s) (whether a whole or a fraction) per existing Share (of the Company making the Rights Offer) each holder thereof is entitled to subscribe                                          |

Provided that if the adjustment to be made would result in the Basket Component being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Basket Component.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever any of the Companies shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the relevant Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Basket Component that relates to the Share(s) of the Company making the Bonus Issue will be increased on the Business Day following the last day on which Shares (of the Company making the Bonus Issue) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

$$\begin{aligned} &\text{Adjusted Basket Component} \\ &\text{insofar as it relates to the Share(s) of} = (1 + N) \times E \\ &\text{the Company making the Bonus Issue} \end{aligned}$$

Where:-

- E : Existing Basket Component insofar as it relates to the Share(s) of the Company making the Bonus Issue immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares (of the Company making the Bonus Issue) for each Share held prior to the Bonus Issue

No adjustment of the Basket Component will be made (i) for a Bonus Issue with an intrinsic value of less than three per cent. of the market value of the Share(s) of the Company making the Bonus Issue on the last Business Day on which such Shares are traded on a cum-Bonus basis or (ii) if the adjustment to the Basket Component is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer.

- (c) *Share Splits or Consolidations.* If and whenever any of the Companies shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Basket Component insofar as it relates to the Share(s) of the Company making the Subdivision in effect immediately prior thereto shall be increased or the Basket Component insofar as it relates to the Share(s) of the Company making the Consolidation will be decreased accordingly, in each case, on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect.
- (d) *Merger or Consolidation.* If it is announced that any of the Companies:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation); or
  - (ii) is to or may sell or transfer all or substantially all of its assets,

then (except where that Company is the surviving corporation in a merger), the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## 7. Purchases

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## 8. Meetings of Warrantheolders; Modification

- (a) *Meetings of Warrantheolders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantheolders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantheolders.

Such a meeting may be convened by the Issuer or by Warrantheolders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantheolders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantheolders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantheolders shall be binding on all the Warrantheolders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be counted in the quorum for, any meeting of the Warrantheolders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantheolders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantheolders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantheolders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantheolder or to which a Warrantheolder is entitled or which the Issuer shall have agreed to deliver to a Warrantheolder may be delivered by hand or sent by post addressed to the Warrantheolder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantheolders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in

Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.

- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of any of the Companies or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of any of the Companies, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time any of the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where any of the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.



### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

**"Regulatory Event"** means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the **"Relevant Affiliates"** and each of the Issuer and the Relevant Affiliates, a **"Relevant Entity"**) that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**"Change in Law"** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Exercise Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE CASH SETTLED BASKET PUT WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

References in these Conditions to "**Company**" shall be a reference to a company comprising one of the Companies and references to "**Shares**" shall be a reference to the shares of the Companies or, as the context requires, to the shares of a particular Company.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2), where:

(1) is equal to (i) the Exercise Price for the time being, LESS (ii) the aggregate for all the Shares constituting the basket as specified by the Issuer for the time being of the amount derived by multiplying (A) the number or fraction of the relevant Shares constituting the basket by (B) the arithmetic mean of the respective closing prices of such Shares (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary to reflect any capitalisation, rights issue, distribution or the like) for each Valuation Date (as defined below); and

(2) is the Conversion Ratio.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred in respect of a Basket Component, then that Valuation Date for that Basket Component shall be postponed until the first succeeding Business Day (as defined below) on which there is no Market Disruption Event, unless there is a Market Disruption Event on each of the two Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Business Day shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event; and
- (B) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on that second Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Expiry Date, then (1) the Business Day immediately preceding the Expiry Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

The Valuation Date for the unaffected Basket Components shall remain unchanged.

"**Conversion Ratio**" means the ratio (expressed as the number of Shares to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

"**Market Disruption Event**" means the occurrence or existence on a Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Shares requested by the Company if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion,

terrorism or otherwise) on the Relevant Stock Exchange in the Shares if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**"Valuation Date"** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Business Days immediately preceding the Expiry Date relating to such exercise.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **"Exercise Expenses"**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.

### 3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Warrants shall be deemed to expire at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day.

### 4. Exercise of Warrants

- (a) *Exercise.* Warrants may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) *Automatic Exercise.* Warrantholders shall not be required to deliver an exercise notice. Exercise of Warrants shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Warrants shall be deemed to have been automatically exercised at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Warrants shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants shall be deemed to have expired at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Warrantholders shall not be entitled to receive any payment from the Issuer in respect of the Warrants.
- (c) *Settlement.* In respect of Warrants which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by

CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Warrantholder and posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (d) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (e) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments

- (a) *Rights Issues.* If and whenever any of the Companies shall, by way of Rights (as defined below), offer new Shares for subscription at a fixed subscription price to the holders of existing Shares pro rata to existing holdings (a "**Rights Offer**"), the Basket Component that relates to the Share(s) of the Company making the Rights Offer will be adjusted to take effect on the Business Day following the last day on which Shares (of the Company making the Rights Offer) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Rights Offer in accordance with the following formula:-

$$\begin{array}{l} \text{Adjusted Basket Component} \\ \text{insofar as it relates to the Share(s)} \\ \text{of the Company making the} \\ \text{Rights Offer} \end{array} = \frac{1 + M}{1 + (R/S) \times M} \times E$$

Where:-

E : Existing Basket Component insofar as it relates to the Share(s) of the Company making the Rights Offer immediately prior to the Rights Offer

- S : Cum-Rights Share price determined by the closing price on the Relevant Stock Exchange on the last Business Day on which Shares (of the Company making the Rights Offer) are traded on a cum-Rights basis
- R : Subscription price per Share (of the Company making the Rights Offer) as specified in the Rights Offer plus an amount equal to any dividends or other benefits forgone to exercise the Right
- M : Number of new Share(s) (whether a whole or a fraction) per existing Share (of the Company making the Rights Offer) each holder thereof is entitled to subscribe

Provided that if the adjustment to be made would result in the Basket Component being changed by one per cent. or less, all as determined by the Issuer, then no adjustment shall be made to the Basket Component.

For the purposes of these Conditions, "**Rights**" means the right(s) attached to each existing Share or needed to acquire one new Share (as the case may be) which are given to the holders of existing Shares to subscribe at a fixed subscription price for new Shares pursuant to the Rights Offer (whether by the exercise of one Right, a part of a Right or an aggregate number of Rights).

- (b) *Bonus Issues.* If and whenever any of the Companies shall make an issue of Shares credited as fully paid to the holders of Shares generally by way of capitalisation of profits or reserves (other than pursuant to a scrip dividend or similar scheme for the time being operated by the relevant Company or otherwise in lieu of a cash dividend and without any payment or other consideration being made or given by such holders) (a "**Bonus Issue**") the Basket Component that relates to the Share(s) of the Company making the Bonus Issue will be increased on the Business Day following the last day on which Shares (of the Company making the Bonus Issue) must be standing to the credit of a securities account with CDP so that the holder of such securities account would qualify for the Bonus Issue in accordance with the following formula:-

Adjusted Basket Component  
insofar as it relates to the Share(s) of =  $(1 + N) \times E$   
the Company making the Bonus Issue

Where:-

- E : Existing Basket Component insofar as it relates to the Share(s) of the Company making the Bonus Issue immediately prior to the Bonus Issue
- N : Number of additional Shares (whether a whole or a fraction) received by a holder of existing Shares (of the Company making the Bonus Issue) for each Share held prior to the Bonus Issue

No adjustment of the Basket Component will be made (i) for a Bonus Issue with an intrinsic value of less than three per cent. of the market value of the Share(s) of the Company making the Bonus Issue on the last Business Day on which such Shares are traded on a cum-Bonus basis or (ii) if the adjustment to the Basket Component is less than one per cent. immediately prior to the adjustment, all as determined by the Issuer.

- (c) *Share Splits or Consolidations.* If and whenever any of the Companies shall subdivide its Shares or any class of its outstanding share capital comprised of the Shares into a greater number of Shares (a "**Subdivision**") or consolidate the Shares or any class of its outstanding share capital comprised of the Shares into a smaller number of Shares (a "**Consolidation**"), the Basket Component insofar as it relates to the Share(s) of the Company making the Subdivision in effect immediately prior thereto shall be increased or the Basket Component insofar as it relates to the Share(s) of the Company making the Consolidation will be decreased accordingly, in each case, on the Business Day following the day on which the relevant Subdivision or Consolidation shall have taken effect.
- (d) *Merger or Consolidation.* If it is announced that any of the Companies:-
- (i) is to or may merge or consolidate with or into any other corporation (including becoming, by agreement or otherwise, a subsidiary of or controlled by any person or corporation) ; or
  - (ii) is to or may sell or transfer all or substantially all of its assets;

then (except where that Company is the surviving corporation in a merger), the rights attaching to the Warrants may in the absolute discretion of the Issuer be amended no later than the Business Day immediately preceding the consummation of such merger, consolidation, sale or transfer (each a "**Restructuring Event**"), (as determined by the Issuer in its absolute discretion). The rights attaching to the Warrants after the adjustment shall, after such Restructuring Event, relate to the number of Shares of the corporation(s) resulting from or surviving such Restructuring Event or other securities ("**Substituted Securities**") and/or cash offered in substitution for the affected Shares, as the case may be, to which a holder of such number of Shares to which the Warrants related immediately before such Restructuring Event would have been entitled upon such Restructuring Event.

Thereafter the provisions hereof shall apply to such Substituted Securities, provided that any Substituted Securities may, in the absolute discretion of the Issuer, be deemed to be replaced by an amount in the Settlement Currency equal to the market value or, if no market value is available, fair value, of such Substituted Securities in each case as determined by the Issuer as soon as practicable after such Restructuring Event is effected.

For the avoidance of doubt, any remaining Shares shall not be affected by this Condition 6(d) and, where cash is offered in substitution for Shares or is deemed to replace Substituted Securities as described above, references in these Conditions to the Shares shall include any such cash.

The Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of the Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (e) *Other Adjustments.* Except as provided in this Condition 6 and Conditions 10 and 12, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(d)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(d) should, in the context of the issue of the Warrants and the



obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).

- (f) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantholders; Modification**

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such

modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Liquidation

In the event of a liquidation or dissolution of any of the Companies or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law. In the event of the voluntary liquidation of any of the Companies, the Issuer shall make such adjustments or amendments as it reasonably believes are appropriate in the circumstances.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time any of the Shares cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where any of the Shares are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent

necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.

- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants

have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantheholders generally (without considering the circumstances of any individual Warrantheholder or the tax or other consequences of such termination in any particular jurisdiction).
- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantheholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantheholder in respect of each Warrant held by such Warrantheholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantheholder in such manner as shall be notified to the Warrantheholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantheholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE AMERICAN STYLE INDEX PUT WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 10) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and pari passu with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise and, in particular, the Warrants will not be secured by any underlying assets.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) multiplied by (2) MULTIPLIED by (3), where:

(1) is the Index Currency Amount;

(2) is equal to (i) the Strike Level LESS (ii) the Closing Level; and

(3) is the Conversion Ratio.

"**Closing Level**" means, means the level specified as such in the relevant Supplemental Listing Document subject to any adjustment in accordance with Condition 6.

"**Conversion Ratio**" means the ratio (expressed as the number of Index units to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the "**Exercise Expenses**"). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.

## 3. Exercise Period

- (a) *Exercise Period.* The Warrants may be exercised by delivery of an Exercise Notice (as defined below), in accordance with Condition 4 at any time during the period (the "**Exercise Period**") beginning at 9:00 a.m. (Singapore time) on the Dealing Commencement Date (or, if later, the first day of dealings in the Warrants on the Singapore Exchange Securities Trading Limited (the "**SGX-ST**")) and ending at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day, provided that if on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Strike Level is greater than the Closing Level of the Index and the Cash Settlement Amount (less any Exercise Expenses) is positive, then a valid Exercise Notice will be deemed to have been delivered on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, by each Warrantholder.
- (b) *Expiry.* Any Warrant with respect to which an Exercise Date (as defined below) has not occurred or has not been deemed to have occurred during the Exercise Period shall expire immediately thereafter and all rights of the Warrantholder and obligations of the Issuer with respect to such Warrant shall cease.

## 4. Exercise of Warrants

- (a) *Exercise Amounts.* Warrants may only be exercised in Board Lots or integral multiples

thereof.

(b) *Delivery of an Exercise Notice.*

- (i) In order to exercise the Warrants, the Warrantholder shall deliver to the specified office of the Warrant Agent a duly completed exercise notice substantially in the form set out in Schedule 1 to the Master Warrant Agent Agreement or Warrant Agent Agreement and obtainable from the Warrant Agent (an "**Exercise Notice**"), such delivery to be made at any time during the Exercise Period. Warrants may not be exercised at any other time.
- (ii) The date upon which a Warrant is, or is to be treated as, exercised (an "**Exercise Date**") shall be the Business Day on which an Exercise Notice is delivered to the Warrant Agent and in respect of which there is a valid exercise of Warrants in accordance with the requirements of these Conditions, provided that any Exercise Notice received by the Warrant Agent after 12:00 noon (Singapore time) on any Business Day shall be deemed to have been delivered on the next following Business Day.

(c) *Exercise Notice.* The Exercise Notice shall:-

- (i) specify the name(s) of the Warrantholder(s) and the number of Warrants being exercised;
- (ii) contain an irrevocable instruction to the Issuer to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount;
- (iii) declare and confirm that the Warrantholder has not less than the number of Warrants being exercised in the "Free" balance of such Warrantholder's securities account with CDP;
- (iv) specify the number of the Warrantholder's securities account with CDP to be earmarked and debited with each Warrant being exercised and irrevocably instruct the Warrant Agent to earmark upon receipt of the Exercise Notice, and CDP to debit upon receipt of notification of such earmarking, from such securities account the Warrants being exercised;
- (v) specify an address for the payment of the aggregate Cash Settlement Amount (less any Exercise Expenses) to be sent to; and
- (vi) be delivered in accordance with Conditions 3 and 4(b) above.

Any Exercise Expenses which have not been determined by the Warrant Agent on the Exercise Date shall be notified to the Warrantholder as soon as practicable after determination thereof by the Warrant Agent and shall be paid by the Warrantholder forthwith.

- (d) *Consequences of delivery of an Exercise Notice.* Delivery of an Exercise Notice in accordance with Conditions 4(b) and 4(c) shall constitute an irrevocable election and undertaking by the Warrantholder specified in such Exercise Notice to exercise the number of Warrants specified in such Exercise Notice and an irrevocable authority to the Warrant Agent to earmark, and to CDP to debit, the number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice, and to the Issuer and the Warrant Agent to deduct the aggregate Exercise Expenses from the aggregate Cash Settlement Amount.

- (e) *Earmarking of Warrants.* Upon receipt of an Exercise Notice, the Warrant Agent shall verify that the person exercising the Warrants specified therein is the holder thereof according to the records maintained by CDP and will, on the Exercise Date, earmark that number of Warrants exercised in the "Free" balance of the relevant Warrantholder's securities account with CDP specified in the Exercise Notice. CDP will, upon receipt of notification of such earmarking, debit the securities account of the relevant Warrantholder with the Warrants being exercised.
- (f) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (g) *Exercise Notice.* Any determination as to whether an Exercise Notice is duly completed and in proper form shall be made by the Warrant Agent and shall be conclusive and binding on the relevant Warrantholder. Any Exercise Notice so determined to be incomplete or not in proper form shall be null and void. If such Exercise Notice is subsequently corrected to the satisfaction of the Warrant Agent it shall be deemed to be a new Exercise Notice submitted at the time such correction was delivered to the Warrant Agent. The Warrant Agent shall, as soon as practicable, use all reasonable efforts to notify the Warrantholder submitting an Exercise Notice if it has determined that such Exercise Notice is incomplete or not in proper form. In the absence of negligence or wilful misconduct on its part, the Warrant Agent shall not be liable to any person with respect to any action taken or omitted to be taken by it in connection with such notification to a Warrantholder on such determination.
- (h) *Settlement.* Subject to a valid exercise of Warrants in accordance with these Conditions, the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantholder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantholder only (or, in the case of joint Warrantholders, the first-named Warrantholder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(h) shall be delivered at the risk and expense of the Warrantholder, to such address as the Warrantholder has specified in the Exercise Notice, or if no such details are specified, posted to the Warrantholder's address appearing in the records maintained by CDP (or, in the case of joint Warrantholders, to the address of the first-named Warrantholder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

If the Issuer determines, in its sole discretion, that on the Valuation Date a Market Disruption Event has occurred, then the Issuer shall determine the Closing Level on the basis of its good faith estimate of the Closing Level that would have prevailed on that day but for the occurrence of the Market Disruption Event provided that the Issuer, if applicable, may, but shall not be obliged to, determine such Closing Level by having regard to the manner in which futures contracts relating to the Index are calculated.

**"Market Disruption Event"** means:

- (i) the occurrence or existence, on a Valuation Date, of any of:-
  - (A) the suspension or limitation of the trading of a material number of securities/commodities from time to time comprising the Index; or



- (B) the suspension or limitation of the trading of securities/commodities (1) on the SGX-ST or the Relevant Stock Exchange or (2) generally; or
  - (C) the suspension or limitation of the trading of (1) options or futures relating to the Index on any options or futures exchanges or (2) options or futures generally on any options and/or futures exchanges on which options or futures relating to the Index are traded; or
  - (D) the imposition of any exchange controls in respect of any currencies involved in determining the Cash Settlement Amount; or
  - (E) failure from the Index Sponsor to compute, publish and disseminate the level of the Index or material limitation to access the level of the Index.
- (ii) a limitation or closure of the SGX-ST or the Relevant Stock Exchange due to any unforeseen circumstances.

For the purposes of this definition, (aa) the limitation on the number of hours or days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of any exchange, and (bb) a limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of the movements in price exceeding the levels permitted by any relevant exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise due to any unforeseen circumstances) on the relevant exchange will constitute a Market Disruption Event.

**"Valuation Date"** means, the date on which the Closing Level is determined or such other date as may be specified in the relevant Supplemental Listing Document.

The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (i) *Automatic Exercise.* If on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Strike Level is greater than the Closing Level of the Index and the Cash Settlement Amount (less any Exercise Expenses) is positive, each Exercise Amount which has not been exercised in the manner set out in Condition 4(b) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, shall be deemed to have been automatically exercised at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and a valid Exercise Notice shall be deemed to have been delivered on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, by each relevant Warrantholder. The Cash Settlement Amount less the Exercise Expenses in respect of each Exercise Amount shall be paid in the manner set out in Condition 4(h) above. In the event on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, the Strike Level is less than or equal to the Closing Level of the Index and the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants which have not been exercised in the manner set out in Condition 4(b) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, shall be deemed to have expired at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and the relevant Warrantholders shall not be entitled to receive any payment from the Issuer in respect of such Warrants.

- (j) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore and an "**Index Business Day**" shall be a day on which the Index is published by the Index Sponsor or, as the case may be, the Successor Index Sponsor and where the Index closes at the normal trading hours.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantheolders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantheolders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantheolders.

## 6. Adjustments to the Index

- (a) *Successor Sponsor Calculates and Reports Index.* If the Index is (i) not calculated and announced by the Index Sponsor but is calculated and published by a successor to the Index Sponsor (the "**Successor Index Sponsor**") acceptable to the Issuer or (ii) replaced by a successor index using, in the determination of the Issuer, the same or a substantially similar formula for and method of calculation as used in the calculation of the Index, then the Index will be deemed to be the index so calculated and announced by the Successor Index Sponsor or that successor index, as the case may be.
- (b) *Modification and Cessation of Calculation of Index.* If:-
  - (i) on or prior to the Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor makes a material change in the formula for or the method of calculating the Index or in any other way materially modifies the Index (other than a modification prescribed in that formula or method to maintain the Index in the event of changes in constituent stocks, contracts or commodities and other routine events); or
  - (ii) on a Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor fails to calculate and publish the Index (other than as a result of a Market Disruption Event),

then the Issuer shall determine the Closing Level using, in lieu of a published level for the Index, the level for the Index as at that Valuation Date as determined by the Issuer in accordance with the formula for and method of calculating the Index last in effect prior to that change or failure, but using only those securities/commodities that comprised the Index immediately prior to that change or failure (other than those securities that have since ceased to be listed on the relevant exchange).

- (c) *Other Adjustments.* Except as provided in this Condition 6, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation

whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(b)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(b) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or as the case may be, amendment provided that such adjustment or as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).

- (d) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantheolders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantheolders; Modification**

- (a) *Meetings of Warrantheolders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantheolders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantheolders.

Such a meeting may be convened by the Issuer or by Warrantheolders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantheolders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantheolders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantheolders shall be binding on all the Warrantheolders, whether or not they are present at the meeting, save for those Warrants remaining unexercised but for which an Exercise Notice shall have been submitted prior to the date of the meeting.

Warrants which have not been exercised but in respect of which an Exercise Notice has been submitted will not confer the right to attend or vote at, or join in convening, or be

counted in the quorum for, any meeting of the Warrantheolders. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantheolders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantheolders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantheolders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantheolder or to which a Warrantheolder is entitled or which the Issuer shall have agreed to deliver to a Warrantheolder may be delivered by hand or sent by post addressed to the Warrantheolder (otherwise than in accordance with an Exercise Notice) at his address appearing in the records maintained by CDP or, in the case of joint Warrantheolders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantheolder.
- (b) *Notices.* All notices to Warrantheolders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantheolders, to create and issue further warrants so as to form a single series with the Warrants.

## 11. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations

under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**"Change in Law"** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for not being able to find a successor to the Index Sponsor or a successor to the Index.* If (i) the Index Sponsor is not able to calculate and announce the Index and the Issuer is not able to find an acceptable successor to the Index Sponsor or (ii) the Index becomes unavailable and the Issuer is not able to find a successor to the Index, the Issuer may at its sole discretion and without obligation terminate the Warrants in accordance with Condition 11(d).
- (c) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 11(d) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantheolders generally (without considering the circumstances of any individual Warrantheolder or the tax or other consequences of such termination in any particular jurisdiction).
- (d) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantheolders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantheolder in respect of each Warrant

held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

## **12. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

## **13. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Exercise Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

## **14. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE INDEX PUT WARRANTS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 10) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise and, in particular, the Warrants will not be secured by any underlying assets.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) multiplied by (2) MULTIPLIED by (3), where:

(1) is the Index Currency Amount;

(2) is equal to (i) the Strike Level LESS (ii) the Closing Level; and

(3) is the Conversion Ratio.

"**Closing Level**" means, means the level specified as such in the relevant Supplemental Listing Document subject to any adjustment in accordance with Condition 6.

"**Conversion Ratio**" means the ratio (expressed as the number of Index units to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the "**Exercise Expenses**"). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.

## 3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Warrants shall be deemed to expire at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day.

## 4. Exercise of Warrants

- (a) *Exercise.* Warrants may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) *Automatic Exercise.* Warrantholders shall not be required to deliver an exercise notice. Exercise of Warrants shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Strike Level is greater than the Closing Level of the Index and the Cash Settlement Amount (less any Exercise Expenses) is positive, all Warrants shall be deemed to have been automatically exercised at 5:00 p.m. (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Warrants shall be paid in the manner set out in Condition 4(c) below. In the event the Strike Level is less than or equal to the Closing Level of the Index and the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants shall be deemed to have expired at 5:00 p.m. (Singapore time) on the Expiry Date or if



the Expiry Date is not a Business Day, the immediately preceding Business Day, and Warrantheolders shall not be entitled to receive any payment from the Issuer in respect of the Warrants.

- (c) **Settlement.** In respect of Warrants which are exercised automatically in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantheolder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantheolder only (or, in the case of joint Warrantheolders, the first-named Warrantheolder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Warrantheolder and posted to the Warrantheolder's address appearing in the records maintained by CDP (or, in the case of joint Warrantheolders, to the address of the first-named Warrantheolder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable.

If the Issuer determines, in its sole discretion, that on the Valuation Date a Market Disruption Event has occurred, then the Issuer shall determine the Closing Level on the basis of its good faith estimate of the Closing Level that would have prevailed on that day but for the occurrence of the Market Disruption Event provided that the Issuer, if applicable, may, but shall not be obliged to, determine such Closing Level by having regard to the manner in which futures contracts relating to the Index are calculated.

**"Market Disruption Event"** means:

- (i) the occurrence or existence, on a Valuation Date, of any of:-
  - (A) the suspension or limitation of the trading of a material number of securities/commodities from time to time comprising the Index; or
  - (B) the suspension or limitation of the trading of securities/commodities (1) on the SGX-ST or the Relevant Stock Exchange or (2) generally; or
  - (C) the suspension or limitation of the trading of (1) options or futures relating to the Index on any options or futures exchanges or (2) options or futures generally on any options and/or futures exchanges on which options or futures relating to the Index are traded; or
  - (D) the imposition of any exchange controls in respect of any currencies involved in determining the Cash Settlement Amount; or
  - (E) failure from the Index Sponsor to compute, publish and disseminate the level of the Index or material limitation to access the level of the Index.
- (ii) a limitation or closure of the SGX-ST or the Relevant Stock Exchange due to any unforeseen circumstances.

For the purposes of this definition, (aa) the limitation on the number of hours or days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of any exchange, and (bb) a limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of the movements in price exceeding the levels permitted by any relevant exchange or any act

of God, war, riot, public disorder, explosion, terrorism or otherwise due to any unforeseen circumstances) on the relevant exchange will constitute a Market Disruption Event.

**"Valuation Date"** means, the date on which the Closing Level is determined or such other date as may be specified in the relevant Supplemental Listing Document.

The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (d) *CDP not liable.* CDP shall not be liable to any Warrantholder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (e) *Business Day.* In these Conditions, a **"Business Day"** shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore and an **"Index Business Day"** shall be a day on which the Index is published by the Index Sponsor or, as the case may be, the Successor Index Sponsor and where the Index closes at the normal trading hours.

## 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.
- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## 6. Adjustments to the Index

- (a) *Successor Sponsor Calculates and Reports Index.* If the Index is (i) not calculated and announced by the Index Sponsor but is calculated and published by a successor to the Index Sponsor (the **"Successor Index Sponsor"**) acceptable to the Issuer or (ii) replaced by a successor index using, in the determination of the Issuer, the same or a substantially similar formula for and method of calculation as used in the calculation of the Index, then the Index will be deemed to be the index so calculated and announced by the Successor Index Sponsor or that successor index, as the case may be.
- (b) *Modification and Cessation of Calculation of Index.* If:-
  - (i) on or prior to the Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor makes a material change in the formula for or the method of calculating the Index or in any other way materially modifies the Index (other than a modification prescribed in that formula or method to maintain the Index in the event of changes in constituent stocks, contracts or commodities and other routine events); or

- (ii) on a Valuation Date the Index Sponsor or (if applicable) the Successor Index Sponsor fails to calculate and publish the Index (other than as a result of a Market Disruption Event),

then the Issuer shall determine the Closing Level using, in lieu of a published level for the Index, the level for the Index as at that Valuation Date as determined by the Issuer in accordance with the formula for and method of calculating the Index last in effect prior to that change or failure, but using only those securities/commodities that comprised the Index immediately prior to that change or failure (other than those securities that have since ceased to be listed on the relevant exchange).

- (c) *Other Adjustments.* Except as provided in this Condition 6, adjustments will not be made in any other circumstances, subject to the right reserved by the Issuer (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events (including the events as contemplated in Conditions 6(a) to 6(b)) occur which it believes in its sole discretion and irrespective of, in substitution for, or in addition to the provisions contemplated in Conditions 6(a) to 6(b) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or as the case may be, amendment provided that such adjustment or as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (d) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or its related corporations may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantholders; Modification**

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being

remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantheolders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantheolders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantheolders shall be binding on all the Warrantheolders whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantheolders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantheolders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantheolders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantheolder or to which a Warrantheolder is entitled or which the Issuer shall have agreed to deliver to a Warrantheolder may be delivered by hand or sent by post addressed to the Warrantheolder at his address appearing in the records maintained by CDP or, in the case of joint Warrantheolders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantheolder.
- (b) *Notices.* All notices to Warrantheolders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantheolders, to create and issue further warrants so as to form a single series with the Warrants.

## 11. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

**“Regulatory Event”** means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the **“Relevant Affiliates”** and each of the Issuer and the Relevant Affiliates, a **“Relevant Entity”**) that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer’s obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer’s obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer’s obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer’s obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer’s capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

**“Change in Law”** means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for not being able to find a successor to the Index Sponsor or a successor to the Index.* If (i) the Index Sponsor is not able to calculate and announce the Index and the Issuer is not able to find an acceptable successor to the Index Sponsor or (ii) the Index becomes unavailable and the Issuer is not able to find a successor to the Index, the Issuer may at its sole discretion and without obligation terminate the Warrants in accordance with Condition 11(d).
- (c) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer’s sole and unfettered discretion and without any obligation whatsoever) to terminate the Warrants in accordance with Condition 11(d) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination

provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).

- (d) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

## **12. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

## **13. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

## **14. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

*The relevant Conditions will be supplemented by the supplemental provisions contained in the relevant Supplemental Listing Document. The applicable Supplemental Listing Document in relation to the issue of any series of Warrants may specify other terms and conditions which shall, to the extent so specified or to the extent inconsistent with the relevant Conditions, replace or modify the relevant Conditions for the purpose of such series of Warrants. Capitalised terms used in the Conditions and not otherwise defined therein shall have the meaning given to them in the relevant Supplemental Listing Document.*

## TERMS AND CONDITIONS OF THE EUROPEAN STYLE CASH SETTLED PUT WARRANTS ON SINGLE UNIT FUNDS

### 1. Form, Status, Transfer and Title

- (a) *Form.* The Warrants (which expression shall, unless the context otherwise requires, include any further warrants issued pursuant to Condition 11) are issued subject to and with the benefit of:-
- (i) an instrument by way of deed poll (the "**Instrument**") dated the Closing Date, made by UBS AG (the "**Issuer**") acting through its London Branch; and
  - (ii) a warrant agent agreement (the "**Master Warrant Agent Agreement**" or "**Warrant Agent Agreement**") dated any time on or before the Closing Date, made between the Issuer and the Warrant Agent for the Warrants.

Copies of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement are available for inspection at the specified office of the Warrant Agent.

The Warrantholders (as defined below) are entitled to the benefit of, are bound by and are deemed to have notice of all the provisions of the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement.

- (b) *Status.* The Warrants constitute direct, general and unsecured contractual obligations of the Issuer and rank, and will rank, equally among themselves and *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer (save for statutorily preferred exceptions). The Warrants provide for cash settlement on exercise.
- (c) *Transfer.* The Warrants are represented by a global warrant certificate ("**Global Warrant**") which will be deposited with The Central Depository (Pte) Limited ("**CDP**"). Warrants in definitive form will not be issued. Transfers of Warrants may be effected only in Board Lots or integral multiples thereof. All transactions in (including transfers of) Warrants, in the open market or otherwise, must be effected through a securities account with CDP. Title will pass upon registration of the transfer in the records maintained by CDP.
- (d) *Title.* Each person who is for the time being shown in the records maintained by CDP as entitled to a particular number of Warrants shall be treated by the Issuer and the Warrant Agent as the holder and absolute owner of such number of Warrants, notwithstanding any notice to the contrary. The expression "**Warrantholder**" shall be construed accordingly.

## 2. Warrant Rights and Exercise Expenses

- (a) *Warrant Rights.* Every Warrant entitles each Warrantholder, upon due exercise and on compliance with Condition 4, to payment by the Issuer of the Cash Settlement Amount (as defined below) (if any) in the manner set out in Condition 4.

The "**Cash Settlement Amount**", in respect of each Warrant, shall be an amount (if positive) payable in the Settlement Currency equal to (1) MULTIPLIED by (2) and divided by (3), where:

(1) is equal to (a) the Exercise Price for the time being, LESS (b) the arithmetic mean of the closing prices of one Unit (as derived from the daily publications of the Relevant Stock Exchange, subject to any adjustments to such closing prices determined by the Issuer to be necessary) for each Valuation Date (as defined below);

(2) is the Conversion Ratio; and

(3) is the Exchange Rate.

If the Issuer determines, in its sole discretion, that on any Valuation Date a Market Disruption Event (as defined below) has occurred, then that Valuation Date shall be postponed until the first succeeding Relevant Stock Exchange Business Day (as defined below) on which there is no Market Disruption Event irrespective of whether that postponed Valuation Date would fall on a Relevant Stock Exchange Business Day that is already or is deemed to be a Valuation Date, unless there is a Market Disruption Event on each of the two Relevant Stock Exchange Business Days immediately following the original date that, but for the Market Disruption Event, would have been a Valuation Date. In that case:-

- (A) that second Relevant Stock Exchange Business Day shall be deemed to be that Valuation Date notwithstanding the Market Disruption Event and irrespective of whether that second Relevant Stock Exchange Business Day Valuation Date would fall on a Relevant Stock Exchange Business Day that is already or is deemed to be a Valuation Date; and
- (B) the Issuer shall determine the closing price of the Units on the basis of its good faith estimate of the bid price that would have prevailed on that second Relevant Stock Exchange Business Day but for the Market Disruption Event.

If the postponement of a Valuation Date as aforesaid would result in a Valuation Date falling on or after the Expiry Date, then (1) the Relevant Stock Exchange Business Day immediately preceding the Expiry Date (the "**Last Valuation Date**") shall be deemed to be the Valuation Date notwithstanding the Market Disruption Event and (2) the Issuer shall determine the closing price of the Units on the basis of its good faith estimate of the bid price that would have prevailed on the Last Valuation Date but for the Market Disruption Event.

"**Conversion Ratio**" means the ratio (expressed as the number of Units to which one Warrant relates) specified by the Issuer, subject to adjustments in accordance with these Conditions.



**“Market Disruption Event”** means the occurrence or existence on a Valuation Date of (i) any suspension of trading on the Relevant Stock Exchange of the Units requested by the Fund if that suspension is, in the determination of the Issuer, material, (ii) any suspension of or limitation imposed on trading (including but not limited to unforeseen circumstances such as by reason of movements in price exceeding limits permitted by the Relevant Stock Exchange or any act of God, war, riot, public disorder, explosion, terrorism or otherwise) on the Relevant Stock Exchange in the Units if that suspension or limitation is, in the determination of the Issuer, material, or (iii) the closing of the Relevant Stock Exchange or early closure of the Relevant Stock Exchange on any given Valuation Date provided that such early closure is not announced by the Relevant Stock Exchange at least one hour before close of trading or a disruption to trading on the Relevant Stock Exchange, if that disruption is, in the determination of the Issuer, material as a result of the occurrence of any act of God, war, riot, public disorder, explosion or terrorism or due to any unforeseen circumstances.

**“Valuation Date”** means, with respect to the exercise of Warrants, and subject as provided above in relation to a Market Disruption Event, each of the five Relevant Stock Exchange Business Days immediately preceding the Expiry Date relating to such exercise.

**“Relevant Stock Exchange Business Day”** means, a day (other than a Saturday, Sunday, or public holiday) on which the Relevant Stock Exchange is open for dealings in Hong Kong during its normal trading hours and banks are open for business in Hong Kong.

**“Exchange Rate”** means the rate of exchange between Hong Kong dollars and the Singapore dollars (expressed as the number of units of Hong Kong dollar per one unit of Singapore dollar) on the Expiry Date (if it is not a Relevant Stock Exchange Business Day, the next following day which is a Business Day and a Relevant Stock Exchange Business Day) at or about 5:00 p.m. (Singapore time), as determined by the Issuer by reference to such source(s) as the Issuer may reasonably determine to be appropriate at such time.

- (b) *Exercise Expenses.* Warrantholders will be required to pay all charges which are incurred in respect of the exercise of the Warrants (the **“Exercise Expenses”**). An amount equivalent to the Exercise Expenses will be deducted by the Issuer from the Cash Settlement Amount in accordance with Condition 4. Notwithstanding the foregoing, the Warrantholders shall account to the Issuer on demand for any Exercise Expenses to the extent that they were not or could not be deducted from the Cash Settlement Amount prior to the date of payment of the Cash Settlement Amount to the Warrantholders in accordance with Condition 4.

### 3. Expiry Date

Unless automatically exercised in accordance with Condition 4(b), the Warrants shall be deemed to expire at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day (as defined below), the immediately preceding Business Day.

#### 4. Exercise of Warrants

- (a) *Exercise.* Warrants may only be exercised on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, in accordance with Condition 4(b).
- (b) *Automatic Exercise.* Warrantheolders shall not be required to deliver an exercise notice. Exercise of Warrants shall be determined by whether the Cash Settlement Amount (less any Exercise Expenses) is positive. If the Cash Settlement Amount (less any Exercise Expenses) is positive, all Warrants shall be deemed to have been automatically exercised at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day. The Cash Settlement Amount less the Exercise Expenses in respect of the Warrants shall be paid in the manner set out in Condition 4(c) below. In the event the Cash Settlement Amount (less any Exercise Expenses) is zero or negative, all Warrants shall be deemed to have expired at 12:00 noon (Singapore time) on the Expiry Date or if the Expiry Date is not a Business Day, the immediately preceding Business Day, and Warrantheolders shall not be entitled to receive any payment from the Issuer in respect of the Warrants.
- (c) *Settlement.* In respect of Warrants which are automatically exercised in accordance with Condition 4(b), the Issuer will pay to the Warrant Agent who will then pay to the relevant Warrantheolder the Cash Settlement Amount (if any) in the Settlement Currency. The aggregate Cash Settlement Amount (less any Exercise Expenses) shall be dispatched by the Warrant Agent as soon as practicable and no later than five Business Days following the Last Valuation Date by way of crossed cheque or other payment in immediately available funds drawn in favour of the Warrantheolder only (or, in the case of joint Warrantheolders, the first-named Warrantheolder) appearing in the records maintained by CDP. Any payment made pursuant to this Condition 4(c) shall be delivered at the risk and expense of the Warrantheolder and posted to the Warrantheolder's address appearing in the records maintained by CDP (or, in the case of joint Warrantheolders, to the address of the first-named Warrantheolder appearing in the records maintained by CDP). If the Cash Settlement Amount is equal to or less than the determined Exercise Expenses, no amount is payable. The Issuer's obligations to pay the Cash Settlement Amount shall be discharged by payment to the Warrant Agent in accordance with the Master Warrant Agent Agreement or Warrant Agent Agreement.
- (d) *CDP not liable.* CDP shall not be liable to any Warrantheolder with respect to any action taken or omitted to be taken by the Issuer or the Warrant Agent in connection with the exercise of the Warrants or otherwise pursuant to or in connection with these Conditions.
- (e) *Business Day.* In these Conditions, a "**Business Day**" shall be a day (excluding Saturdays, Sundays and public holidays) on which the SGX-ST is open for dealings in Singapore during its normal trading hours and banks are open for business in Singapore.

#### 5. Warrant Agent

- (a) *Warrant Agent.* The Issuer reserves the right, subject to the appointment of a successor, at any time to vary or terminate the appointment of the Warrant Agent and to appoint another Warrant Agent provided that it will at all times maintain a Warrant Agent which, so long as the Warrants are listed on the SGX-ST, shall be in Singapore. Notice of any

such termination or appointment and of any change in the specified office of the Warrant Agent will be given to the Warrantholders in accordance with Condition 9.

- (b) *Agent of Issuer.* The Warrant Agent will be acting as agent of the Issuer and will not assume any obligation or duty to or any relationship of agency or trust for the Warrantholders. All determinations and calculations by the Warrant Agent under these Conditions shall (save in the case of manifest error) be final and binding on the Issuer and the Warrantholders.

## **6. Adjustments**

- (a) *Adjustments.* Without prejudice to the rights of the Issuer under Conditions 10 and 12, the Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation whatsoever) to make such adjustments and amendments as it believes appropriate in circumstances where an event or events occur which it believes in its sole discretion (and notwithstanding any prior adjustment made pursuant to this paragraph) should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such adjustment or, as the case may be, amendment provided that such adjustment or, as the case may be, amendment is considered by the Issuer not to be materially prejudicial to the Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such adjustment or amendment in any particular jurisdiction).
- (b) *Notice of Adjustments.* All determinations made by the Issuer pursuant hereto will be conclusive and binding on the Warrantholders. The Issuer will give, or procure that there is given, notice as soon as practicable of any adjustment and of the date from which such adjustment is effective by publication in accordance with Condition 9. For the avoidance of doubt, no notice will be given if the Issuer determines that adjustments will not be made.

## **7. Purchases**

The Issuer or any of its respective subsidiaries may at any time purchase Warrants at any price in the open market or by tender or by private treaty. Any Warrants so purchased may be held or resold or surrendered for cancellation.

## **8. Meetings of Warrantholders; Modification**

- (a) *Meetings of Warrantholders.* The Master Warrant Agent Agreement or Warrant Agent Agreement contains provisions for convening meetings of the Warrantholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Master Warrant Agent Agreement or Warrant Agent Agreement) of a modification of the provisions of the Warrants or of the Master Warrant Agent Agreement or Warrant Agent Agreement.

At least 21 days' notice (exclusive of the day on which the notice is given and of the day on which the meeting is held) specifying the date, time and place of the meeting shall be given to the Warrantholders.

Such a meeting may be convened by the Issuer or by Warrantholders holding not less than ten per cent. of the Warrants for the time being remaining unexercised. The quorum at any such meeting for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 25 per cent. of the Warrants for the time being remaining unexercised, or at any adjourned meeting two or more persons being or representing Warrantholders whatever the number of Warrants so held or represented.

A resolution will be an Extraordinary Resolution when it has been passed at a duly convened meeting by not less than three-quarters of the votes cast by such Warrantholders who, being entitled to do so, vote in person or by proxy.

An Extraordinary Resolution passed at any meeting of the Warrantholders shall be binding on all the Warrantholders, whether or not they are present at the meeting. Resolutions can be passed in writing if passed unanimously.

- (b) *Modification.* The Issuer may, without the consent of the Warrantholders, effect (i) any modification of the provisions of the Warrants or the Instrument which is not materially prejudicial to the interests of the Warrantholders or (ii) any modification of the provisions of the Warrants or the Instrument which is of a formal, minor or technical nature, which is made to correct an obvious error or which is necessary in order to comply with mandatory provisions of Singapore law. Any such modification shall be binding on the Warrantholders and shall be notified to them by the Warrant Agent before the date such modification becomes effective or as soon as practicable thereafter in accordance with Condition 9.

## 9. Notices

- (a) *Documents.* All cheques and other documents required or permitted by these Conditions to be sent to a Warrantholder or to which a Warrantholder is entitled or which the Issuer shall have agreed to deliver to a Warrantholder may be delivered by hand or sent by post addressed to the Warrantholder at his address appearing in the records maintained by CDP or, in the case of joint Warrantholders, addressed to the joint holder first named at his address appearing in the records maintained by CDP, and airmail post shall be used if that address is not in Singapore. All documents delivered or sent in accordance with this paragraph shall be delivered or sent at the risk of the relevant Warrantholder.
- (b) *Notices.* All notices to Warrantholders will be validly given if published in English on the website of the SGX-ST. Such notices shall be deemed to have been given on the date of the first such publication. If publication on the website of the SGX-ST is not practicable, notice will be given in such other manner as the Issuer may determine. The Issuer shall, at least one month prior to the expiry of any Warrant, give notice of the date of expiry of such Warrant in the manner prescribed above.

## 10. Termination or Liquidation

In the event of a Termination or the liquidation or dissolution of the trustee of the Fund (including any successor trustee appointed from time to time) ("**Trustee**") (in its capacity as trustee of the Fund) or the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, all unexercised Warrants will lapse and shall

cease to be valid for any purpose, in the case of voluntary liquidation, on the effective date of the relevant resolution and, in the case of an involuntary liquidation or dissolution, on the date of the relevant court order or, in the case of the appointment of a liquidator (including a provisional liquidator) or receiver or judicial manager or trustee or administrator or analogous person under Singapore or other applicable law in respect of the whole or substantially the whole of its undertaking, property or assets, on the date when such appointment is effective but subject (in any such case) to any contrary mandatory requirement of law.

For the purpose of this Condition 10, “**Termination**” means (i) the Fund is terminated, or the Trustee or the manager of the Fund (including any successor manager appointed from time to time) (“**Manager**”) is required to terminate the Fund under the trust deed (“**Trust Deed**”) constituting the Fund or applicable law, or the termination of the Fund commences; (ii) the Fund is held or is conceded by the Trustee or the Manager not to have been constituted or to have been imperfectly constituted; (iii) the Trustee ceases to be authorised under the Fund to hold the property of the Fund in its name and perform its obligations under the Trust Deed; or (iv) the Fund ceases to be authorised as an authorised collective investment scheme under Singapore or other applicable law.

## 11. Further Issues

The Issuer shall be at liberty from time to time, without the consent of the Warrantholders, to create and issue further warrants so as to form a single series with the Warrants.

## 12. Delisting

- (a) *Delisting.* If at any time the Units cease to be listed on the Relevant Stock Exchange, the Issuer shall give effect to these Conditions in such manner and make such adjustments and amendments to the rights attaching to the Warrants as it shall, in its absolute discretion, consider appropriate to ensure, so far as it is reasonably able to do so, that the interests of the Warrantholders generally are not materially prejudiced as a consequence of such delisting (without considering the individual circumstances of any Warrantholder or the tax or other consequences that may result in any particular jurisdiction).
- (b) *Adjustments.* Without prejudice to the generality of Condition 12(a), where the Units are, or, upon the delisting, become, listed on any other stock exchange, these Conditions may, in the absolute discretion of the Issuer, be amended to the extent necessary to allow for the substitution of that other stock exchange in place of the Relevant Stock Exchange and the Issuer may, without the consent of the Warrantholders, make such adjustments to the entitlements of Warrantholders on exercise (including, if appropriate, by converting foreign currency amounts at prevailing market rates into the Settlement Currency) as may be appropriate in the circumstances.
- (c) *Issuer's Determination.* The Issuer shall determine, in its absolute discretion, any adjustment or amendment and its determination shall be conclusive and binding on the Warrantholders save in the case of manifest error. Notice of any adjustments or amendments shall be given to the Warrantholders in accordance with Condition 9 as soon as practicable after they are determined.

### 13. Early Termination

- (a) *Early Termination for Illegality etc.* The Issuer shall have the right to terminate the Warrants if it shall have determined in its absolute discretion that a Regulatory Event (as defined below) has occurred and, for reasons beyond its control its performance thereunder shall have become unlawful in whole or in part under any applicable present or future law, rule, regulation, judgment, order or directive of any governmental, administrative, legislative or judicial authority or power ("**Applicable Law**").

For the purposes of this Condition:

"**Regulatory Event**" means, following the occurrence of a Change in Law (as defined below) with respect to the Issuer and/or any of its affiliates involved in the issue of the Warrants (hereafter the "**Relevant Affiliates**" and each of the Issuer and the Relevant Affiliates, a "**Relevant Entity**") that, after the Warrants have been issued, (i) any Relevant Entity would incur a materially increased (as compared with circumstances existing prior to such event) amount of tax, duty, liability, penalty, expense, fee, cost or regulatory capital charge however defined or collateral requirements for performing its obligations under the Warrants or hedging the Issuer's obligations under the Warrants, including, without limitation, due to clearing requirements of, or the absence of, clearing of the transactions entered into in connection with the issue of, or hedging the Issuer's obligation under, the Warrants, (ii) it is or will become for any Relevant Entity impracticable, impossible (in each case, after using commercially reasonable efforts), unlawful, illegal or otherwise prohibited or contrary, in whole or in part, under any law, regulation, rule, judgement, order or directive of any governmental, administrative or judicial authority, or power, applicable to such Relevant Entity (a) to hold, acquire, issue, reissue, substitute, maintain, settle, or as the case may be, guarantee, the Warrants, (b) to acquire, hold, sponsor or dispose of any asset(s) (or any interest thereof) of any other transaction(s) such Relevant Entity may use in connection with the issue of the Warrants or to hedge the Issuer's obligations under the Warrants, (c) to perform obligations in connection with the Warrants or any contractual arrangement entered into between the Issuer and any Relevant Affiliate (including without limitation to hedge the Issuer's obligations under the Warrants) or (d) to hold, acquire, maintain, increase, substitute or redeem all or a substantial part of its direct or indirect shareholding in the Issuer's capital or the capital of any Relevant Affiliate or to directly or indirectly sponsor the Issuer or any Relevant Affiliate, or (iii) there is or may be a material adverse effect on a Relevant Entity in connection with the issue of the Warrants.

"**Change in Law**" means (i) the adoption, enactment, promulgation, execution or ratification of any applicable new law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) after the Warrants have been issued, (ii) the implementation or application of any applicable law, regulation or rule (including, without limitation, any applicable tax law, regulation or rule) already in force when the Warrants have been issued but in respect of which the manner of its implementation or application was not known or unclear at the time, or (iii) the change of any applicable law, regulation or rule existing when the Warrants are issued, or the change in the interpretation or application or practice relating thereto, existing when the Warrants are issued of any applicable law, regulation or rule, by any competent court, tribunal, regulatory authority or any other entity exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government (including any additional or alternative court, tribunal, authority or entity, to that existing when the Warrants are issued).

- (b) *Early Termination for other reasons.* The Issuer reserves the right (such right to be exercised in the Issuer's sole and unfettered discretion and without any obligation

whatsoever) to terminate the Warrants in accordance with Condition 13(c) where an event or events occur which it believes in its sole discretion should, in the context of the issue of the Warrants and the obligations of the Issuer, give rise to such termination provided that such termination is considered by the Issuer not to be materially prejudicial to the interests of Warrantholders generally (without considering the circumstances of any individual Warrantholder or the tax or other consequences of such termination in any particular jurisdiction).

- (c) *Termination.* If the Issuer terminates the Warrants early, then the Issuer will give notice to the Warrantholders in accordance with Condition 9. The Issuer will, if and to the extent permitted by the Applicable Law, pay to each Warrantholder in respect of each Warrant held by such Warrantholder an amount calculated by it as the fair market value of the Warrant immediately prior to such termination (ignoring such illegality) less the cost to the Issuer of unwinding any related hedging arrangements. Payment will be made to the Warrantholder in such manner as shall be notified to the Warrantholder in accordance with Condition 9.

#### **14. Governing Law**

The Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement will be governed by and construed in accordance with Singapore law. The Issuer and each Warrantholder (by its purchase of the Warrants) shall be deemed to have submitted for all purposes in connection with the Warrants, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement to the non-exclusive jurisdiction of the courts of Singapore.

#### **15. Prescription**

Claims against the Issuer for payment of any amount in respect of the Warrants will become void unless made within six years of the Expiry Date and, thereafter, any sums payable in respect of such Warrants shall be forfeited and shall revert to the Issuer.

#### **16. Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore**

Unless otherwise expressly provided in the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement, a person who is not a party to any contracts made pursuant to the Global Warrant, the Instrument and the Master Warrant Agent Agreement or Warrant Agent Agreement has no rights under the Contracts (Rights of Third Parties) Act, Chapter 53B of Singapore to enforce any terms of such contracts. Except as expressly provided herein, the consent of any third party is not required for any subsequent agreement by the parties hereto to amend or vary (including any release or compromise of any liability) or terminate such contracts.

**TERMS AND CONDITIONS OF THE OTHER WARRANTS**

*The terms and conditions of any other Warrants issued by the Issuer pursuant to this Base Listing Document will be set out in the relevant Supplemental Listing Document in relation to such series of Warrants issued by the Issuer.*



## INFORMATION RELATING TO UBS AG

### 1. Overview

UBS AG ("**Issuer**") with its subsidiaries (together, "**UBS AG consolidated**", or "**UBS AG Group**"; together with UBS Group AG, which is the holding company of UBS AG, and its subsidiaries, "**UBS Group**", "**Group**", "**UBS**" or "**UBS Group AG consolidated**") provides financial advice and solutions to private, institutional and corporate clients worldwide, as well as private clients in Switzerland. The operational structure of the Group is comprised of the Group Functions and four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank. UBS concentrates on capital-efficient businesses in its targeted markets, where UBS has a strong competitive position and an attractive long-term growth or profitability outlook. UBS views capital strength as the foundation of its strategy. In delivering all of UBS as one firm to its clients, UBS intends to: strengthen its leading client franchises and grow share; position UBS for growth by expanding its services and capabilities; drive greater efficiencies and scale; and further intensify collaboration for the benefit of its clients.

On 31 March 2020, UBS Group's common equity tier 1 ("**CET1**") capital ratio was 12.8%, the CET1 leverage ratio was 3.84% (CET1 leverage ratio with temporary FINMA exemption was 4.18%)<sup>3</sup>, the total loss-absorbing capacity ratio was 32.7%, and the total loss-absorbing capacity leverage ratio was 9.8%.<sup>4</sup> On the same date, invested assets stood at USD 3,236 billion, equity attributable to shareholders was USD 57,949 million and market capitalisation was USD 33,649 million. On the same date, UBS employed 69,437 people<sup>5</sup>.

On 31 March 2020, UBS AG consolidated CET1 capital ratio was 12.7%, the CET1 leverage ratio was 3.78% (CET1 leverage ratio with temporary FINMA exemption was 4.00%)<sup>3</sup>, the total loss-absorbing capacity ratio was 32.1%, and the total loss-absorbing capacity leverage ratio was 9.5%.<sup>4</sup> On the same date, invested assets stood at USD 3,236 billion and equity attributable to UBS AG shareholders was USD 57,814 million. On the same date, UBS AG Group employed 47,182 people<sup>5</sup>.

The rating agencies S&P Global Ratings Europe Limited ("**Standard & Poor's**"), Moody's Deutschland GmbH ("**Moody's**"), and Fitch Ratings Limited ("**Fitch Ratings**") have published solicited credit ratings reflecting their assessment of the creditworthiness of UBS AG, i.e. its ability to fulfil in a timely manner payment obligations, such as principal or interest payments on long-term loans, also known as debt servicing. The ratings from Fitch Ratings and Standard & Poor's may be attributed a plus or minus sign, and those from Moody's a number. These supplementary attributes indicate the relative position within the respective rating class. UBS AG has a long-term counterparty credit rating of A+ from Standard & Poor's, long-term senior debt rating of Aa3 from Moody's and long-term issuer default rating of AA- from Fitch Ratings.

An explanation of the significance of ratings may be obtained from the rating agencies. Generally, rating agencies base their ratings on such material and information, and such of their own investigations, studies and assumptions, as they deem appropriate. The ratings of UBS AG should be evaluated independently from similar ratings of other entities, and from the rating, if any, of its securities. A credit rating is not a recommendation to buy, sell or hold securities issued or guaranteed by the rated entity and

<sup>3</sup> Refer to the "*Recent developments*" and the "*Capital management*" sections of the UBS Group First Quarter 2020 Report for further details about the temporary FINMA exemption.

<sup>4</sup> All figures based on the Swiss systemically relevant bank framework as of 1 January 2020. Refer to the "*Capital management*" section of the Annual Report 2019 and of the UBS Group First Quarter 2020 Report, as defined herein, for more information.

<sup>5</sup> Full-time equivalents.

may be subject to review, revision, suspension, reduction or withdrawal at any time by the assigning rating agency. All the above-mentioned rating agencies are registered as credit rating agencies under Regulation (EC) No 1060/2009 as amended by Regulation (EU) No 513/2011.

No profit forecasts or estimates are included in this document.

No recent events particular to the Issuer have occurred, which are to a material extent relevant to the evaluation of the Issuer's solvency.

## **2. Information about the Issuer**

### **2.1 Corporate Information**

The legal and commercial name of the Issuer is UBS AG.

The company was incorporated under the name SBC AG on 28 February 1978 for an unlimited duration and entered in the Commercial Register of Canton Basel-City on that day. On 8 December 1997, the company changed its name to UBS AG. The company in its present form was created on 29 June 1998 by the merger of Union Bank of Switzerland (founded 1862) and Swiss Bank Corporation (founded 1872). UBS AG is entered in the Commercial Registers of Canton Zurich and Canton Basel-City. The registration number is CHE-101.329.561.

UBS AG is incorporated and domiciled in Switzerland and operates under the Swiss Code of Obligations as an *Aktiengesellschaft*, a corporation limited by shares. UBS AG's Legal Entity Identifier (LEI) code is BFM8T61CT2L1QCEMIK50.

According to article 2 of the articles of association of UBS AG dated 26 April 2018 ("**Articles of Association**"), the purpose of UBS AG is the operation of a bank. Its scope of operations extends to all types of banking, financial, advisory, trading and service activities in Switzerland and abroad. UBS AG may establish branches and representative offices as well as banks, finance companies and other enterprises of any kind in Switzerland and abroad, hold equity interests in these companies, and conduct their management. UBS AG is authorized to acquire, mortgage and sell real estate and building rights in Switzerland and abroad. UBS AG may borrow and invest money on the capital markets. UBS AG is part of the group of companies controlled by the group parent company UBS Group AG. It may promote the interests of the group parent company or other group companies. It may provide loans, guarantees and other kinds of financing and security for group companies.

The addresses and telephone numbers of UBS AG's two registered offices and principal places of business are: Bahnhofstrasse 45, CH-8001 Zurich, Switzerland, telephone +41 44 234 1111; and Aeschenvorstadt 1, CH-4051 Basel, Switzerland, telephone +41 61 288 5050.

### **2.2 UBS's borrowing and funding structure and financing of UBS's activities**

For information on UBS's expected financing of its business activities, please refer to "Balance sheet, liquidity and funding management" in the "Treasury management" section of the Annual Report 2019.

### 3. Business Overview

#### 3.1 Organisational Structure of the Issuer

UBS AG is a Swiss bank and the parent company of the UBS AG Group. It is 100% owned by UBS Group AG, which is the holding company of the UBS Group. UBS operates as a group with four business divisions and Group Functions.

In 2014, UBS began adapting its legal entity structure to improve the resolvability of the Group in response to too big to fail requirements in Switzerland and recovery and resolution regulation in other countries in which the Group operates. In December 2014, UBS Group AG became the holding company of the Group.

In 2015, UBS AG transferred its personal & corporate banking and wealth management businesses booked in Switzerland to the newly established UBS Switzerland AG, a banking subsidiary of UBS AG in Switzerland. In 2016, UBS Americas Holding LLC was designated as the intermediate holding company for UBS's US subsidiaries and UBS merged its wealth management subsidiaries in various European countries into UBS Europe SE, UBS's German-headquartered European subsidiary. Additionally, UBS transferred the majority of Asset Management's operating subsidiaries to UBS Asset Management AG. Effective 1 April 2019, the portion of the Asset Management business in Switzerland conducted by UBS AG was transferred from UBS AG to its indirect subsidiary, UBS Asset Management Switzerland AG.

UBS Business Solutions AG, a wholly owned subsidiary of UBS Group AG, was established in 2015 and acts as the Group service company. In 2017, UBS's shared services functions in Switzerland and the UK were transferred from UBS AG to UBS Business Solutions AG. UBS also completed the transfer of shared services functions in the US to its US service company, UBS Business Solutions US LLC, a wholly owned subsidiary of UBS Americas Holding LLC.

In March 2019, UBS Limited, UBS's UK headquartered subsidiary, was merged into UBS Europe SE prior to the UK's then scheduled departure from the EU. Former clients and other counterparties of UBS Limited who can be serviced by UBS AG's London Branch were migrated to UBS AG's London Branch prior to the merger.

UBS continues to consider further changes to the Group's legal structure in response to regulatory requirements and other external developments. Such changes may include further consolidation of operating subsidiaries in the EU and adjustments to the booking entity or location of products and services.

UBS Group AG's interests in subsidiaries and other entities as of 31 December 2019, including interests in significant subsidiaries, are discussed in "*Note 31 Interests in subsidiaries and other entities*" to the UBS Group AG's consolidated financial statements included in the UBS Group AG and UBS AG Annual Report 2019 published on 28 February 2020 ("**Annual Report 2019**").

UBS AG's interests in subsidiaries and other entities as of 31 December 2019, including interests in significant subsidiaries, are discussed in "*Note 31 Interests in subsidiaries and other entities*" to the UBS AG's consolidated financial statements included in the Annual Report 2019.

UBS AG is the parent company of, and conducts a significant portion of its operations through, its subsidiaries. UBS AG has contributed a significant portion of its capital and provides substantial liquidity to subsidiaries. In addition, UBS Business Solutions AG provides substantial services to group companies

including UBS AG and its subsidiaries. To this extent, UBS AG is dependent on certain of the entities of the UBS AG Group and of the UBS Group.

## 3.2 Business Divisions and Group Functions

UBS operates as a group with four business divisions (Global Wealth Management, Personal & Corporate Banking, Asset Management, and the Investment Bank) and Group Functions. Each of the business divisions and Group Functions are described below. A description of the Group's strategy can be found under "*Our strategy*" in the "*Our strategy, business model and environment*" section of the Annual Report 2019; a description of the businesses, strategies, clients, organisational structures, products and services of the business divisions and the Corporate Center (now referred to as Group Functions) can also be found in the "*Our strategy, business model and environment*" section of the Annual Report 2019.

### 3.2.1 Global Wealth Management

Global Wealth Management provides investment advice and solutions to private clients, in particular in the ultra high net worth and high net worth segments. Clients benefit from Global Wealth Management's comprehensive set of capabilities, including wealth planning, investing, lending, asset protection, philanthropy, corporate and banking services, as well as family office services in collaboration with the Investment Bank and Asset Management. Global Wealth Management has a global footprint, with the US representing its largest market. Clients are served through local offices and dedicated advisors.

Effective 1 January 2020, UBS implemented organizational changes in its Global Wealth Management division. UBS created three distinct business units within EMEA: Europe; Central and Eastern Europe, Greece and Israel; and Middle East and Africa. UBS is also making its Global Family Office capabilities available to more clients. Refer to "Recent Developments" in the UBS Group First Quarter 2020 Report for more information.

### 3.2.2 Personal & Corporate Banking

Personal & Corporate Banking provides comprehensive financial products and services to private, corporate and institutional clients and operates in Switzerland in the private and corporate loan market. Personal & Corporate Banking is central to UBS's universal bank model in Switzerland and it works with Global Wealth Management, the Investment Bank and Asset Management to help clients receive the best products and solutions for their specific financial needs. While Personal & Corporate Banking operates primarily in its home market of Switzerland, it also provides capabilities to support the growth of the international business activities of UBS's corporate and institutional clients through local hubs in Frankfurt, New York, Hong Kong and Singapore. The business is divided into Personal Banking and Corporate & Institutional Clients (CIC).

### 3.2.3 Asset Management

Asset Management is a large-scale and diversified global asset manager. It offers investment capabilities and styles across all major traditional and alternative asset classes, as well as advisory support to institutions, wholesale intermediaries and Global Wealth Management clients around the world. Asset Management offers clients a wide range of investment products and services in different asset classes in the form of segregated, pooled or advisory mandates, as well as registered investment funds in various jurisdictions. It covers the main asset management markets globally, and has a local presence in 22 markets, grouped in four regions: the Americas; Europe, Middle East and Africa; Switzerland; and Asia Pacific.

### 3.2.4 *Investment Bank*

The Investment Bank provides a range of services to institutional, corporate and wealth management clients to help them raise capital, grow their businesses, invest and manage risks. It is focused on its traditional strengths in advisory services, capital markets, equities and foreign exchange, complemented by a targeted rates and credit platform. The Investment Bank uses its research and technology capabilities to support its clients as they adapt to the evolving market structures and changes in the regulatory, technological, economic and competitive landscapes. The Investment Bank delivers solutions to clients, using its intellectual capital and electronic platforms. It also provides services to Global Wealth Management, Personal & Corporate Banking and Asset Management. It has a global reach, with a presence in more than 30 countries and principal offices in the major financial hubs.

Structural changes made in UBS's Investment Bank came into effect on 1 January 2020. Corporate Client Solutions and Investor Client Services were renamed Global Banking and Global Markets, respectively. Global Banking has two product verticals – Capital Markets and Advisory – consistent with its global coverage model, and including corporate lending and associated hedging activities. Global Markets combines Equities and Foreign Exchange, Rates and Credit (FRC), into three product verticals: Execution & Platform, Derivatives & Solutions, and Financing.

### 3.2.5 *Group Functions*

Corporate Center has been renamed Group Functions and includes Group Treasury. Non-core and Legacy Portfolio (“**NCL**”), and Group services and other. Over recent years, UBS has progressively aligned its support functions with the business divisions. The majority of these functions are either fully aligned or shared among business divisions, where they have full management responsibility. Group Treasury manages the structural risk of UBS's balance sheet, including interest rate risk, structural foreign exchange risk and collateral risk, as well as the risks associated with the Group's liquidity and funding portfolios. Group Treasury serves all business divisions through two main risk management areas, and its risk management is fully integrated into the Group's risk governance framework. NCL manages legacy positions from businesses exited by the Investment Bank. It is overseen by a committee chaired by the Group Chief Risk Officer. The portfolio also includes positions relating to legal matters arising from businesses that were transferred to it at the time of its formation.

## 3.3 **Competition**

The financial services industry is characterized by intense competition, continuous innovation, restrictive, detailed, and sometimes fragmented regulation and ongoing consolidation. UBS faces competition at the level of local markets and individual business lines, and from global financial institutions that are comparable to UBS in their size and breadth. Barriers to entry in individual markets and pricing levels are being eroded by new technology. UBS expects these trends to continue and competition to increase.

Any statements regarding the competitive position of UBS AG, UBS AG Group or the Group contained in this document are made on the basis of the opinion of UBS AG or the Group.

### 3.4 Recent Developments

#### 3.4.1 UBS AG consolidated key figures

##### Selected consolidated financial information

UBS AG derived the selected consolidated financial information included in the table below for the years ended 31 December 2019, 2018 and 2017 from the Annual Report 2019, except where noted. The selected consolidated financial information included in the table below for the quarter ended 31 March 2020 and 31 March 2019 was derived from the UBS AG First Quarter 2020 Report.

The consolidated financial statements were prepared in accordance with International Financial Reporting Standards (“IFRS”) issued by the International Accounting Standards Board (“IASB”). Effective from 1 October 2018, the functional currency of UBS Group AG and UBS AG’s Head Office in Switzerland changed from Swiss francs to US dollars and that of UBS AG’s London Branch from British pounds to US dollars, in compliance with the requirements of International Accounting Standard (IAS) 21, *The Effects of Changes in Foreign Exchange Rates*. The presentation currency of UBS AG’s consolidated financial statements has changed from Swiss francs to US dollars to align with the functional currency changes of significant Group entities. Prior periods have been restated for this presentation currency change. Assets, liabilities and total equity were translated to US dollars at closing exchange rates prevailing on the respective balance sheet dates, and income and expenses were translated at the respective average rates prevailing for the relevant periods.

Information for the years ended 31 December 2019, 2018 and 2017 which is indicated as being unaudited in the table below was included in the Annual Report 2019, but has not been audited on the basis that the respective disclosures are not required under IFRS, and therefore are not part of the audited financial statements. Prospective investors should read the whole of this document, the Annual Report 2019 and the UBS AG First Quarter 2020 Report and should not rely solely on the summarized information set out below.

	As of or for the quarter ended		As of or for the year ended		
<i>USD million, except where indicated</i>	31.3.20	31.3.19	31.12.19	31.12.18	31.12.17
	<i>unaudited</i>		<i>audited, except where indicated</i>		

#### Results

##### Income statement

Operating income	8,009	7,343	29,307	30,642	30,044
Net interest income <sup>1</sup>	1,313	1,101	4,415	4,971	6,021
Net fee and commission income	5,025	4,157	17,460	17,930	17,550
Credit loss (expense) / recovery	(268)	(20)	(78)	(117)	(131)
Other net income from financial instruments measured at fair value through profit or loss <sup>1</sup>	1,775	1,936	6,833	6,953	5,640
Operating expenses	6,210	5,890	24,138	25,184	24,969
Operating profit / (loss) before tax	1,799	1,454	5,169	5,458	5,076
Net profit / (loss) attributable to shareholders	1,421	1,069	3,965	4,107	758

##### Balance sheet <sup>2</sup>

Total assets	1,099,185		971,916	958,055	940,020
Total financial liabilities measured at amortized cost	671,893		617,429	612,174	660,498
<i>of which: customer deposits</i>	468,422		450,591	421,986	423,058
<i>of which: debt issued measured at amortized cost</i>	66,479		62,835	91,245	107,458
<i>of which: subordinated debt</i>	7,551		7,431	7,511	9,217

Total financial liabilities measured at fair value through profit or loss	361,713		291,452	283,717	217,814
<i>of which: debt issued designated at fair value</i>	53,040		66,592	57,031	50,782
Loans and advances to customers	339,946		327,992	321,482	328,952
Total equity	57,983		53,928	52,432	52,046
Equity attributable to shareholders	57,814		53,754	52,256	51,987

### Profitability and growth

Return on equity (%) <sup>3</sup>	10.2	8.1	7.4*	7.9*	1.4*
Return on tangible equity (%) <sup>4</sup>	11.5	9.3	8.5*	9.1*	1.6*
Return on common equity tier 1 capital (%) <sup>5</sup>	15.9	12.3	11.3*	11.9*	2.3*
Return on risk-weighted assets, gross (%) <sup>6</sup>	12.2	11.1	11.2*	12.0*	12.8*
Return on leverage ratio denominator, gross (%) <sup>7</sup>	3.5	3.2	3.2*	3.4*	3.4*
Cost / income ratio (%) <sup>8</sup>	75.0	80.0	82.1*	81.9*	82.7*
Net profit growth (%) <sup>9</sup>	33.0	(24.3)	(3.4)*	441.9*	(77.4)*

### Resources

Common equity tier 1 capital <sup>10, 11</sup>	36,194	34,933	35,280	34,608	34,100*
Risk-weighted assets <sup>10</sup>	284,706	266,581	257,831*	262,840*	242,725*
Common equity tier 1 capital ratio (%) <sup>10</sup>	12.7	13.1	13.7*	13.2*	14.0*
Going concern capital ratio (%) <sup>10</sup>	16.5	17.0	18.3*	16.1*	15.6*
Total loss-absorbing capacity ratio (%) <sup>10</sup>	32.1	32.2	33.9*	31.3*	31.4*
Leverage ratio denominator <sup>10</sup>	957,199	911,410	911,232*	904,458*	910,133*
Leverage ratio denominator (with temporary FINMA exemption) <sup>12</sup>	903,756	-	-	-	-
Common equity tier 1 leverage ratio (%) <sup>10</sup>	3.78	3.83	3.87*	3.83*	3.75*
Common equity tier 1 leverage ratio (%) (with temporary FINMA exemption) <sup>12</sup>	4.00	-	-	-	-
Going concern leverage ratio (%) <sup>10</sup>	4.9	5.0	5.2*	4.7*	4.2*
Going concern leverage ratio (%) (with temporary FINMA exemption) <sup>12</sup>	5.2	-	-	-	-
Total loss-absorbing capacity leverage ratio (%) <sup>10</sup>	9.5	9.4	9.6*	9.1*	8.4*

### Other

Invested assets (USD billion) <sup>13</sup>	3,236	3,318	3,607	3,101	3,262
Personnel (full-time equivalents)	47,182	47,773	47,005*	47,643*	46,009*

\* unaudited

<sup>1</sup> Effective 1 January 2019, UBS AG refined the presentation of dividend income and expense. This resulted in a reclassification of dividends from *Interest income (expense) from financial instruments measured at fair value through profit or loss* into *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2019: *Other net income from fair value changes on financial instruments*). *Net Interest Income* and *Other net income from financial instruments measured at fair value through profit or loss* for prior-year comparative was restated accordingly.

<sup>2</sup> Balance sheet information for year ended 31 December 2017 is derived from the Annual Report 2018.

<sup>3</sup> Calculated as net profit attributable to shareholders (annualized as applicable) divided by average equity attributable to shareholders. This measure provides information about the profitability of the business in relation to equity.

<sup>4</sup> Calculated as net profit attributable to shareholders (annualized as applicable) divided by average equity attributable to shareholders less average goodwill and intangible assets. Effective 1 January 2019, the definition of the numerator for return on tangible equity has been revised to align it with the numerators for return on equity and return on CET1 capital; i.e., it is no longer adjusted for amortization and impairment of goodwill and intangible assets. Prior periods have been restated. This measure provides information about the profitability of the business in relation to tangible equity.

<sup>5</sup> Calculated as net profit attributable to shareholders (annualized as applicable) divided by average common equity tier 1 capital. This measure provides information about the profitability of the business in relation to common equity tier 1 capital.

<sup>6</sup> Calculated as operating income before credit loss expense or recovery (annualized as applicable) divided by average risk-weighted assets. This measure provides information about the revenues of the business in relation to risk-weighted assets.

<sup>7</sup> The leverage ratio denominator as of 31 March 2020, used for the return calculation, does not reflect the effect of the temporary exemption granted by FINMA in connection with COVID-19. Refer to the “Recent developments” section of the UBS Group First Quarter 2020 Report for more information. Calculated as operating income before credit loss expense or recovery (annualized as applicable) divided by average leverage ratio denominator. This measure provides information about the revenues of the business in relation to leverage ratio denominator.

<sup>8</sup> Calculated as operating expenses divided by operating income before credit loss expense or recovery. This measure provides information about the efficiency of the business by comparing operating expenses with gross income.

<sup>9</sup> Calculated as change in net profit attributable to shareholders from continuing operations between current and comparison periods divided by net profit attributable to shareholders from continuing operations of comparison period. This measure provides information about profit growth in comparison with the prior-year period.

<sup>10</sup> Based on the Swiss systemically relevant bank framework as of 1 January 2020.

<sup>11</sup> The information as published in Swiss francs in the Annual Report 2017 for the period ended on 31 December 2017 (CHF 33,240 million) was audited.

<sup>12</sup> Within the context of the current COVID-19 pandemic and related measures adopted by governments and regulators, FINMA has permitted banks to temporarily exclude central bank sight deposits from the leverage ratio denominator for the purpose of calculating going concern ratios until 1 July 2020. Refer to the “Recent developments” and the “Capital management” sections of the UBS Group First Quarter 2020 Report for further details about the temporary FINMA exemption.

<sup>13</sup> Includes invested assets for Global Wealth Management, Asset Management and Personal & Corporate Banking. Calculated as the sum of managed fund assets, managed institutional assets, discretionary and advisory wealth management portfolios, fiduciary deposits, time deposits, savings accounts, and wealth management securities or brokerage accounts. This measure provides information about the volume of client assets managed by or deposited with UBS for investment purposes.

### 3.4.2 Business and strategic developments

#### UBS's response to COVID-19

COVID-19 has introduced an unprecedented situation for UBS and its employees. UBS's key priorities are safeguarding the wellbeing of its employees and their families, serving its clients and ensuring operational continuity.

In response to the global spread of the COVID-19 pandemic governments have taken measures to severely constrain movement, prohibiting public gatherings, requiring working from home where possible, and closing down or limiting non-essential retail and business activity. These measures have had and are expected to continue to have a significantly adverse effect on global economic activity. The global economy is expected to show a meaningful contraction as a result, with the timing and strength of recovery uncertain and dependent on containment of the COVID-19 pandemic and the lifting of measures to contain it. In March 2020, markets experienced substantial decreases in asset values, very high levels of volatility and, in some cases, limited liquidity.

**Operational resilience:** To reduce the risk of contagion in its workforce, and to support its employees and external staff, UBS has moved a substantial part of its workforce to work-from-home solutions. Around ninety thousand internal and external staff are able to access UBS systems remotely, including a substantial portion of client-facing and trading staff. With the bulk of UBS's workforce now working outside of its offices, UBS faces new challenges and operational risks, including maintenance of supervisory and surveillance controls, as well as increased fraud and data security risks. UBS has taken measures that it believes are appropriate to manage these risks, although such measures have never been tested on the scale or duration that UBS is currently experiencing.

While implementing these measures, UBS experienced record transaction volumes in March along with extreme spikes in volatility and limited liquidity in some markets. As a result of its prior investments in infrastructure and execution of its established business continuity management frameworks, UBS has managed the transition to remote working and the spikes in volumes without material disruption in UBS's service to clients. UBS has experienced some operational risk incidents, none of which resulted in a material loss.

**Effects of the COVID-19 pandemic on UBS's financial and capital position:** UBS has experienced an increase in credit impairments and expected credit losses under IFRS 9 as a result of the adverse economic developments, the sharp decline in market valuations and the increase in volatility in the first quarter. UBS's higher expected credit losses primarily resulted from certain lending exposures to industries and sectors that were adversely affected by COVID-19 and other market decreases. In addition, increases in credit impairments were recognized across all business divisions, in particular from



counterparties that were already credit-impaired at year-end and from some new defaults during the quarter.

UBS expects elevated credit loss expenses to persist for at least as long as the COVID-19 containment measures continue. However, given the credit quality of its portfolio, UBS remains confident in its ability to maintain overall strength and stability as well as continue to support its clients.

The increases in credit impairments and expected credit losses were offset as UBS's businesses benefited from increased transaction volumes by clients in the first quarter of 2020, but it is uncertain whether volatility and transaction volumes will remain at elevated levels in the future.

UBS's RWA increased substantially in the first quarter, driven by increases in credit risk and market risk RWA. UBS expects the increased level of RWA to persist at least into the next quarter anticipating additional drawdowns of credit facilities and increased market volatility impacting VaR.

#### Key developments in UBS's risk management and control – credit risk

*Credit loss expenses* – Total net credit loss expenses in the first quarter of 2020 were USD 268 million, compared with the very low levels seen in previous quarters, reflecting net expenses of USD 89 million related to stage 1 and stage 2 positions and net expenses of USD 179 million related to credit-impaired (stage 3) positions.

Stage 1 and 2 net credit loss expenses of USD 89 million include: (i) USD 63 million of expenses that result from certain lending positions to industries and sectors that were adversely affected by COVID-19 and other market effects, in particular from energy-related exposures (USD 26 million) and securities financing transactions with a number of real estate investment trusts (USD 15 million) and (ii) USD 26 million of net credit loss expenses from systemic changes in scenarios and scenario weights.

Stage 3 net credit loss expenses of USD 179 million were recognized across Personal & Corporate Banking (USD 62 million), the Investment Bank (USD 60 million), Global Wealth Management (USD 41 million) and Group Functions (USD 16 million). Stage 3 expenses in Personal & Corporate Banking predominantly stem from a deterioration in the recoveries expected from loans to corporate counterparties that were already credit-impaired at year-end 2019. Stage 3 expenses in the Investment Bank include a number of credit-impaired positions from energy-related exposures (USD 44 million) and securities financing transactions with a number of real estate investment trusts (USD 16 million). Stage 3 expenses in Global Wealth Management primarily relate to a small number of collateralized lending positions. Stage 3 expenses in Group Functions (USD 16 million) arose from an energy-related exposure in the Non-core and Legacy Portfolio.

*Committed credit facilities* – Borrowings under committed credit facilities increased as corporate clients sought to increase liquidity. The largest increases in utilization have been from borrowers in the consumer cyclical, health care, and real estate and construction sectors. UBS manages its credit risk on the aggregate of drawn and committed undrawn credit facilities and model full drawing of committed facilities in its stress testing framework. Therefore, increased drawing of these facilities is captured in UBS's overall risk appetite.

*Loan underwriting* – Within the Investment Bank, loan underwriting saw an increased level of activity during the first two months of the quarter, before market activity deteriorated in March. As of 31 March 2020, loan underwriting commitments totaled USD 10.8 billion on a notional basis (of which USD 3.4 billion was investment grade). The majority of the loan underwriting commitments were mandated and planned for de-risking through syndication prior to transaction closing. As of 31 March 2020 USD 0.9 billion of the USD 10.8 billion exposure was not distributed as originally planned, reflecting recent market conditions. Loan underwriting exposures are held for trading, with fair values reflecting the market conditions at the end of the quarter. The current portfolio includes a few large transactions supporting core clients in Switzerland, Western Europe and Asia, with these companies having good credit fundamentals. Distribution of the risk continues, despite the volatile market conditions. As of 24 April 2020, UBS has syndicated USD 3.5 billion of UBS's commitments (of which USD 3 billion was sub-investment grade), reducing its outstanding loan underwriting commitments to USD 7.3 billion.

*Exposures to the oil and gas sector* – During the first quarter of 2020, oil prices declined significantly following failed OPEC talks, anticipation of increased supply, and concerns regarding the decline in global

demand. UBS has significantly reduced its exposure to the oil and gas sector in recent years. As of 31 March 2020, total net lending exposure directly related to the production and supply of oil and gas, totaled USD 1.5 billion, all of which is in the Investment Bank and Non-core and Legacy Portfolio. More than 60% of UBS's net exposure of USD 1.5 billion was with investment grade-rated counterparties and less than USD 0.2 billion with counterparties rated with an equivalent of single B– or lower. In addition, UBS closely monitors its exposures related to its commodity trade finance activities within Personal & Corporate Banking.

*Overall banking products exposures* – Overall banking products exposure increased by USD 49 billion to USD 564 billion as of 31 March 2020. USD 32 billion of this increase related to balances at central banks and USD 11 billion to loans and advances to customers. The credit-impaired gross exposure increased by USD 1,094 million to USD 4,207 million as of 31 March 2020 and related to stage 3 net credit loss expenses of USD 179 million in the first quarter of 2020. The increase stems mainly from securities financing transactions with a number of real estate investment trusts in the Investment Bank. Within the Investment Bank, loans and advances to customers increased by USD 4.7 billion, mainly reflecting the increased drawings of committed credit lines. The USD 5.2 billion increase of loans and advances to customers in Global Wealth Management was predominantly driven by business growth and by the transfer of the USD 1.6 billion aircraft leasing business from Personal & Corporate Banking (net neutral for the Group). Exposure related to traded products increased by USD 11.8 billion over the quarter, mainly driven by increased market volatility.

*Lombard and securities-based lending* – The number of margin calls in Global Wealth Management for Lombard and securities-based loans increased significantly in March 2020 with the market turmoil and returned to normal levels again in April 2020. In general, these margin calls were resolved by applying standard procedures, but the extraordinary magnitude of market moves on some days resulted in a few cases where collateralized positions needed to be closed out or remained in margin call, resulting in USD 41 million of credit loss expenses. The average LTV for the portfolio was approximately 50% as of 31 March 2020.

*Swiss mortgage portfolio* – Of UBS's total Swiss real estate portfolio of USD 151 billion, USD 137 billion related to UBS's Swiss residential real estate portfolio, which remained stable. It is split into USD 113 billion for single-family homes (average LTV of 55%) and USD 24 billion in residential income-producing real estate (average LTV of 53%). However, the level of risk in UBS's Swiss commercial retail and office real estate portfolio of USD 6 billion (average LTV of 47%) is likely to increase if the measures to contain COVID-19 remain in place for a prolonged period.

*Exposure to the Swiss economy and Swiss corporates* – Within Personal & Corporate Banking, risks related to UBS's exposures to certain industry sectors has increased. UBS's exposure to the tourism sector (including hotels, restaurants and transport) totals USD 1.6 billion, with hotels accounting for about half of this exposure as of 31 March 2020. Within Personal & Corporate Banking, UBS's exposure to the retail sector was USD 1.2 billion as of 31 March 2020. Apart from a few large counterparties, UBS's exposures to the tourism and the retail sectors are highly diversified across Switzerland, with a high share of collateralized exposure.

### 3.4.3. *Accounting, regulatory, legal and other developments*

#### Regulatory and legal developments related to COVID-19

The Swiss Federal Council has established a loan guarantee scheme of up to CHF 40 billion, increased from the initially announced amount of up to CHF 20 billion, to support small and medium-sized Swiss companies suffering from substantial reductions in revenue due to the current COVID-19 pandemic. Affected companies can apply through their banks for emergency loans amounting to a maximum of 10% of their annual turnover, with a ceiling of CHF 20 million. Loans up to CHF 0.5 million are 100% guaranteed by the Swiss government and carry a 0% interest rate. Loans of between CHF 0.5 million and CHF 20 million are 85% government-guaranteed; for these loans the portion that is guaranteed by the government carries a 0.5% interest rate and banks are free to determine the interest rate for the remaining portion.

To support the lending capacity of banks, the Swiss Federal Council has deactivated the countercyclical buffer on residential real estate loans at the request of the Swiss National Bank ("**SNB**") and several other

countries similarly reduced their countercyclical buffers. This led to a reduction of 29 basis points of UBS's CET1 capital requirement, with no impact on UBS's capital ratios.

Banks that have model-based market risk RWA calculations, such as UBS, are experiencing an increased number of backtesting exceptions driven by the higher volatility in the markets. These exceptions could ultimately result in higher bank-specific minimum capital requirements. FINMA has introduced a temporary exemption freezing the number of backtesting exceptions from 1 February 2020 until 1 July 2020. As of 31 March 2020, UBS did not benefit from this measure, as the number of backtesting exceptions it experienced would not have led to an increase in market risk RWA.

In addition, FINMA has permitted banks to temporarily exclude central bank sight deposits from the LRD for the purpose of calculating going concern ratios. This exemption applies until 1 July 2020 and may be extended. Applicable dividends or similar distributions approved by shareholders after 25 March 2020 reduce the relief by the LRD equivalent of the capital distribution. As of 31 March 2020, these exclusions resulted in a temporary reduction of UBS's LRD for going concern requirement purposes of USD 78 billion. Given its existing buffers to capital requirements and the temporary nature of this measure, this had no impact on UBS's capacity to provide funding to its clients or the Swiss economy.

Regulators in key jurisdictions outside of Switzerland have taken measures intended to encourage banks to take an accommodative stance when dealing with customers facing financial stress, and also to support liquidity in markets. These measures include a temporary relaxation of capital buffer and Pillar 2 capital requirements, temporary modifications to the LRD and the establishment of special lending or financing facilities.

Furthermore, the Basel Committee on Banking Supervision ("BCBS") has delayed the implementation deadline of Basel III rules by one year, to 1 January 2023. The accompanying transitional arrangement for the output floor has also been extended by one year, to 1 January 2028. Separately, the BCBS and the International Organization of Securities Commissions (IOSCO) have extended the final two implementation phases of the framework for margin requirements for non-centrally cleared derivatives by one year, to 1 September 2022. These measures have no impact on UBS's capital position.

In the US, the Federal Reserve Board (the Federal Reserve), the Federal Deposit Insurance Corporation (the FDIC) and the Office of the Comptroller of the Currency (the OCC) have encouraged, in a joint statement, banking organizations to use capital and liquidity buffers in a prudent manner to support the economy. Furthermore, the Federal Reserve has made a temporary change to permit the exclusion of US Treasury securities and deposits at Federal Reserve Banks from the calculation of the supplementary leverage ratio for bank holding companies (BHCs) and intermediate holding companies (IHCs), including UBS Americas Holding LLC; this temporary change will be in effect until 31 March 2021.

The EU and the European Central Bank (the ECB) have also communicated a series of regulatory measures to stabilize the economy in Europe. None of those measures are expected to have a significant impact on UBS Group.

#### IFRS 9 and COVID-19: Accounting for expected credit losses

In March 2020, the International Accounting Standards Board (the IASB) emphasized that entities should apply appropriate judgment when determining the effects of COVID-19 on expected credit losses under IFRS 9, given the significant uncertainty that exists, in particular when assessing future macroeconomic conditions and whether a significant increase in credit risk has occurred.

FINMA, the ECB and other banking regulators have also issued statements emphasizing the need for judgment.

Notwithstanding the measures taken by regulators and clarifying statements, deteriorating economic forecasts have caused and are likely to continue to cause an increase in expected credit losses and hence greater volatility in the income statement.

#### Brexit

Following its withdrawal from the EU on 31 January 2020, the UK has entered a transition period that is scheduled to end on 31 December 2020. The negotiations on the future EU–UK relationship have commenced and both sides have committed to completing all necessary equivalence assessments under

existing EU financial services legislation by June 2020. However, the pace of the negotiations has been affected by the COVID-19 pandemic. An extension of the transition period is possible under the terms of the Withdrawal Agreement until 31 December 2021 or 31 December 2022 if the UK requests an extension before 30 June 2020.

#### Proposed abolition of Swiss stamp duty and reform of the Withholding Tax Act

In January 2020, the Economic Affairs and Taxation Committee of the Swiss National Council launched a consultation on a step-by-step abolition of Swiss stamp duties. The proposed bill is expected to strengthen the Swiss capital markets and have a positive effect on national and international investors. Also, in April 2020, the Swiss Federal Council commenced a consultation process regarding amendments to the Withholding Tax Act, proposing to exempt domestic legal entities and foreign investors from withholding tax on interest-bearing investments.

#### Adoption of hedge accounting of IFRS 9, Financial instruments

Effective 1 January 2020, UBS has adopted the hedge accounting requirements of IFRS 9, Financial instruments, for all UBS's existing hedge accounting programs except for fair value hedges of portfolio interest rate risk related to loans, which, as permitted under IFRS 9, continue to be accounted for under IAS 39, Financial Instruments: Recognition and Measurement. The adoption of these requirements as of 1 January 2020 had no effect on UBS's financial statements.

Under the new guidance, and to reduce income statement volatility, UBS has designated cross-currency swaps and foreign currency debt in fair value hedge relationships, applying the cost of hedging approach to the foreign currency basis spread.

Refer to the "*Recent developments*" section of the UBS Group First Quarter 2020 Report, as well as the "*Regulatory and legal developments*" in the "*Our strategy, business model and environment*" section of the Annual Report 2019 for further information on key accounting, regulatory, legal and other developments.

### **3.5 Trend Information**

As indicated in the UBS Group First Quarter 2020 Report, the COVID-19 pandemic and the measures taken to contain it have dramatically changed the global economic outlook for the foreseeable future. Global GDP is expected to contract in the near term. The disruption to many businesses and rising unemployment as a result of the pandemic are expected to lead to elevated levels of credit loss expenses for the industry. The majority of UBS's credit exposures are either with its Global Wealth Management clients or within Switzerland, and are of high quality. UBS is confident that Switzerland's proven ability to deploy effective crisis management measures will help it withstand this shock to the economy. Looking ahead, the range of possible outcomes remains very wide, and it is too early to make reliable predictions about the timing and shape of any potential economic recovery. Lower asset prices will reduce UBS's recurring fee income, lower interest rates will present a headwind to net interest income, and client activity levels will likely decrease, affecting transaction-based income. The continued disciplined execution of UBS's strategic plans will help to mitigate this. UBS is focused on supporting its employees, clients and the economies in which UBS operates while executing on its strategic plans, and maintaining its disciplined approach to managing risks across the firm.

Refer to "*Our environment*" and "*Risk factors*" in the "*Our strategy, business model and environment*" section of the Annual Report 2019 for more information.

## **4. Administrative, Management and Supervisory Bodies of the Issuer**

UBS AG complies with all relevant Swiss legal and regulatory corporate governance requirements. As a

foreign private issuer with debt securities listed on the New York Stock Exchange (“**NYSE**”), UBS AG also complies with the relevant NYSE corporate governance standards applicable to foreign private issuers.

UBS AG operates under a strict dual board structure, as mandated by Swiss banking law. The Board of Directors (“**BoD**”) exercises the ultimate supervision over management, whereas the Executive Board (“**EB**”), headed by the President of the Executive Board (“**President of the EB**”), has executive management responsibility. The functions of Chairman of the BoD and President of the EB are assigned to two different people, ensuring a separation of power. This structure establishes checks and balances and preserves the institutional independence of the BoD from the day-to-day management of UBS AG, for which responsibility is delegated to the EB under the leadership of the President of the EB. No member of one board may simultaneously be a member of the other.

Supervision and control of the EB remain with the BoD. The authorities and responsibilities of the two bodies are governed by the Articles of Association and the Organization Regulations of UBS AG with their annexes.

#### 4.1 Board of Directors

The BoD consists of at least five and no more than twelve members. All the members of the BoD are elected individually by the Annual General Meeting of Shareholders (“**AGM**”) for a term of office of one year, which expires after the completion of the next AGM. Shareholders also elect the Chairman upon proposal of the BoD.

The BoD meets as often as business requires, and at least six times a year.

##### 4.1.1 Members of the Board of Directors

Member	Title	Term of office	Current principal activities outside UBS AG
Axel A. Weber	Chairman	2021	Chairman of the Board of Directors of UBS Group AG; board member of the Swiss Bankers Association; Trustees Board member of Avenir Suisse; board member of the Swiss Finance Council; Chairman of the board of the Institute of International Finance; member of the European Financial Services Round Table; member of the European Banking Group; member of the International Advisory Councils of the China Banking and Insurance Regulatory Commission and the China Securities Regulatory Commission; member of the International Advisory Panel, Monetary Authority of Singapore; member of the Group of Thirty, Washington, D.C.; Chairman of the Board of Trustees of DIW Berlin; Advisory Board member of the Department of Economics, University of Zurich; member of the Trilateral Commission.
Jeremy Anderson	Member	2021	Member of the Board of Directors of UBS Group AG; board member of Prudential plc; trustee of the UK's Productivity Leadership Group; trustee of Kingham Hill Trust; trustee of St. Helen Bishopsgate.
William C. Dudley	Member	2021	Member of the Board of Directors of UBS Group AG; senior research scholar at the Griswold Center for Economic Policy Studies at Princeton University; member of the Board of Trelant LLC; member of the Group of Thirty; member of the Council on Foreign Relations; member of the Bretton Woods Committee's Advisory Council.
Reto Francioni	Member	2021	Member of the Board of Directors of UBS Group AG; professor at the University of Basel; board member of Coca-Cola HBC AG (Senior Independent Non-Executive Director, chair of the nomination committee); Chairman of the board of Swiss International Air Lines AG; board member of MedTech Innovation Partners AG; executive director and member of my TAMAR GmbH.
Fred Hu	Member	2021	Member of the Board of Directors of UBS Group AG; non-executive chairman of the board of Yum China Holdings (chair of the nomination and

			governance committee); board member of Industrial and Commercial Bank of China; board member of Hong Kong Exchanges and Clearing Ltd.; founder and chairman of Primavera Capital Group; board member of China Asset Management; board member of Minsheng Financial Leasing Co.; trustee of the China Medical Board; Governor of the Chinese International School in Hong Kong; co-chairman of the Nature Conservancy Asia Pacific Council; director and member of the Executive Committee of China Venture Capital and Private Equity Association Ltd.; Global Advisory Board member of the Council on Foreign Relations.
Mark Hughes	Member	2021	Member of the Board of Directors of UBS Group AG; chair of the Board of Directors of the Global Risk Institute; visiting lecturer at the University of Leeds; senior advisor to McKinsey & Company.
Nathalie Rachou	Member	2021	Member of the Board of Directors of UBS Group AG; member of the Board of Société Générale (stepping down from that function in May 2020); member of the Board of Euronext N.V.; member of the Board of Veolia Environnement SA.
Julie G. Richardson	Member	2021	Member of the Board of Directors of UBS Group AG; member of the board of Yext (chair of the audit committee); member of the board of Vereit, Inc. (chair of the compensation committee); member of the board of Datalog (chair of the audit committee); member of the board of The Hartford Financial Services Group, Inc. (resignation effective 1 April 2020).
Beatrice Weder di Mauro	Member	2021	Member of the Board of Directors of UBS Group AG; professor of international economics at the Graduate Institute Geneva (IHEID); president of the Centre for Economic Policy Research in London; Research Professor and Distinguished Fellow at INSEAD in Singapore; Supervisory Board member of Robert Bosch GmbH; board member of Bombardier Inc.; member of the Foundation Board of the International Center for Monetary and Banking Studies (ICMB).
Dieter Wemmer	Member	2021	Member of the Board of Directors of UBS Group AG; board member of Ørsted A/S (chair of the audit and risk committee); member of the Berlin Center of Corporate Governance.
Jeanette Wong	Member	2021	Member of the Board of Directors of UBS Group AG; board member of EssilorLuxottica; board member of Jurong Town Corporation; board member of PSA International; board member of FFMC Holdings Pte. Ltd. and of Fullerton Fund Management Company Ltd.; member of the Management Advisory Board of NUS Business School; member of the Global Advisory Board, Asia, University of Chicago Booth School of Business; member of the Securities Industry Council; member of the Board of Trustees of the National University of Singapore.

#### 4.1.2 Organisational principles and structure

Following each AGM, the BoD meets to appoint one or more Vice Chairmen, BoD committee members, and their respective Chairpersons. At the same meeting, the BoD appoints a Company Secretary, who acts as secretary to the BoD and its committees.

The BoD permanent committees comprise the Audit Committee, the Compensation Committee and the Risk Committee. The BoD may set up other committees, including so-called ad hoc committees, if it deems such other committees appropriate or necessary, such as the Special Committee and the Strategy Committee.

#### 4.1.3 Audit Committee

The Audit Committee (“**AC**”) consists of five BoD members, all of whom were determined by the BoD to be fully independent. As a group, members of the Audit Committee must have the necessary qualifications and skills to perform all of their duties and together must possess financial literacy and experience in banking and risk management.

The AC itself does not perform audits, but oversees the work of the external auditors who in turn are responsible for auditing UBS AG's annual financial statements and for reviewing the quarterly financial statements.

The function of the AC is to support the Board in fulfilling its oversight duty relating to financial reporting and internal controls over financial reporting, the effectiveness of the external and internal audit functions as well as of whistleblowing procedures. Management is responsible for the preparation, presentation and integrity of the financial statements, while the external auditors are responsible for auditing financial statements. The AC's responsibility is one of oversight and review.

In particular, the AC monitors the integrity of the financial statements and any announcements related to financial performance, and reviews significant financial reporting judgments contained in them, before recommending their approval to the BoD or proposing any adjustments the AC considers appropriate.

The AC oversees the relationship with and assesses the qualifications, expertise, effectiveness, independence and performance of the external auditors and their lead audit partner, and supports the BoD in reaching a decision in relation to the appointment, reappointment or dismissal of the external auditors and to the rotation of the lead audit partner. The BoD then submits these proposals to the shareholders for approval at the AGM.

The members of the AC are Jeremy Anderson (Chairperson), Beatrice Weder di Mauro, Dieter Wemmer and Jeanette Wong.

## 4.2 Executive Board ("EB")

Under the leadership of the President of the EB, the EB has executive management responsibility for UBS AG and its business. All EB members (with the exception of the President of the EB) are proposed by the President of the EB. The appointments are made by the BoD.

### 4.2.1 Members of the Executive Board

The current members of the EB are listed below. In addition, UBS announced Ralph Hamers will join the EB as of 1 September 2020 and will succeed Sergio P. Ermotti as President of the EB effective 1 November 2020.

Member and business address	Function	Current principal activities outside UBS AG
Sergio P. Ermotti  UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	President of the Executive Board	Member of the Group Executive Board and Group Chief Executive Officer of UBS Group AG; board member of UBS Switzerland AG; Chairman of the UBS Optimus Foundation board; member of the Board of Swiss Re Ltd.; Chairman of the Fondazione Ermotti, Lugano; board member of the Swiss-American Chamber of Commerce; board member of the Global Apprenticeship Network; member of the Institut International D'Etudes Bancaires; member of the Saïd Business School Global Leadership Council, University of Oxford.
Christian Bluhm UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Chief Risk Officer	Member of the Group Executive Board and Group Chief Risk Officer of UBS Group AG; board member of UBS Switzerland AG; chairman of the Foundation Board – International Financial Risk Institute.
Markus U. Diethelm	General Counsel	Member of the Group Executive Board and Group General Counsel of UBS Group AG; chairman of the Swiss-American Chamber of Commerce's legal committee; Chairman of the Swiss Advisory Council of the American Swiss Foundation; member of the Foundation Council of the UBS International

UBS AG, Bahnhofstrasse 45, CH-8001 Zurich		Center of Economics in Society; member of the Supervisory Board of the Fonds de Dotation LUMA / Arles.
Kirt Gardner UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Chief Financial Officer	Member of the Group Executive Board and Group Chief Financial Officer of UBS Group AG; board member of UBS Business Solutions AG.
Suni Harford  UBS AG, 1285 Avenue of the Americas, New York, NY 10019 USA	President Asset Management	Member of the Executive Board, President Asset Management of UBS Group AG; chairman of the Board of Directors of UBS Asset Management AG; member of the Leadership Council of the Bob Woodruff Foundation; member of the Board of UBS Optimus Foundation.
Robert Karofsky UBS AG, 1285 Avenue of the Americas, New York, NY 10019, USA	Co-President Investment Bank	Member of the Group Executive Board and co-President Investment Bank of UBS Group AG; president and board member of UBS Securities LLC; trustee of the UBS Americas Inc. Political Action Committee.
Sabine Keller-Busse  UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Chief Operating Officer and President UBS Europe, Middle East and Africa	Member of the Group Executive Board, Group Chief Operating Officer and President UBS Europe, Middle East and Africa of UBS Group AG; member of the Supervisory Board of UBS Europe SE; board member of UBS Business Solutions AG; vice-chairman of the Board of Directors of SIX Group (Chairman of the nomination & compensation committee); Foundation Board member of the UBS Pension Fund; board member of the University Hospital Zurich Foundation.
Iqbal Khan  UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Co-President Global Wealth Management	Member of the Executive Board and co-President Global Wealth Management of UBS Group AG; board member of Room To Read Switzerland.
Edmund Koh  UBS AG, One Raffles Quay North Tower, Singapore 048583	President UBS Asia Pacific	Member of the Group Executive Board and President UBS Asia Pacific of UBS Group AG; member of the Wealth Management Institute at Nanyang Technological University, Singapore; member of the Singapore Ministry of Finance's Committee on the Future Economy Sub-Committees; member of the Financial Centre Advisory Panel; board member of Next50 Limited; trustee of the Cultural Matching Fund; board member of Medico Suites (S) Pte Ltd; board member of Medico Republic (S) Pte Ltd; Council member of the Asian Bureau of Finance and Economic Research.
Tom Naratil  UBS AG, 1285 Avenue of the Americas, New York, NY 10019 USA	Co-President Global Wealth Management and President UBS Americas	Member of the Group Executive Board and co-President Global Wealth Management and President UBS Americas of UBS Group AG; CEO and board member of UBS Americas Holding LLC; board member of the American Swiss Foundation; member of the Board of Consultants for the College of Nursing at Villanova University.
Piero Novelli UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Co-President Investment Bank	Member of the Group Executive Board and co-President Investment Bank of UBS Group AG.
Markus Ronner UBS AG, Bahnhofstrasse 45, CH-8001 Zurich	Chief Compliance and Governance Officer	Member of the Group Executive Board and Group Chief Compliance and Governance Officer of UBS Group AG.

### 4.3 Potential Conflicts of Interest

Members of the BoD and the EB may act as directors or executive officers of other companies (for current principal positions outside UBS AG, if any, of BoD and EB members, please see sections 4.1.1 and 4.2.1 above, respectively) and may have economic or other private interests that differ from those of UBS AG.



Conflicts of interest may potentially arise from these positions or interests. For example, it cannot be excluded that a member of the BoD or EB has or will have a function within a company, the shares of which are or will be traded by UBS AG or which has or will have a business relationship with UBS AG. UBS AG is confident that its internal corporate governance practices and its compliance with relevant legal and regulatory provisions reasonably ensure that any conflicts of interest of the type described above are appropriately managed, including through disclosure when appropriate.

Other than as indicated above, UBS is not aware of potential conflicts of interests between any duties to the Issuer of the members of the BoD and the EB and their private interests or other duties.

## 5. Auditors

Based on article 31 of the Articles of Association, UBS AG shareholders elect the auditors for a term of office of one year. At the AGMs of 26 April 2018, 18 April 2019 and 27 April 2020, Ernst & Young Ltd, Aeschengraben 9, CH-4002 Basel ("**Ernst & Young**") was elected as auditor for the consolidated and standalone financial statements of UBS AG for a one-year term.

Ernst & Young is a member of EXPERTsuisse, the Swiss Expert Association for Audit, Tax and Fiduciary.

## 6. Major Shareholders of the Issuer

UBS Group AG owns 100% of the outstanding shares of UBS AG. UBS AG is a wholly owned subsidiary of UBS Group AG. While UBS has no specific corporate measures intended to prevent abuse of control to the detriment of minority shareholders, UBS has adopted a comprehensive and integrated governance framework which takes into account the specific requirements of each relevant jurisdiction. This governance framework includes separate articles of association and organizational regulations for UBS Group AG and UBS AG. In addition, as UBS AG is regulated as a bank in Switzerland, it is subject to capital regulation and close supervisory oversight. This includes the general requirement under Swiss law that contracts of UBS AG with affiliates are subject to an arm's length principle of negotiation.

## 7. Financial Information concerning the Issuer's Assets and Liabilities, Financial Position and Profits and Losses

### 7.1 Historical Annual Financial Information

Detailed information about UBS AG consolidated and UBS AG assets and liabilities, financial position and profits and losses for financial year 2019 is available in the section "*UBS AG consolidated financial statements*" of the Annual Report 2019 and in the UBS AG's standalone financial statements for the year ended 31 December 2019 (the "**Standalone Financial Statements 2019**"), respectively; and for financial year 2018 it is available in the "*UBS AG consolidated financial statements*" section of the UBS Group AG and UBS AG annual report 2018, published on 15 March 2019 ("**Annual Report 2018**") and in the UBS AG's standalone financial statements for the year ended 31 December 2018 (the "**Standalone Financial Statements 2018**"). The consolidated and standalone financial accounts are closed on 31 December of each year.

With respect to the financial year 2019, reference is made to:

- (i) the following parts of the Annual Report 2019: the UBS AG consolidated financial statements, in particular to the Income statement on page 498, the Balance sheet on page 501, the Statement of changes in equity on pages 502-505 (inclusive), the Statement of cash flows on

pages 507-508 (inclusive) and the Notes to the consolidated financial statements on pages 510-685 (inclusive); and

- (ii) the following parts of the Standalone Financial Statements 2019: the Income statement on page 2, the Balance sheet on pages 3-4, the Statement of proposed appropriation of total profit and dividend distribution on page 6, and the Notes to the UBS AG standalone financial statements on pages 7-29 (inclusive).

With respect to the financial year 2018, reference is made to:

- (i) the following parts of the Annual Report 2018: the UBS AG consolidated financial statements, in particular to the Income statement on page 524, the Balance sheet on page 527, the Statement of changes in equity on pages 528-531 (inclusive), the Statement of cash flows on pages 533-534 (inclusive) and the Notes to the consolidated financial statements on pages 535-722 (inclusive); and
- (ii) the following parts of the Standalone Financial Statements 2018: the Income statement on page 1, the Balance sheet on pages 2-3 (inclusive), the Statement of appropriation of total profit / (loss) carried forward on page 5, and the Notes to the UBS AG standalone financial statements on pages 6-28 (inclusive).

The annual financial reports form an essential part of UBS AG's reporting. They include the audited consolidated financial statements of UBS AG, prepared in accordance with International Financial Reporting Standards, as issued by the International Accounting Standards Board. The annual reports also include discussions and analysis of the consolidated financial and business results of UBS, its business divisions and Group Functions. In addition, UBS AG prepares and publishes standalone financial statements in accordance with Swiss GAAP, as well as certain additional disclosures required under US Securities and Exchange Commission regulations.

## 7.2 Auditing of Historical Annual Financial Information

The consolidated financial statements and the standalone financial statements of UBS AG for financial years 2019 and 2018 were audited by Ernst & Young. The reports of the auditors on the consolidated financial statements can be found on pages 487-497 (inclusive) of the Annual Report 2019 and on pages 514-523 (inclusive) of the Annual Report 2018. The reports of the auditors on the standalone financial statements of UBS AG can be found on pages 30-33 (inclusive) of the Standalone Financial Statements 2019 and on pages 29-33 (inclusive) of the Standalone Financial Statements 2018.

There are no qualifications in the auditors' reports on the consolidated financial statements of UBS AG and the standalone financial statements of UBS AG for the years ended on 31 December 2019 and 31 December 2018.

## 7.3 Interim Financial Information

Reference is also made to the UBS Group AG first quarter 2020 report published on 28 April 2020 ("**UBS Group First Quarter 2020 Report**"), and the UBS AG first quarter 2020 report published on 4 May 2020 ("**UBS AG First Quarter 2020 Report**"), which contain information on the financial condition and results of operations, including the interim financial statements, of UBS Group AG consolidated and UBS AG consolidated, respectively, as of and for the period ended 31 March 2020. The interim consolidated financial statements are not audited.

## 7.4 Litigation, Regulatory and Similar Matters

UBS operates in a legal and regulatory environment that exposes it to significant litigation and similar risks arising from disputes and regulatory proceedings. As a result, UBS (which for purposes of this section may refer to UBS AG and / or one or more of its subsidiaries, as applicable) is involved in various disputes and legal proceedings, including litigation, arbitration, and regulatory and criminal investigations.

Such matters are subject to many uncertainties, and the outcome and the timing of resolution are often difficult to predict, particularly in the earlier stages of a case. There are also situations where UBS may enter into a settlement agreement. This may occur in order to avoid the expense, management distraction or reputational implications of continuing to contest liability, even for those matters for which UBS believes it should be exonerated. The uncertainties inherent in all such matters affect the amount and timing of any potential outflows for both matters with respect to which provisions have been established and other contingent liabilities. UBS makes provisions for such matters brought against it when, in the opinion of management after seeking legal advice, it is more likely than not that UBS has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required, and the amount can be reliably estimated. Where these factors are otherwise satisfied, a provision may be established for claims that have not yet been asserted against UBS, but are nevertheless expected to be, based on UBS's experience with similar asserted claims. If any of those conditions is not met, such matters result in contingent liabilities. If the amount of an obligation cannot be reliably estimated, a liability exists that is not recognized even if an outflow of resources is probable. Accordingly, no provision is established even if the potential outflow of resources with respect to such matters could be significant. Developments relating to a matter that occur after the relevant reporting period, but prior to the issuance of financial statements, which affect management's assessment of the provision for such matter (because, for example, the developments provide evidence of conditions that existed at the end of the reporting period), are adjusting events after the reporting period under IAS 10 and must be recognized in the financial statements for the reporting period.

Specific litigation, regulatory and other matters are described below, including all such matters that management considers to be material and others that management believes to be of significance due to potential financial, reputational and other effects. The amount of damages claimed, the size of a transaction or other information is provided where available and appropriate in order to assist users in considering the magnitude of potential exposures.

In the case of certain matters below, UBS states that it has established a provision, and for the other matters, it makes no such statement. When UBS makes this statement and it expects disclosure of the amount of a provision to prejudice seriously its position with other parties in the matter because it would reveal what UBS believes to be the probable and reliably estimable outflow, UBS does not disclose that amount. In some cases UBS is subject to confidentiality obligations that preclude such disclosure. With respect to the matters for which UBS does not state whether it has established a provision, either: (a) it has not established a provision, in which case the matter is treated as a contingent liability under the applicable accounting standard; or (b) it has established a provision but expects disclosure of that fact to prejudice seriously its position with other parties in the matter because it would reveal the fact that UBS believes an outflow of resources to be probable and reliably estimable.

With respect to certain litigation, regulatory and similar matters for which UBS has established provisions, UBS is able to estimate the expected timing of outflows. However, the aggregate amount of the expected outflows for those matters for which it is able to estimate expected timing is immaterial relative to its current and expected levels of liquidity over the relevant time periods.

The aggregate amount provisioned for litigation, regulatory and similar matters as a class is disclosed in “*Note 15a Provisions*” of the UBS AG’s interim unaudited consolidated financial statements included in the UBS AG First Quarter 2020 Report. It is not practicable to provide an aggregate estimate of liability for UBS’s litigation, regulatory and similar matters as a class of contingent liabilities. Doing so would require UBS to provide speculative legal assessments as to claims and proceedings that involve unique fact patterns or novel legal theories, that have not yet been initiated or are at early stages of adjudication, or as to which alleged damages have not been quantified by the claimants. Although it therefore cannot provide a numerical estimate of the future losses that could arise from litigation, regulatory and similar matters, UBS believes that the aggregate amount of possible future losses from this class that are more than remote substantially exceeds the level of current provisions. Litigation, regulatory and similar matters may also result in non-monetary penalties and consequences. For example, the non-prosecution agreement (“**NPA**”) described in item 5 of this section, which UBS entered into with the US Department of Justice (“**DOJ**”), Criminal Division, Fraud Section in connection with UBS’s submissions of benchmark interest rates, including, among others, the British Bankers’ Association London Interbank Offered Rate (“**LIBOR**”), was terminated by the DOJ based on its determination that UBS had committed a US crime in relation to foreign exchange matters. As a consequence, UBS AG pleaded guilty to one count of wire fraud for conduct in the LIBOR matter, paid a fine and was subject to probation, which ended in early January 2020. A guilty plea to, or conviction of, a crime could have material consequences for UBS. Resolution of regulatory proceedings may require UBS to obtain waivers of regulatory disqualifications to maintain certain operations, may entitle regulatory authorities to limit, suspend or terminate licenses and regulatory authorizations and may permit financial market utilities to limit, suspend or terminate UBS’s participation in such utilities. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorizations or participations, could have material consequences for UBS.

The risk of loss associated with litigation, regulatory and similar matters is a component of operational risk for purposes of determining UBS’s capital requirements. Information concerning UBS’s capital requirements and the calculation of operational risk for this purpose is included in the “*Capital management*” section of the UBS Group First Quarter 2020 Report.

#### Provisions for litigation, regulatory and similar matters by business division and in Group Functions <sup>1</sup>

<i>USD million</i>	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	UBS
<b>Balance as of 31 December 2019</b>	782	113	0	255	1,325	2,475
Increase in provisions recognized in the income statement	13	0	0	0	1	13
Release of provisions recognized in the income statement	(5)	0	0	(1)	(1)	(6)
Provisions used in conformity with designated purpose	(34)	0	0	(44)	(394)	(472)
Reclassifications	0	0	0	(3)	3	0
Foreign currency translation / unwind of discount	(9)	(1)	0	(2)	0	(12)
<b>Balance as of 31 March 2020</b>	<b>747</b>	<b>112</b>	<b>0</b>	<b>205</b>	<b>934</b>	<b>1,998</b>

<sup>1</sup> Provisions, if any, for matters described in this section are recorded in Global Wealth Management (item 3 and item 4) and Group Functions (item 2). Provisions, if any, for the matters described in items 1 and 6 of this section are allocated between Global Wealth Management and Personal & Corporate Banking, and provisions, if any, for the matters described in this section in item 5 are allocated between the Investment Bank and Group Functions.

## 1. Inquiries regarding cross-border wealth management businesses

Tax and regulatory authorities in a number of countries have made inquiries, served requests for information or examined employees located in their respective jurisdictions relating to the cross-border wealth management services provided by UBS and other financial institutions. It is possible that the implementation of automatic tax information exchange and other measures relating to cross-border provision of financial services could give rise to further inquiries in the future. UBS has received disclosure orders from the Swiss Federal Tax Administration (“**FTA**”) to transfer information based on requests for international administrative assistance in tax matters. The requests concern a number of UBS account numbers pertaining to current and former clients and are based on data from 2006 and 2008. UBS has taken steps to inform affected clients about the administrative assistance proceedings and their procedural rights, including the right to appeal. The requests are based on data received from the German authorities, who seized certain data related to UBS clients booked in Switzerland during their investigations and have apparently shared this data with other European countries. UBS expects additional countries to file similar requests.

The Swiss Federal Administrative Court ruled in 2016 that, in the administrative assistance proceedings related to a French bulk request, UBS has the right to appeal all final FTA client data disclosure orders. On 30 July 2018, the Swiss Federal Administrative Court granted UBS’s appeal by holding the French administrative assistance request inadmissible. The FTA filed a final appeal with the Swiss Federal Supreme Court. On 26 July 2019, the Supreme Court reversed the decision of the Federal Administrative Court. In December 2019, the court released its written decision. The decision requires the FTA to obtain confirmation from the French authorities that transmitted data will be used only for the purposes stated in their request before transmitting any data. The stated purpose of the original request was to obtain information relating to taxes owed by account holders. Accordingly, any information transferred to the French authorities must not be passed to criminal authorities or used in connection with the ongoing case against UBS discussed in this item.

Since 2013, UBS (France) S.A., UBS AG and certain former employees have been under investigation in France for alleged complicity in unlawful solicitation of clients on French territory, regarding the laundering of proceeds of tax fraud, and banking and financial solicitation by unauthorized persons. In connection with this investigation, the investigating judges ordered UBS AG to provide bail (“*caution*”) of EUR 1.1 billion and UBS (France) S.A. to post bail of EUR 40 million, which was reduced on appeal to EUR 10 million.

A trial in the court of first instance took place from 8 October 2018 until 15 November 2018. On 20 February 2019, the court announced a verdict finding UBS AG guilty of unlawful solicitation of clients on French territory and aggravated laundering of the proceeds of tax fraud, and UBS (France) S.A. guilty of aiding and abetting unlawful solicitation and laundering the proceeds of tax fraud. The court imposed fines aggregating EUR 3.7 billion on UBS AG and UBS (France) S.A. and awarded EUR 800 million of civil damages to the French state. UBS has appealed the decision. Under French law, the judgment is suspended while the appeal is pending. UBS has been informed that the trial in the Court of Appeal that was scheduled for June 2020 has been postponed and a scheduling conference will be held in early June. The Court of Appeal will retry the case *de novo* as to both the law and the facts, and the fines and penalties can be greater than or less than those imposed by the court of first instance. A subsequent appeal to the Cour de Cassation, France’s highest court, is possible with respect to questions of law.

UBS believes that based on both the law and the facts the judgment of the court of first instance should be reversed. UBS believes it followed its obligations under Swiss and French law as well as the European Savings Tax Directive. Even assuming liability, which it contests, UBS believes the penalties

and damage amounts awarded greatly exceed the amounts that could be supported by the law and the facts. In particular, UBS believes the court incorrectly based the penalty on the total regularized assets rather than on any unpaid taxes on those assets for which a fraud has been characterized and further incorrectly awarded damages based on costs that were not proven by the civil party. Notwithstanding that UBS believes it should be acquitted, UBS's balance sheet at 31 March 2020 reflected provisions with respect to this matter in an amount of EUR 450 million (USD 505 million at 31 March 2020). The wide range of possible outcomes in this case contributes to a high degree of estimation uncertainty. The provision reflected on UBS's balance sheet at 31 March 2020 reflects its best estimate of possible financial implications, although it is reasonably possible that actual penalties and civil damages could exceed the provision amount.

In 2016, UBS was notified by the Belgian investigating judge that it is under formal investigation (“*inculpé*”) regarding the laundering of proceeds of tax fraud, of banking and financial solicitation by unauthorized persons, and of serious tax fraud. In 2018, tax authorities and a prosecutor's office in Italy asserted that UBS is potentially liable for taxes and penalties as a result of its activities in Italy from 2012 to 2017.

In June 2019, UBS entered into a settlement agreement with the Italian tax authorities under which it paid EUR 101 million to resolve the claims asserted by the authority related to UBS AG's potential permanent establishment in Italy. In October 2019, the Judge of Preliminary Investigations of the Milan Court approved an agreement with the Milan prosecutor under Article 63 of Italian Administrative Law 231 under which UBS AG, UBS Switzerland AG and UBS Monaco have paid an aggregate of EUR 10.3 million to resolve claims premised on the alleged inadequacy of historical internal controls. No admission of wrongdoing was required in connection with this resolution.

UBS's balance sheet at 31 March 2020 reflected provisions with respect to matters described in this item 1 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which UBS has established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that UBS has recognized.

## 2. Claims related to sales of residential mortgage-backed securities and mortgages

From 2002 through 2007, prior to the crisis in the US residential loan market, UBS was a substantial issuer and underwriter of US residential mortgage-backed securities (“**RMBS**”) and was a purchaser and seller of US residential mortgages.

*Lawsuits related to contractual representations and warranties concerning mortgages and RMBS:* Certain RMBS trusts filed an action in the US District Court for the Southern District of New York seeking to enforce UBS RESI's obligation to repurchase loans in the collateral pools for three RMBS securitizations issued and underwritten by UBS. In the first quarter of 2020 the court approved the settlement UBS agreed with the trustee in July 2018 and UBS paid the USD 850 million settlement amount. A significant portion of this amount was borne by other parties that indemnified UBS. Proceedings to determine how the settlement funds will be distributed to RMBS holders are ongoing. UBS considers claims relating to substantially all loan repurchase demands to be resolved and believes that new demands to repurchase US residential mortgage loans are time-barred under a decision rendered by the New York Court of Appeals.

*Mortgage-related regulatory matters:* Since 2014, the US Attorney's Office for the Eastern District of New York has sought information from UBS pursuant to the Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA), related to UBS's RMBS business from 2005 through 2007. On 8 November 2018, the DOJ filed a civil complaint in the District Court for the Eastern District of New York. The complaint seeks unspecified civil monetary penalties under FIRREA related to UBS's issuance, underwriting and sale of 40 RMBS transactions in 2006 and 2007. UBS moved to dismiss the civil complaint on 6 February 2019. On 10 December 2019, the district court denied UBS's motion to dismiss.

UBS's balance sheet at 31 March 2020 reflected a provision with respect to matters described in this item 2 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which UBS has established provisions, the future outflow of resources in respect of this matter cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that UBS has recognized.

### 3. Madoff

In relation to the Bernard L. Madoff Investment Securities LLC ("**BMIS**") investment fraud, UBS AG, UBS (Luxembourg) S.A. (now UBS Europe SE, Luxembourg branch) and certain other UBS subsidiaries have been subject to inquiries by a number of regulators, including the Swiss Financial Market Supervisory Authority ("**FINMA**") and the Luxembourg Commission de Surveillance du Secteur Financier. Those inquiries concerned two third-party funds established under Luxembourg law, substantially all assets of which were with BMIS, as well as certain funds established in offshore jurisdictions with either direct or indirect exposure to BMIS. These funds faced severe losses, and the Luxembourg funds are in liquidation. The documentation establishing both funds identifies UBS entities in various roles, including custodian, administrator, manager, distributor and promoter, and indicates that UBS employees serve as board members.

In 2009 and 2010, the liquidators of the two Luxembourg funds filed claims against UBS entities, non-UBS entities and certain individuals, including current and former UBS employees, seeking amounts totalling approximately EUR 2.1 billion, which includes amounts that the funds may be held liable to pay the trustee for the liquidation of BMIS ("**BMIS Trustee**").

A large number of alleged beneficiaries have filed claims against UBS entities (and non-UBS entities) for purported losses relating to the Madoff fraud. The majority of these cases have been filed in Luxembourg, where decisions that the claims in eight test cases were inadmissible have been affirmed by the Luxembourg Court of Appeal, and the Luxembourg Supreme Court has dismissed a further appeal in one of the test cases.

In the US, the BMIS Trustee filed claims against UBS entities, among others, in relation to the two Luxembourg funds and one of the offshore funds. The total amount claimed against all defendants in these actions was not less than USD 2 billion. In 2014, the US Supreme Court rejected the BMIS Trustee's motion for leave to appeal decisions dismissing all claims except those for the recovery of approximately USD 125 million of payments alleged to be fraudulent conveyances and preference payments. In 2016, the bankruptcy court dismissed these claims against the UBS entities. In February 2019, the Court of Appeals reversed the dismissal of the BMIS Trustee's remaining claims. In August 2019, the defendants, including UBS, filed a petition to the US Supreme Court requesting that it review the Court of Appeals' decision. The bankruptcy proceedings have been stayed pending a decision with respect to the defendants' petition.

#### 4. Puerto Rico

Declines since 2013 in the market prices of Puerto Rico municipal bonds and of closed-end funds (“**funds**”) that are sole-managed and co-managed by UBS Trust Company of Puerto Rico and distributed by UBS Financial Services Incorporated of Puerto Rico (“**UBS PR**”) have led to multiple regulatory inquiries, as well as customer complaints and arbitrations with aggregate claimed damages of USD 3.4 billion, of which claims with aggregate claimed damages of USD 2.5 billion have been resolved through settlements, arbitration or withdrawal of the claim. The claims have been filed by clients in Puerto Rico who own the funds or Puerto Rico municipal bonds and/or who used their UBS account assets as collateral for UBS non-purpose loans; customer complaint and arbitration allegations include fraud, misrepresentation and unsuitability of the funds and of the loans.

A shareholder derivative action was filed in 2014 against various UBS entities and current and certain former directors of the funds, alleging hundreds of millions of US dollars in losses in the funds. In 2015, defendants’ motion to dismiss was denied and a request for permission to appeal that ruling was denied by the Puerto Rico Supreme Court. In 2014, a federal class action complaint also was filed against various UBS entities, certain members of UBS PR senior management and the co-manager of certain of the funds, seeking damages for investor losses in the funds during the period from May 2008 through May 2014. Following denial of the plaintiffs’ motion for class certification, the case was dismissed in October 2018.

In 2014 and 2015, UBS entered into settlements with the Office of the Commissioner of Financial Institutions for the Commonwealth of Puerto Rico, the US Securities and Exchange Commission (SEC) and the Financial Industry Regulatory Authority in relation to their examinations of UBS’s operations.

In 2011, a purported derivative action was filed on behalf of the Employee Retirement System of the Commonwealth of Puerto Rico (“**System**”) against over 40 defendants, including UBS PR, which was named in connection with its underwriting and consulting services. Plaintiffs alleged that defendants violated their purported fiduciary duties and contractual obligations in connection with the issuance and underwriting of USD 3 billion of bonds by the System in 2008 and sought damages of over USD 800 million. In 2016, the court granted the System’s request to join the action as a plaintiff, but ordered that plaintiffs must file an amended complaint. In 2017, the court denied defendants’ motion to dismiss the amended complaint.

Beginning in 2015, and continuing through 2017, certain agencies and public corporations of the Commonwealth of Puerto Rico (“**Commonwealth**”) defaulted on certain interest payments on Puerto Rico bonds. In 2016, US federal legislation created an oversight board with power to oversee Puerto Rico’s finances and to restructure its debt. The oversight board has imposed a stay on the exercise of certain creditors’ rights. In 2017, the oversight board placed certain of the bonds into a bankruptcy-like proceeding under the supervision of a Federal District Judge. These events, further defaults or any further legislative action to create a legal means of restructuring Commonwealth obligations or to impose additional oversight on the Commonwealth’s finances, or any restructuring of the Commonwealth’s obligations, may increase the number of claims against UBS concerning Puerto Rico securities, as well as potential damages sought.

In May 2019, the oversight board filed complaints in Puerto Rico federal district court bringing claims against financial, legal and accounting firms that had participated in Puerto Rico municipal bond



offerings, including UBS, seeking a return of underwriting and swap fees paid in connection with those offerings. UBS estimates that it received approximately USD 125 million in fees in the relevant offerings.

In August 2019 and February 2020, three US insurance companies that insured issues of Puerto Rico municipal bonds sued UBS and seven other underwriters of Puerto Rico municipal bonds. The actions collectively seek recovery of an aggregate of USD 955 million in damages from the defendants. The plaintiffs in these cases claim that defendants failed to reasonably investigate financial statements in the offering materials for the insured Puerto Rico bonds issued between 2002 and 2007, which plaintiffs argue they relied upon in agreeing to insure the bonds notwithstanding that they had no contractual relationship with the underwriters.

UBS's balance sheet at 31 March 2020 reflected provisions with respect to matters described in this item 4 in amounts that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which UBS has established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provisions that UBS has recognized.

#### 5. Foreign exchange, LIBOR and benchmark rates, and other trading practices

*Foreign exchange-related regulatory matters:* Beginning in 2013, numerous authorities commenced investigations concerning possible manipulation of foreign exchange markets and precious metals prices. As a result of these investigations, UBS entered into resolutions with the UK Financial Conduct Authority ("**FCA**"), the US Commodity Futures Trading Commission ("**CFTC**"), FINMA, the Board of Governors of the Federal Reserve System ("**Federal Reserve Board**") and the Connecticut Department of Banking, the DOJ's Criminal Division and the European Commission. UBS has ongoing obligations under the Cease and Desist Order of the Federal Reserve Board and the Office of the Comptroller of the Currency (as successor to the Connecticut Department of Banking), and to cooperate with relevant authorities and to undertake certain remediation measures. UBS has also been granted conditional immunity by the Antitrust Division of the DOJ and by authorities in other jurisdictions in connection with potential competition law violations relating to foreign exchange and precious metals businesses. Investigations relating to foreign exchange matters by certain authorities remain ongoing notwithstanding these resolutions.

*Foreign exchange-related civil litigation:* Putative class actions have been filed since 2013 in US federal courts and in other jurisdictions against UBS and other banks on behalf of putative classes of persons who engaged in foreign currency transactions with any of the defendant banks. UBS has resolved US federal court class actions relating to foreign currency transactions with the defendant banks and persons who transacted in foreign exchange futures contracts and options on such futures under a settlement agreement that provides for UBS to pay an aggregate of USD 141 million and provide cooperation to the settlement classes. Certain class members have excluded themselves from that settlement and have filed individual actions in US and English courts against UBS and other banks, alleging violations of US and European competition laws and unjust enrichment.

In 2015, a putative class action was filed in federal court against UBS and numerous other banks on behalf of persons and businesses in the US who directly purchased foreign currency from the defendants and alleged co-conspirators for their own end use. In March 2017, the court granted UBS's (and the other banks') motions to dismiss the complaint. The plaintiffs filed an amended complaint in August 2017. In March 2018, the court denied the defendants' motions to dismiss the amended complaint.

In 2017, two putative class actions were filed in federal court in New York against UBS and numerous other banks on behalf of persons and entities who had indirectly purchased foreign exchange instruments from a defendant or co-conspirator in the US, and a consolidated complaint was filed in June 2017. In March 2018, the court dismissed the consolidated complaint. In October 2018, the court granted plaintiffs' motion seeking leave to file an amended complaint. In January 2020, UBS and 11 other banks agreed in principle with the plaintiffs to settle the class action for a total of USD 10 million. The settlement is subject to final documentation and court approval.

*LIBOR and other benchmark-related regulatory matters:* Numerous government agencies, including the SEC, the CFTC, the DOJ, the FCA, the UK Serious Fraud Office, the Monetary Authority of Singapore, the Hong Kong Monetary Authority, FINMA, various state attorneys general in the US and competition authorities in various jurisdictions, have conducted investigations regarding potential improper attempts by UBS, among others, to manipulate LIBOR and other benchmark rates at certain times. UBS reached settlements or otherwise concluded investigations relating to benchmark interest rates with the investigating authorities. UBS has ongoing obligations to cooperate with the authorities with whom UBS has reached resolutions and to undertake certain remediation measures with respect to benchmark interest rate submissions. UBS has been granted conditional leniency or conditional immunity from authorities in certain jurisdictions, including the Antitrust Division of the DOJ and the Swiss Competition Commission ("WEKO"), in connection with potential antitrust or competition law violations related to certain rates. However, UBS has not reached a final settlement with WEKO, as the Secretariat of WEKO has asserted that UBS does not qualify for full immunity.

*LIBOR and other benchmark-related civil litigation:* A number of putative class actions and other actions are pending in the federal courts in New York against UBS and numerous other banks on behalf of parties who transacted in certain interest rate benchmark-based derivatives. Also pending in the US and in other jurisdictions are a number of other actions asserting losses related to various products whose interest rates were linked to LIBOR and other benchmarks, including adjustable rate mortgages, preferred and debt securities, bonds pledged as collateral, loans, depository accounts, investments and other interest-bearing instruments. The complaints allege manipulation, through various means, of certain benchmark interest rates, including USD LIBOR, Euroyen TIBOR, Yen LIBOR, EURIBOR, CHF LIBOR, GBP LIBOR, SGD SIBOR and SOR and Australian BBSW, and seek unspecified compensatory and other damages under varying legal theories.

*USD LIBOR class and individual actions in the US:* In 2013 and 2015, the district court in the USD LIBOR actions dismissed, in whole or in part, certain plaintiffs' antitrust claims, federal racketeering claims, CEA claims, and state common law claims. Although the Second Circuit vacated the district court's judgment dismissing antitrust claims, the district court again dismissed antitrust claims against UBS in 2016. Certain plaintiffs have appealed that decision to the Second Circuit. Separately, in 2018, the Second Circuit reversed in part the district court's 2015 decision dismissing certain individual plaintiffs' claims and certain of these actions are now proceeding. UBS entered into an agreement in 2016 with representatives of a class of bondholders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In 2018, the district court denied plaintiffs' motions for class certification in the USD class actions for claims pending against UBS, and plaintiffs sought permission to appeal that ruling to the Second Circuit. In July 2018, the Second Circuit denied the petition to appeal of the class of USD lenders and in November 2018 denied the petition of the USD exchange class. In December 2019, UBS entered into an agreement with representatives of the class of USD lenders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In January 2019, a putative class action was filed in the District Court for the Southern District of New York against UBS and

numerous other banks on behalf of US residents who, since 1 February 2014, directly transacted with a defendant bank in USD LIBOR instruments. The complaint asserts antitrust claims. The defendants moved to dismiss the complaint in August 2019. On 26 March 2020 the court granted defendants' motion to dismiss the complaint in its entirety.

*Other benchmark class actions in the US:* In 2014, the court in one of the Euroyen TIBOR lawsuits dismissed certain of the plaintiffs' claims, including a federal antitrust claim, for lack of standing. In 2015, this court dismissed the plaintiffs' federal racketeering claims on the same basis and affirmed its previous dismissal of the plaintiffs' antitrust claims against UBS. In 2017, this court also dismissed the other Yen LIBOR / Euroyen TIBOR action in its entirety on standing grounds, as did the court in the CHF LIBOR action. Also in 2017, the court in the EURIBOR lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Plaintiffs in the other Yen LIBOR, Euroyen TIBOR and the EURIBOR actions have appealed the dismissals. In April 2020, the appeals court reversed the dismissal of the Yen LIBOR / Euroyen TIBOR complaint. The other cases remain on appeal. In October 2018, the court in the SIBOR / SOR action dismissed all but one of plaintiffs' claims against UBS. Plaintiffs in the CHF LIBOR and SIBOR / SOR actions filed amended complaints following the dismissals, and the courts granted renewed motions to dismiss in July 2019 (SIBOR / SOR) and in September 2019 (CHF LIBOR). Plaintiffs in both actions have appealed. In November 2018, the court in the BBSW lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Following that dismissal, plaintiffs in the BBSW action filed an amended complaint in April 2019, which UBS and other defendants named in the amended complaint have moved to dismiss. In February 2020, the court in the BBSW action granted in part and denied in part defendants' motions to dismiss the amended complaint. The court dismissed the GBP LIBOR action in August 2019, and plaintiffs appealed the dismissal in September 2019.

*Government bonds:* Putative class actions have been filed since 2015 in US federal courts against UBS and other banks on behalf of persons who participated in markets for US Treasury securities since 2007. A consolidated complaint was filed in 2017 in the US District Court for the Southern District of New York alleging that the banks colluded with respect to, and manipulated prices of, US Treasury securities sold at auction and in the secondary market and asserting claims under the antitrust laws and for unjust enrichment. Defendants' motions to dismiss the consolidated complaint are pending. Similar class actions have been filed concerning European government bonds and other government bonds.

UBS and reportedly other banks are responding to investigations and requests for information from various authorities regarding government bond trading practices. As a result of its review to date, UBS has taken appropriate action.

*Government sponsored entities ("GSE") bonds:* Starting in February 2019, class action complaints were filed in the US District Court for the Southern District of New York against UBS and other banks on behalf of plaintiffs who traded GSE bonds. A consolidated complaint was filed alleging collusion in GSE bond trading between 1 January 2009 and 1 January 2016. In December 2019, UBS and eleven other defendants agreed to settle the class action for a total of USD 250 million. The settlement is subject to court approval.

With respect to additional matters and jurisdictions not encompassed by the settlements and orders referred to above, UBS's balance sheet at 31 March 2020 reflected a provision in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which UBS has established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that UBS has recognized.

## 6. Swiss retrocessions

The Federal Supreme Court of Switzerland ruled in 2012, in a test case against UBS, that distribution fees paid to a firm for distributing third-party and intra-group investment funds and structured products must be disclosed and surrendered to clients who have entered into a discretionary mandate agreement with the firm, absent a valid waiver.

FINMA has issued a supervisory note to all Swiss banks in response to the Supreme Court decision. UBS has met the FINMA requirements and has notified all potentially affected clients.

The Supreme Court decision has resulted, and may continue to result, in a number of client requests for UBS to disclose and potentially surrender retrocessions. Client requests are assessed on a case-by-case basis. Considerations taken into account when assessing these cases include, among other things, the existence of a discretionary mandate and whether or not the client documentation contained a valid waiver with respect to distribution fees.

UBS's balance sheet at 31 March 2020 reflected a provision with respect to matters described in this item 6 in an amount that UBS believes to be appropriate under the applicable accounting standard. The ultimate exposure will depend on client requests and the resolution thereof, factors that are difficult to predict and assess. Hence, as in the case of other matters for which UBS has established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that UBS has recognized.

The specific litigation, regulatory and other matters described above under items (1) to (6) include all such matters that management considers to be material and others that management believes to be of significance due to potential financial, reputational and other effects as described in "Note 15a Provisions and contingent liabilities" to the UBS AG's unaudited interim consolidated financial statements included in the UBS AG First Quarter 2020 Report. The proceedings indicated below are matters that have recently been considered material, but are not currently considered material, by UBS. Besides the proceedings described above and below, there are no governmental, legal or arbitration proceedings (including any such proceedings which are pending or threatened, of which UBS AG is aware) that may have, or have had in the recent past, significant effects on UBS AG Group's and/or UBS AG's financial position or profitability and are or have been pending during the last twelve months until the date of this document.

**FIFA investigation:** UBS, and reportedly numerous other financial institutions, received inquiries from authorities concerning accounts relating to the Fédération Internationale de Football Association ("**FIFA**") and other constituent soccer associations and related persons and entities. UBS cooperated with authorities in these inquiries.

**Securities transaction pricing and disclosure:** UBS identified and reported to the relevant authorities instances in which some Global Wealth Management clients booked in Hong Kong and Singapore may have been charged inappropriate spreads on debt securities transactions between 2008 and 2015. In November 2019, UBS AG entered into a settlement with the Hong Kong Securities and Futures Commission (SFC) under which it was reprimanded and fined HKD 400 million (USD 51 million) and a settlement with the Monetary Authority of Singapore (MAS) under which it was fined SGD 11 million (USD 8.3 million). In addition, UBS is reimbursing affected customers an aggregate amount equivalent to USD 47 million, including interest.

## 7.5 Material Contracts

Except as otherwise disclosed in this document (including the documents incorporated herein by reference), no material contracts have been entered into outside of the ordinary course of UBS AG's or UBS AG Group's business, which could result in any member of the UBS AG Group being under an obligation or entitlement that is material to UBS AG's ability to meet its obligations to the investors in relation to the issued securities.

## 7.6 Significant Changes in the Financial or Trading Position and Performance; Material Adverse Change in Prospects

There has been no significant change in the financial or trading position of UBS AG or UBS AG Group since 31 March 2020, which is the end of the last financial period for which financial information has been published.

Except as described in Trend Information with respect to the effects of the COVID-19 pandemic and the efforts to contain it, there has been no material adverse change in the prospects of UBS AG or UBS AG Group since 31 December 2019.

## 8. Share Capital

As reflected in its Articles of Association most recently registered with the Commercial Register of Zurich and the Commercial Register of Basel-City, UBS AG has (i) fully paid and issued share capital of CHF 385,840,846.60, divided into 3,858,408,466 registered shares with a par value of CHF 0.10 each (article 4), and (ii) conditional capital in the amount of CHF 38,000,000, comprising 380,000,000 registered shares with a par value of CHF 0.10 each that can be issued upon the voluntary or mandatory exercise of conversion rights and/or warrants (article 4a).

## 9. Documents Available

- The Annual Report 2019;
- The Standalone Financial Statements 2019;
- The Annual Report 2018;
- The Standalone Financial Statements 2018;
- The UBS Group First Quarter 2020 Report and the UBS AG First Quarter 2020 Report; and
- The most recent Articles of Association of UBS AG,

shall be maintained in printed format, for free distribution, at the offices of the Issuer for a period of twelve months after the publication of this document. In addition, the annual and quarterly reports, as well as quarterly result materials of UBS Group AG and UBS AG are published on UBS's website, at [www.ubs.com/investors](http://www.ubs.com/investors) or a successor address. The Articles of Association of UBS AG are also available on UBS's Corporate Governance website, at [www.ubs.com/governance](http://www.ubs.com/governance).

## TAXATION

*The comments below are of a general nature and are only a summary of the law and practice currently applicable in Singapore as at the date of this document and are subject to any changes in such laws or administrative guidelines, or the interpretation of those laws or guidelines, occurring after such date, which changes could be made on a retrospective basis. The comments relate to the position of persons who are the absolute beneficial owners of the Warrants and may not apply equally to all persons. Neither these statements nor any other statements in this document are to be regarded as advice on the tax position of any holder of the Warrants or of any person acquiring, selling or otherwise dealing with the Warrants or on any tax implications arising from the acquisition, sale or other dealings in respect of the Warrants. The statements made herein do not purport to be a comprehensive or exhaustive description of all the tax considerations that may be relevant to a decision to subscribe for, purchase, own or dispose of the Warrants and do not purport to deal with the tax consequences applicable to all categories of investors, some of which (such as dealers in securities) may be subject to special rules. Prospective holders of the Warrants are advised to consult their own tax advisors as to the Singapore or other tax consequences of the acquisition, ownership of or disposal of the Warrants, including, in particular, the effect of any foreign, state or local tax laws to which they are subject. In particular, this general summary does not consider any specific facts or circumstances that may apply to any particular purchaser. It is emphasised that neither the Issuer nor any other persons involved in the preparation of this document accepts responsibility for any tax effects or liabilities resulting from the subscription for, purchase, holding or disposal of the Warrants.*

### GENERAL

Purchasers and sellers of the Warrants may be required to pay stamp duties, taxes or other charges in accordance with the laws and practice of the country of purchase or sale in addition to the issue price of each Warrant.

### TAXATION IN SINGAPORE

The comments below are of a general nature based on the Issuer's understanding of current Singapore law and practice. They summarise certain aspects of Singapore taxation only which may be applicable to the Warrants but do not purport to be a comprehensive description of all tax considerations which may be relevant to a decision to purchase, hold, transfer or redeem the Warrants.

#### General

Corporate taxpayers who are Singapore tax residents are subject to Singapore income tax on income accrued in or derived from Singapore and, subject to certain exceptions, on foreign-sourced income received or deemed to be received in Singapore from outside Singapore. However, foreign-sourced income in the form of, amongst certain other things, dividends received or deemed to be received in Singapore by Singapore tax residents on or after 1 June 2003 will be exempt from income tax if certain prescribed conditions are met. The conditions for the exemption include that the recipient must receive the foreign-sourced income directly from a jurisdiction with a headline (or highest published) corporate rate of income tax on gains or profits from a trade or business of at least 15 per cent. and the foreign dividend (or the underlying income out of which the dividend was paid) must have been subject to tax in the foreign jurisdiction or been granted a tax holiday for substantive business activities carried out in that foreign jurisdiction.

Certain concessions and clarifications have also been announced by the Inland Revenue Authority of Singapore ("IRAS") with respect to the above conditions.

Individual taxpayers who are Singapore tax residents are subject to Singapore income tax on income accrued in or derived from Singapore. All foreign-sourced income received (except for income received through a partnership in Singapore) in Singapore on or after 1 January 2004 by Singapore tax resident individuals will be exempt from income tax.

Non-resident corporate taxpayers are subject to income tax on income accrued in or derived from Singapore, and on foreign-sourced income received in Singapore, subject to certain exceptions. Non-resident individuals, subject to certain exceptions, are subject to income tax on income accrued in or derived from Singapore.

A company is tax resident in Singapore if the control and management of its business is exercised in Singapore. An individual is tax resident in Singapore in a year of assessment if, in the preceding year, he was physically present in Singapore or exercised an employment in Singapore (other than as a director of a company) for 183 days or more, or if he resides in Singapore.

The rate of tax for Singapore resident individuals is tiered, subject to a maximum rate of 22 per cent. currently.

The corporate tax rate in Singapore is currently 17 per cent. In addition, three-quarters of up to the first S\$10,000 of a company's annual normal chargeable income, and one-half of up to the next S\$190,000 is exempt from corporate tax for each year of assessment ("YA") from YA 2020 onwards. The remaining chargeable income (after the tax exemption) will be fully taxed at the prevailing corporate tax rate.

New companies will, subject to certain conditions and exceptions, be eligible for tax exemption on three-quarters of up to the first S\$100,000 of a company's annual chargeable income, and one-half of up to the next S\$100,000, a year for each of the company's first three YAs from YA 2020 onwards. The remaining chargeable income (after the tax exemption) will be taxed at the applicable corporate tax rate.

### **Dividends Paid by Singapore Tax Resident Companies**

With effect from 1 January 2008, all Singapore-resident companies are under the one-tier corporate tax system ("**one-tier system**"). Under the one-tier system, the tax on corporate profits is final and dividends paid by a Singapore resident company will be tax exempt in Singapore in the hands of a shareholder, regardless of whether the shareholder is a company or an individual and whether or not the shareholder is a Singapore tax resident. Accordingly, under the one-tier system, any dividends declared and paid by a Singapore resident company will not be subject to Singapore tax in the hands of shareholders.

### **Capital Gains**

Singapore imposes a tax on income but does not impose tax on gains which are considered non-income (i.e., gains which are considered to be capital in nature). There are no specific laws or regulations which deal with the characterisation of whether a gain is income or capital. In the case of a trader, gains from transactions in the Warrants, including any gain upon the closing out of cash-settled Warrants, would generally be subject to tax. On the other hand, where a Warrant is acquired otherwise than as part of a trade or business carried on by the holder of the Warrants, any gains made from the acquisition and disposal, exercise or expiry of the Warrant are more likely to be viewed as non-income in nature, and accordingly, such gains from transactions in the Warrants should not be subject to Singapore tax. However, the question of whether a gain is income or capital ultimately remains a matter of fact based on

the personal circumstances of the holder of the Warrants. Holders of the Warrants should therefore consult their own tax advisers if they are in any doubt as to the treatment that would be applicable to them.

### **Income Tax Implications Arising from the Adoption of Financial Reporting Standard (“FRS”) 39, FRS 109 and Singapore Financial Reporting Standard (International) 9 (“SFRS(I) 9”)**

Section 34A of the Income Tax Act, Chapter 134 of Singapore (“**ITA**”) provides for the tax treatment for financial instruments in accordance with FRS 39 (subject to certain exceptions and “opt-out” provisions) to taxpayers who are required to comply with FRS 39 for financial reporting purposes. The IRAS has also issued a circular entitled “Income Tax Implications Arising from the Adoption of FRS 39”.

FRS 109 or SFRS(I) 9 (as the case may be) is mandatorily effective for annual periods beginning on or after 1 January 2018, replacing FRS 39. Section 34AA of the ITA requires taxpayers who comply or who are required to comply with FRS 109 or SFRS(I) 9 for financial reporting purposes to calculate their profit, loss or expense for Singapore income tax purposes in respect of financial instruments in accordance with FRS 109 or SFRS(I) 9 (as the case may be), subject to certain exceptions. The IRAS has also issued a circular entitled “Income Tax: Income Tax Treatment Arising from Adoption of FRS 109 – Financial Instruments”.

Holders of the Warrants in Singapore who apply, or who are required to apply, FRS 39, FRS 109 or SFRS(I) 9 (as the case may be) may be required to recognize gains or losses (not being gains or losses in the nature of capital) for the purposes of Singapore income tax in accordance with the provisions of FRS 39, FRS 109 or SFRS(I) 9 (as the case may be) (as modified by the applicable provisions of Singapore income tax law) even though no sale, exercise or disposal of the Warrants is made.

Purchasers and holders of the Warrants who may be subject to the tax treatment under Sections 34A or 34AA of the ITA should consult their own accounting and tax advisers regarding the Singapore income tax consequences of their acquisition, holding, disposal, exercise, non-exercise or redemption of the Warrants.

### **Goods and Services Tax**

Under the Singapore Goods and Services Tax Act, Chapter 117A of Singapore (“**GST Act**”), the issue, allotment or transfer of ownership of an equity security (i.e., any interest in or right to a share in the capital of a body corporate or any option to acquire any such interest or right) and the renewal or variation of an equity security are exempt supplies not subject to Goods and Services Tax (“**GST**”) under the GST Act. The GST Act does not, however, contain any specific provision relating to the GST treatment of all kinds of warrants (e.g., warrants relating to a basket of securities or an index rather than a particular security or cash-settled warrants). The Issuer is nevertheless of the view that the issue, allotment, transfer of ownership, renewal or variation of such Warrants should in practice not be subject to GST. Notwithstanding the above, holders of the Warrants should consult their own tax advisers if they are in any doubt of the treatment that would be applicable.

### **Stamp Duty**

Singapore stamp duty is not chargeable upon the transfer of any Warrant through the book-entry settlement system of The Central Depository (Pte) Limited.



The above does not purport to be a comprehensive description of all of the tax considerations that may be relevant to the ownership and disposal of the Warrants and the underlying shares, securities or index, and does not consider any specific facts or circumstances that may apply to a particular investor. Investors are therefore urged to consult their tax advisers regarding income and other tax consequences of owning and disposing of the Warrants and the underlying shares, securities or index under Singapore law and under the laws of any other country to which they may be subject.

## SALES RESTRICTIONS

### General

No action has been or will be taken by the Issuer that would permit a public offering of the Warrants or possession or distribution of any offering material in relation to the Warrants in any jurisdiction where action for that purpose is required. No offers, sales or deliveries of any Warrants, or distribution of any offering material relating to the Warrants may be made in or from any jurisdiction except in circumstances which will result in compliance with any applicable laws or regulations and will not impose any obligation on the Issuer. In the event that the Issuer contemplates a placing, placing fees may be payable in connection with the issue and the Issuer may at its discretion allow discounts to placees.

### United Kingdom

In relation to each tranche of Warrants, the Issuer has represented, warranted and agreed that:

(a) No deposit-taking: in relation to any Warrants having a maturity of less than one year:

(i) it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business; and

(ii) it has not offered or sold and will not offer or sell any Warrants other than to persons:

(A) whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of their businesses; or

(B) who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses,

where the issue of the Warrants would otherwise constitute a contravention of section 19 of the Financial Services and Markets Act 2000 (the “**FSMA**”) by the Issuer;

(b) Financial Promotion: it has only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity (within the meaning of section 21 of the FSMA) received by it in connection with the issue or sale of any Warrants in circumstances in which section 21(1) of the FSMA does not or would not, if the Issuer was not an authorised person, apply to the Issuer; and

(c) General Compliance: it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to any Warrants in, from or otherwise involving the United Kingdom.

### United States of America

The Warrants have not been, and will not be, registered under the Securities Act. Subject to certain exceptions, Warrants, or interests therein, may not at any time be offered, sold, resold or delivered, directly or indirectly, in the United States or to, or for the account or benefit of, any U.S. person or to others for offering, sale or resale in the United States or to any such U.S. person. Offers and sales of Warrants, or interests therein, in the United States or to U.S. persons would constitute a violation of United States securities laws unless made in compliance with registration requirements of the Securities Act or pursuant to an exemption therefrom. The Warrants will not be offered, sold or delivered within the United States or to U.S. persons. As used herein, “**United States**” means the United States of America (including the States and the District of Columbia), its territories, its possessions and other areas subject

to its jurisdiction; and **"U.S. person"** means (i) any citizen or resident of the United States, including any corporation, partnership or other entity created or organised in or under the laws of the United States or of any political subdivision thereof, (ii) any estate or trust the income of which is subject to United States income taxation regardless of its source, (iii) "U.S. person" as such term is defined in (a) Regulation S under the Securities Act or (b) the Interpretive Guidance and Policy Statement Regarding Compliance with Certain Swap Regulations promulgated by the U.S. Commodity Futures Trading Commission ("**CFTC**") pursuant to the U.S. Commodity Exchange Act of 1936, as amended, or (iv) a person other than a "Non-United States Person" as defined in CFTC Rule 4.7, in each case, as such definition is amended, modified or supplemented from time to time.

### **Prohibition of Sales to European Economic Area and the United Kingdom Retail Investors**

Unless the applicable Supplemental Listing Document in respect of any Warrants specifies the "Prohibition of Sales to European Economic Area Retail Investors" as "Not Applicable", the Issuer has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Warrants which are the subject of the offering contemplated by this Base Listing Document as completed by the applicable Supplemental Listing Document in relation thereto to any retail investor in the European Economic Area and the United Kingdom. For the purposes of this provision:

(a) the expression "retail investor" means a person who is one (or more) of the following:

(i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "**MiFID II**");

(ii) a customer within the meaning of Directive 2016/97 (as amended), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or

(iii) not a qualified investor as defined in the Prospectus Regulation; and

(b) the expression an "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Warrants to be offered so as to enable an investor to decide to purchase or subscribe the Warrants.

### **PUBLIC OFFER SELLING RESTRICTION UNDER THE PROSPECTUS REGULATION**

If the Supplemental Listing Document in respect of any Warrants specifies "Prohibition of Sales to European Economic Area Retail Investors" as "Not Applicable", in relation to each Member State of the European Economic Area and the United Kingdom (each, a "**Relevant State**"), the Issuer has represented, warranted and agreed that it has not made and will not make an offer of Warrants which are the subject of the offering contemplated by this Base Listing Document as completed by the Supplemental Listing Document in relation thereto to the public in that Relevant State except that it may make an offer of such Warrants to the public in that Relevant State:

(a) Approved listing document: if the Supplemental Listing Document in relation to the Warrants specifies that an offer of those Warrants may be made other than pursuant to Article 1(4) of the Prospectus Regulation in that Relevant State (a "**Non-exempt Offer**"), following the date of publication of a listing document in relation to such Warrants which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the

competent authority in that Relevant State, provided that any such listing document has subsequently been completed by the Supplemental Listing Document contemplating such Non-exempt Offer, in accordance with the Prospectus Regulation, in the period beginning and ending on the dates specified in such listing document or Supplemental Listing Document, as applicable and the Issuer has consented in writing to its use for the purpose of that Non-exempt Offer;

(b) Qualified investors: at any time to any legal entity which is a qualified investor as defined in the Prospectus Regulation;

(c) Fewer than 150 offered: at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation), subject to obtaining the prior consent of the Issuer for any such offer; or

(d) Other exempt offers: at any time in any other circumstances falling within Article 3(2) of the Prospectus Regulation,

provided that no such offer of Warrants referred to in (b) to (d) above shall require the Issuer to publish a listing document pursuant to Article 3 of the Prospectus Regulation or supplement a listing document pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "**offer of Warrants to the public**" in relation to any Warrants in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and the Warrants to be offered so as to enable an investor to decide to purchase or subscribe for the Warrants.

## **Singapore**

This document has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this document and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of Warrants may not be circulated or distributed, nor may Warrants be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than pursuant to, and in accordance with the conditions of, any applicable provision of the Securities and Futures Act, Chapter 289 of Singapore.

## **Hong Kong**

No person, other than a person permitted to do so under the securities laws of Hong Kong, has issued, or had in its possession for the purposes of issue, or will issue, or have in its possession for the purposes of issue any advertisement, invitation or document relating to the Warrants, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong other than with respect to Warrants which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" within the meaning of the Securities and Futures Ordinance (Cap. 571) of the Laws of Hong Kong and any rules made thereunder.

### GENERAL INFORMATION

1. Settlement of trades done on a normal "ready basis" on the SGX-ST generally takes place on the second Business Day following the transaction. Dealing in the Warrants will take place in Board Lots of 100 Warrants in Singapore dollars. For further details on transfer of the Warrants and their exercise, please refer to the Conditions of the Warrants.
2. UBS AG, Singapore Branch at One Raffles Quay, #50-01 North Tower, Singapore 048583, has been authorised to accept, on behalf of the Issuer, service of process and any other notices required to be served on the Issuer. Any notices required to be served on the Issuer should be sent to UBS AG, Singapore Branch at the above address for the attention of Han-Kiat Tan, Legal & Compliance.
3. Under the terms and conditions of the Warrants, holders of the Warrants are required to pay all the charges arising on the delivery of the Shares upon exercise of the Warrants. Please refer to the Conditions of the Warrants.
4. Save as disclosed herein, to the best of the Issuer's knowledge, there is no material legal or arbitration proceedings (including any such proceedings which are pending or threatened of which the Issuer is aware) which may have, or have had in the previous 12 months, a significant effect on the Issuer and its consolidated subsidiaries.
5. Save as disclosed herein, to the best of the Issuer's knowledge, there has been no adverse change, material in the context of the issue of the Warrants, in the financial position of the Issuer since 31 March 2020.
6. Copies of the following documents may be inspected during usual business hours on any weekday (Saturdays, Sundays and holidays excepted) at the office of Allen & Gledhill LLP at One Marina Boulevard #28-00, Singapore 018989, during the period of 14 days from the date of this document:-
  - (a) the annual reports of the Issuer for the financial years ended 31 December 2018 and 2019;
  - (b) the latest publicly available interim report of the Issuer;
  - (c) this base listing document; and
  - (d) the articles of association of the Issuer.

## **APPENDIX 1**

### **EXTRACT OF THE AUDITED CONSOLIDATED FINANCIAL STATEMENTS OF UBS AG AND ITS SUBSIDIARIES FOR THE FULL YEAR ENDED 31 DECEMBER 2019**



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## Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of UBS AG

### Opinion on Internal Control over Financial Reporting

We have audited UBS AG and subsidiaries' internal control over financial reporting as of 31 December 2019, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, UBS AG and subsidiaries ("the Company") maintained, in all material respects, effective internal control over financial reporting as of 31 December 2019, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of 31 December 2019 and 2018, the related consolidated income statements, statements of comprehensive income, statements of changes in equity and statements of cash flows for each of the three years in the period ended 31 December 2019, and the related notes and our report dated 27 February 2020 expressed an unqualified opinion thereon.

### Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

### Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.



Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

*Ernst & Young Ltd*

*Ernst & Young Ltd*

Basel, 27 February 2020





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## Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of UBS AG

### Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of UBS AG and subsidiaries (“the Company”) as of 31 December 2019 and 2018, the related consolidated income statements, statements of comprehensive income, statements of changes in equity and statements of cash flows for each of the three years in the period ended 31 December 2019, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at 31 December 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended 31 December 2019, in conformity with the International Financial Reporting Standards as issued by the International Accounting Standards Board.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of 31 December 2019, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated 27 February 2020 expressed an unqualified opinion thereon.

### Basis for Opinion

These financial statements are the responsibility of the Company’s Board of Directors. Our responsibility is to express an opinion on the Company’s financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

### Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

**Valuation of complex or illiquid instruments at fair value in accordance with IFRS 9 and IFRS 13**

*Description of the Matter* At 31 December 2019, as explained in notes 1-3f and note 24 to the consolidated financial statements, the Company held financial instruments that did not trade in active markets. These instruments are reported within the following accounts: financial assets and liabilities at fair value held for trading, derivative financial instruments, financial assets and liabilities at fair value not held for trading, and debt issued designated at fair value. In determining the fair value of these financial instruments, the Company used valuation techniques, modelling assumptions, and estimates of unobservable market inputs which required complex and significant judgment.

Auditing management's judgments and assumptions used in the estimation of the fair value of complex or illiquid instruments was complex due to the highly judgmental nature of valuation techniques, modelling assumptions and significant unobservable inputs. Judgmental valuation techniques were comprised of discounted cash flow and earnings-based valuation techniques. Judgmental modelling assumptions result from a range of different models or model calibrations used by market participants. Judgmental valuation inputs include volatility, correlation, credit spreads and bond price equivalent inputs to the valuation of certain financial instruments where there is a limited degree of observability, and where there is judgmental extrapolation or interpolation and calibration of curves using limited data points, as well as judgmental use of proxy data points.

*How We Addressed the Matter in Our Audit*

We obtained an understanding, evaluated the design and tested the operating effectiveness of the controls over management's financial instruments valuation processes, including controls over market data inputs into valuation models, model governance, and valuation adjustments.

We tested the valuation techniques, models and methodologies, and the inputs used in those models, as outlined above, by performing an independent revaluation of certain complex or illiquid financial assets and liabilities with the support of a specialist, using independent models and inputs, and comparing inputs to available market data among other procedures.

In addition, we evaluated the methodology and inputs used by management in determining funding and credit fair value adjustments on uncollateralized derivatives and fair value option liabilities.

We also assessed management's disclosures regarding fair value measurement (within notes 1-3f and 24 to the consolidated financial statements).

### **Recognition of deferred tax assets**

*Description of the Matter* At 31 December 2019, the Company's Deferred Tax Assets ("DTA") were USD 9,513 million (see Note 8 to the Company's consolidated financial statements). DTAs are recognized to the extent it is probable that taxable profits will be available, against which, the deductible temporary differences or the carryforward of unused tax losses within the loss carryforward period can be utilized. There is significant judgment exercised when estimating the future taxable income that is not based on the reversal of taxable temporary differences. Management's estimate of future taxable profits is based on the legal entity strategic plans and is sensitive to the assumptions made in estimating future taxable income. Additionally, management supports a portion of the net DTA position with tax planning strategies.

Auditing management's assessment of the realizability of the Company's DTAs was complex due to the highly judgmental nature of estimating future taxable profits over the life of the underlying tax loss carryforwards. Estimating future profitability is inherently subjective and is sensitive to future economic, market and other conditions, which are difficult to predict. Specifically, some of the more subjective macro-economic assumptions used included gross domestic product, equity market performance, and interest rates. Additionally, auditing tax planning strategies requires specific tax knowledge and understanding of the applicable tax laws, which are complex and require judgment in the interpretation of such laws and the related application.

*How We Addressed the Matter in Our Audit*

We evaluated the design and tested the operational effectiveness of management's controls over DTA valuation, which included the assumptions used in developing the legal entity strategic plans, tax planning strategies and estimating future taxable income.

We assessed the completeness and accuracy of the data used for the estimations of future taxable income. This included recalculating the outputs of the models applied to the recognition process for DTAs.

We involved specialists to assist in assessing the key economic assumptions embedded in the legal entity strategic plans. We compared key inputs used to forecast future taxable income to externally available historical and prospective data and assumptions; and assessed the sensitivity of the outcomes using reasonably possible changes in assumptions.

In addition, we assessed the appropriateness and impact of management's tax planning strategies by evaluating whether these strategies were reasonable, available, feasible, and prudent. This evaluation was based on applicable tax laws and an assessment of management's interpretations of such tax laws, our understanding of the Company's business and industry, and the Company's ability to implement the strategies.

We also assessed management's disclosure regarding recognized and unrecognized DTAs (within note 8 to the consolidated financial statements).

### **Legal Provisions & Contingent Liabilities**

*Description of the Matter* At 31 December 2019, the Company's provisions for litigation, regulatory and similar matters (legal provisions) were USD 2,475 million. As explained in note 21 to the consolidated financial statements, the Company operates in a legal and regulatory

environment that is exposed to significant litigation and similar risks arising from disputes and regulatory proceedings. Such matters are subject to many uncertainties and the outcomes may be difficult to predict. These uncertainties inherently affect the amount and timing of potential outflows with respect to the legal provisions which have been established and contingent liabilities.

Auditing management's assessment of legal provisions and contingent liabilities was complex and judgmental due to the significant estimation required to evaluate management's estimate of the probability that an outflow of resources will be required for existing legal matters. In particular, these legal provisions are based on management's estimation of the likelihood of the occurrence of certain scenarios and related impact on the Company's financial position.

*How We  
Addressed the  
Matter in Our  
Audit*

We obtained an understanding, evaluated the design and tested the operational effectiveness of management's controls over the legal provision and contingencies process. Our procedures included testing of management's review of the accuracy of the inputs to the estimation of the likelihood of the occurrence of certain scenarios and related impact on the Company's financial position.

We assessed the methodologies on which the provision amounts were based with the involvement of specialists, recalculated the provisions, and tested the underlying information. We read the legal analyses of the matters supporting the judgmental aspects impacted by legal interpretations. We obtained correspondence directly from external legal counsel to assess the information provided by management and performed inquiries with external counsel as deemed necessary.

We also assessed management's disclosure regarding legal provisions and contingent liabilities (within note 21 to the consolidated financial statements).

**Expected Credit Losses**

*Description of  
the Matter*

At 31 December 2019, the Company's allowances and provisions for expected credit losses ("ECL") was USD 1,029 million. As explained in note 1-3g, note 10 and note 23 to the consolidated financial statements, ECL is recognized for financial assets measured at amortized cost, financial assets measured at Fair Value Through Other Comprehensive Income, fee and lease receivables, financial guarantees and loan commitments. ECL are also recognized on the undrawn portion of revolving revocable credit lines, which include the Company's credit card limits and master credit facilities. The allowance for ECL consists of exposures that are in default which are individually evaluated for impairment (stage 3), as well as losses inherent in the loan portfolio that are not specifically identified (stage 1 and stage 2). Management's estimates for ECL represent the difference between contractual cash flows and those the Company expects to receive, discounted at the effective interest rate. The method used to calculate ECL is based on a combination of the following principal factors: probability of default ("PD"), loss given default ("LGD") and exposure at default ("EAD").

Auditing management's estimate of the allowances and provisions for ECL was complex due to the highly judgmental nature of forward-looking economic scenarios, their probability weightings and the credit risk models used to estimate stage 1 and stage 2 ECL.

*How We  
Addressed the  
Matter in Our  
Audit*

Auditing the measurement of individual ECL for stage 3 was complex due to the high degree of judgment involved in management's process for estimating ECL based on LGD assumptions. These LGD assumptions take into account expected future cash flows from collateral and other credit enhancements or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims.

We obtained an understanding, evaluated the design and tested the operational effectiveness of management's controls over the ECL estimate, including management's choice of, and the probability weighting assigned to, the forward-looking economic scenarios used in measuring ECL. We evaluated management's methodologies and governance controls for developing and monitoring the economic scenarios used and the probability weightings assigned to them. Supported by specialists, we assessed the key macroeconomic variables used in the forward-looking scenarios, such as gross domestic product, unemployment rate, interest rates and house price indexes.

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls, over credit risk models used in the ECL estimate, including controls over the completeness and accuracy of input data for those models, the calculation logic of the models, and the model's output data used in the overall ECL calculation. With the support of specialists, we performed an evaluation of management's models and tested the model outcomes by inspecting model documentation and reperforming model calculations among other procedures.

For the measurement of stage 3, we obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's process, including an evaluation of the assumptions used by management regarding the future cash flows from the debtors' continuing operations and/or the liquidation of collateral. Additionally, we tested collateral valuation, cash flow assumptions and exit strategies, by performing inquiries of management, inspecting underlying documents, such as loan contracts, financial statements, covenants, budgets and business plans, and by re-performing discounted cash flow calculations among other procedures.

We also assessed management's disclosure regarding financial assets at amortized cost and other positions in scope of expected credit loss measurement (note 1-3g, note 10 and note 23 to the consolidated financial statements).

*Ernst & Young Ltd*

Ernst & Young Ltd

We have served as the Company's auditor since 1998.

Basel, 27 February 2020



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To the General Meeting of  
UBS AG, Zurich & Basel

Basel, 27 February 2020

## **Statutory auditor's report on the audit of the consolidated financial statements**

### **Opinion**

We have audited the consolidated financial statements of UBS AG and its subsidiaries (the Group), which comprise the consolidated balance sheets as of 31 December 2019 and 31 December 2018, and the consolidated income statements, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for each of the three years in the period ended 31 December 2019, and notes to the consolidated financial statements, including a summary of significant accounting policies in note 1.

In our opinion, the accompanying consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2019 and 31 December 2018, and the consolidated financial performance and its consolidated cash flows for each of the three years in the period ended 31 December 2019 in accordance with International Financial Reporting Standards (IFRS) and comply with Swiss law.

### **Basis for opinion**

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report.

We are independent of the Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession, as well as the IESBA Code of Ethics for Professional Accountants, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### **Key audit matters**

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's responsibilities for the audit of the consolidated financial statements* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

**Valuation of complex or illiquid instruments at fair value in accordance with IFRS 9 and IFRS 13**

**Area of focus** At 31 December 2019, as explained in notes 1-3f and note 24 to the consolidated financial statements, the Group held financial instruments that did not trade in active markets. These instruments are reported within the following accounts: financial assets and liabilities at fair value held for trading, derivative financial instruments, financial assets and liabilities at fair value not held for trading, and debt issued designated at fair value. In determining the fair value of these financial instruments, the Group used valuation techniques, modelling assumptions, and estimates of unobservable market inputs which required complex and significant judgment.

Auditing management's judgments and assumptions used in the estimation of the fair value of complex or illiquid instruments was complex due to the highly judgmental nature of valuation techniques, modelling assumptions and significant unobservable inputs. Judgmental valuation techniques were comprised of discounted cash flow and earnings-based valuation techniques. Judgmental modelling assumptions result from a range of different models or model calibrations used by market participants. Judgmental valuation inputs include volatility, correlation, credit spreads and bond price equivalent inputs to the valuation of certain financial instruments where there is a limited degree of observability, and where there is judgmental extrapolation or interpolation and calibration of curves using limited data points, as well as judgmental use of proxy data points.

**Our audit response** We obtained an understanding, evaluated the design and tested the operating effectiveness of the controls over management's financial instruments valuation processes, including controls over market data inputs into valuation models, model governance, and valuation adjustments.

We tested the valuation techniques, models and methodologies, and the inputs used in those models, as outlined above, by performing an independent revaluation of certain complex or illiquid financial assets and liabilities with the support of a specialist, using independent models and inputs, and comparing inputs to available market data among other procedures.

In addition, we evaluated the methodology and inputs used by management in determining funding and credit fair value adjustments on uncollateralized derivatives and fair value option liabilities.

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**Our audit  
response**

We evaluated the design and tested the operational effectiveness of management's controls over DTA valuation, which included the assumptions used in developing the legal entity strategic plans, tax planning strategies and estimating future taxable income. We assessed the completeness and accuracy of the data used for the estimations of future taxable income. This included recalculating the outputs of the models applied to the recognition process for DTAs.

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We also assessed management's disclosure regarding recognized and unrecognized DTAs (within note 8 to the consolidated financial statements).

**Legal Provisions & Contingent Liabilities**

**Area of focus**

At 31 December 2019, the Group's provisions for litigation, regulatory and similar matters (legal provisions) were USD 2,475 million. As explained in note 21 to the consolidated financial statements, the Group operates in a legal and regulatory environment that is exposed to significant litigation and similar risks arising from disputes and regulatory proceedings. Such matters are subject to many uncertainties and the outcomes may be difficult to predict. These uncertainties inherently affect the amount and timing of potential outflows with respect to the legal provisions which have been established and contingent liabilities.

Auditing management's assessment of legal provisions and contingent liabilities was complex and judgmental due to the significant estimation required to evaluate management's estimate of the probability that an outflow of resources will be required for existing legal matters. In particular, these legal provisions are based on management's estimation of the likelihood of the occurrence of certain scenarios and related impact on the Group's financial position.



**Our audit  
response**

We obtained an understanding, evaluated the design and tested the operational effectiveness of management's controls over the legal provision and contingencies process. Our procedures included testing of management's review of the accuracy of the inputs to the estimation of the likelihood of the occurrence of certain scenarios and related impact on the Group's financial position.

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**Expected Credit Losses**

**Area of focus**

At 31 December 2019, the Group's allowances and provisions for expected credit losses ("ECL") was USD 1,029 million. As explained in note 1-3g, note 10 and note 23 to the consolidated financial statements, ECL is recognized for financial assets measured at amortized cost, financial assets measured at Fair Value Through Other Comprehensive Income, fee and lease receivables, financial guarantees and loan commitments. ECL are also recognized on the undrawn portion of revolving revocable credit lines, which include the Group's credit card limits and master credit facilities. The allowances and provisions for ECL consists of exposures that are in default which are individually evaluated for impairment (stage 3), as well as losses inherent in the loan portfolio that are not specifically identified (stage 1 and stage 2). Management's estimates for ECL represent the difference between contractual cash flows and those the Group expects to receive, discounted at the effective interest rate. The method used to calculate ECL is based on a combination of the following principal factors: probability of default ("PD"), loss given default ("LGD") and exposure at default ("EAD").

Auditing management's estimate of the allowances and provisions for ECL was complex due to the highly judgmental nature of forward-looking economic scenarios, their probability weightings and the credit risk models used to estimate stage 1 and stage 2 ECL.

Auditing the measurement of individual ECL for stage 3 was complex due to the high degree of judgment involved in management's process for estimating ECL based on LGD assumptions. These LGD assumptions take into account expected future cash flows from collateral and other credit enhancements or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims.

**Our audit  
response**

We obtained an understanding, evaluated the design and tested the operational effectiveness of management's controls over the ECL estimate, including management's choice of, and the probability weighting assigned to, the forward-looking economic scenarios used in measuring ECL. We evaluated management's methodologies and governance controls for developing and monitoring the economic scenarios used and the probability weightings assigned to them. Supported by specialists, we assessed the key macroeconomic variables used in the forward-looking scenarios, such as gross domestic product, unemployment rate, interest rates and house price indexes.

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For the measurement of stage 3, we obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Group's process, including an evaluation of the assumptions used by management regarding the future cash flows from the debtors' continuing operations and/or the liquidation of collateral. Additionally, we tested collateral valuation, cash flow assumptions and exit strategies, by performing inquiries of management, inspecting underlying documents, such as loan contracts, financial statements, covenants, budgets and business plans, and by re-performing discounted cash flow calculations among other procedures.

We also assessed management's disclosure regarding financial assets at amortized cost and other positions in scope of expected credit loss measurement (note 1-3g, note 10 and note 23 to the consolidated financial statements).

#### ***IT access and change management controls relevant to financial reporting***

Area of focus	<p>The Group is highly dependent on its IT systems for business processes and financial reporting. The Group continues to invest in its IT systems to meet client needs and business requirements including the effectiveness of its logical access and change management IT controls.</p> <p>Auditing management's IT controls relevant to access and change management was complex as the Group is a multi-location organization and has a significant number of IT systems and applications relevant to financial reporting.</p>
Our audit response	<p>In assessing the reliability of electronic data processing, we included IT auditors as part of our audit team. Our audit procedures focused on the IT infrastructure and applications relevant to financial reporting included obtaining an understanding and evaluating the design and testing of the operating effectiveness of key IT access management, change management, IT operations, and IT automated controls.</p> <p>Our audit procedures related to logical access included tests of user access management, privileged user access, periodic access right recertifications, and user authentication controls. Our audit procedures related to IT change management included tests of management's program change test approach, approval of change requests, as well as segregation of duties.</p>

#### **Other information in the annual report**

The Board of Directors is responsible for the other information in the annual report. The other information comprises all information included in the annual report, but does not include the consolidated financial statements, the stand-alone financial statements of UBS AG, the compensation report (pages 284-285), disclosures denoted with an "audited" signpost, and our auditor's reports thereon.

Our opinions on the consolidated financial statements, the standalone financial statements of UBS AG and the compensation report do not cover the other information in the annual report and we do not express any form of assurance conclusion thereon other than the disclosures denoted with an audited "signpost".

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information in the annual report and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

#### **Responsibility of the Board of Directors for the consolidated financial statements**

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

#### **Auditor's responsibilities for the audit of the consolidated financial statements**

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

A further description of our responsibilities for the audit of the consolidated financial statements is located at the website of EXPERTsuisse: <http://www.expertsuisse.ch/en/audit-report-for-public-companies>. This description forms part of our auditor's report.

#### **Report on other legal and regulatory requirements**

In accordance with article 728a para. 1 item 3 CO and the Swiss Auditing Standard 890, we confirm that an internal control system exists, which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

Ernst & Young Ltd



Marie-Laure Delarue  
Licensed audit expert  
(Auditor in charge)



Ira S. Fitlin  
Certified Public Accountant (U.S.)

# UBS AG consolidated financial statements

## Primary financial statements

Audited I

### Income statement

USD million	Note	For the year ended		
		31.12.19	31.12.18	31.12.17
Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3	10,703	10,121	10,437
Interest expense from financial instruments measured at amortized cost	3	(7,303)	(6,494)	(5,468)
Interest income from financial instruments measured at fair value through profit or loss	3	4,718	4,666	2,281
Interest expense from financial instruments measured at fair value through profit or loss	3	(3,703)	(3,322)	(1,228)
Net interest income	3	4,415	4,971	6,021
Other net income from financial instruments measured at fair value through profit or loss	3	6,833	6,953	5,640
Credit loss (expense) / recovery	23	(78)	(117)	(131)
Fee and commission income	4	19,156	19,632	19,390
Fee and commission expense	4	(1,696)	(1,703)	(1,840)
Net fee and commission income	4	17,460	17,930	17,550
Other income	5	677	905	965
Total operating income		29,307	30,642	30,044
Personnel expenses	6	13,801	13,992	14,952
General and administrative expenses	7	8,586	10,075	9,001
Depreciation and impairment of property, equipment and software	15	1,576	1,052	945
Amortization and impairment of goodwill and intangible assets	16	175	65	71
Total operating expenses		24,138	25,184	24,969
Operating profit / (loss) before tax		5,169	5,458	5,076
Tax expense / (benefit)	8	1,198	1,345	4,242
Net profit / (loss)		3,971	4,113	834
Net profit / (loss) attributable to preferred noteholders		0	0	73
Net profit / (loss) attributable to non-controlling interests		6	7	4
<b>Net profit / (loss) attributable to shareholders</b>		<b>3,965</b>	<b>4,107</b>	<b>758</b>

## Statement of comprehensive income

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
<b>Comprehensive income attributable to shareholders</b>			
Net profit / (loss)	3,965	4,107	758
<b>Other comprehensive income that may be reclassified to the income statement</b>			
<b>Foreign currency translation</b>			
Foreign currency translation movements related to net assets of foreign operations, before tax	199	(701)	1,553
Effective portion of changes in fair value of hedging instruments designated as net investment hedges, before tax	(144)	181	(55)
Foreign currency translation differences on foreign operations reclassified to the income statement	52	4	32
Effective portion of changes in fair value of hedging instruments designated as net investment hedges reclassified to the income statement	(14)	2	(6)
Income tax relating to foreign currency translations, including the effect of net investment hedges	(1)	(2)	(2)
Subtotal foreign currency translation, net of tax	92	(515)	1,522
<b>Financial assets measured at fair value through other comprehensive income</b>			
Net unrealized gains / (losses), before tax	189	(56)	96
Impairment charges reclassified to the income statement from equity	0	0	15
Realized gains reclassified to the income statement from equity	(33)	0	(209)
Realized losses reclassified to the income statement from equity	2	0	14
Income tax relating to net unrealized gains / (losses)	(41)	12	(6)
Subtotal financial assets measured at fair value through other comprehensive income, net of tax	117	(45)	(91)
<b>Cash flow hedges of interest rate risk</b>			
Effective portion of changes in fair value of derivative instruments designated as cash flow hedges, before tax	1,571	(42)	45
Net (gains) / losses reclassified to the income statement from equity	(175)	(294)	(843)
Income tax relating to cash flow hedges	(253)	67	163
Subtotal cash flow hedges, net of tax	1,143	(269)	(635)
<b>Total other comprehensive income that may be reclassified to the income statement, net of tax</b>	<b>1,351</b>	<b>(829)</b>	<b>797</b>
<b>Other comprehensive income that will not be reclassified to the income statement</b>			
<b>Defined benefit plans</b>			
Gains / (losses) on defined benefit plans, before tax	(129)	(70)	308
Income tax relating to defined benefit plans	(41)	245	6
Subtotal defined benefit plans, net of tax	(170)	175	314
<b>Own credit on financial liabilities designated at fair value</b>			
Gains / (losses) from own credit on financial liabilities designated at fair value, before tax	(400)	517	(315)
Income tax relating to own credit on financial liabilities designated at fair value	8	(8)	(2)
Subtotal own credit on financial liabilities designated at fair value, net of tax	(392)	509	(317)
<b>Total other comprehensive income that will not be reclassified to the income statement, net of tax</b>	<b>(562)</b>	<b>684</b>	<b>(3)</b>
<b>Total other comprehensive income</b>	<b>789</b>	<b>(145)</b>	<b>794</b>
<b>Total comprehensive income attributable to shareholders</b>	<b>4,754</b>	<b>3,961</b>	<b>1,552</b>

Table continues on the next page.

## Statement of comprehensive income (continued)

Table continued from previous page.

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
<b>Comprehensive income attributable to preferred noteholders</b>			
Net profit / (loss)	0	0	73
<b>Other comprehensive income that will not be reclassified to the income statement</b>			
Foreign currency translation movements, before tax	0	0	247
Income tax relating to foreign currency translation movements	0	0	0
Subtotal foreign currency translation, net of tax	0	0	247
Total other comprehensive income that will not be reclassified to the income statement, net of tax	0	0	247
Total comprehensive income attributable to preferred noteholders	0	0	320
<b>Comprehensive income attributable to non-controlling interests</b>			
Net profit / (loss)	6	7	4
<b>Other comprehensive income that will not be reclassified to the income statement</b>			
Foreign currency translation movements, before tax	(4)	(1)	2
Income tax relating to foreign currency translation movements	0	0	0
Subtotal foreign currency translation, net of tax	(4)	(1)	2
Total other comprehensive income that will not be reclassified to the income statement, net of tax	(4)	(1)	2
Total comprehensive income attributable to non-controlling interests	2	5	6
<b>Total comprehensive income</b>			
Net profit / (loss)	3,971	4,113	834
Other comprehensive income	785	(147)	1,044
of which: other comprehensive income that may be reclassified to the income statement	1,351	(829)	797
of which: other comprehensive income that will not be reclassified to the income statement	(566)	682	247
Total comprehensive income	4,756	3,967	1,878

## Balance sheet

USD million	Note	31.12.19	31.12.18
<b>Assets</b>			
Cash and balances at central banks		107,068	108,370
Loans and advances to banks	10	12,379	16,642
Receivables from securities financing transactions	10, 25	84,245	95,349
Cash collateral receivables on derivative instruments	10, 25	23,289	23,603
Loans and advances to customers	10	327,992	321,482
Other financial assets measured at amortized cost	10, 17a	23,012	22,637
<b>Total financial assets measured at amortized cost</b>		<b>577,985</b>	<b>588,084</b>
Financial assets at fair value held for trading	12, 24	127,695	104,513
<i>of which: assets pledged as collateral that may be sold or repledged by counterparties</i>		<i>41,285</i>	<i>32,121</i>
Derivative financial instruments	11, 24, 25	121,843	126,212
Brokerage receivables	24	18,007	16,840
Financial assets at fair value not held for trading	13, 24	83,636	82,387
<b>Total financial assets measured at fair value through profit or loss</b>		<b>351,181</b>	<b>329,953</b>
<b>Financial assets measured at fair value through other comprehensive income</b>	14, 24	<b>6,345</b>	<b>6,667</b>
Investments in associates	31b	1,051	1,099
Property, equipment and software	15	11,826	8,479
Goodwill and intangible assets	16	6,469	6,647
Deferred tax assets	8	9,513	10,066
Other non-financial assets	17b	7,547	7,062
<b>Total assets</b>		<b>971,916</b>	<b>958,055</b>
<b>Liabilities</b>			
Amounts due to banks	18	6,570	10,962
Payables from securities financing transactions	25	7,778	10,296
Cash collateral payables on derivative instruments	25	31,416	28,906
Customer deposits	18a	450,591	421,986
Funding from UBS Group AG and its subsidiaries	18b	47,866	41,202
Debt issued measured at amortized cost	20	62,835	91,245
Other financial liabilities measured at amortized cost	22a	10,373	7,576
<b>Total financial liabilities measured at amortized cost</b>		<b>617,429</b>	<b>612,174</b>
Financial liabilities at fair value held for trading	12, 24	30,591	28,949
Derivative financial instruments	11, 24, 25	120,880	125,723
Brokerage payables designated at fair value	24	37,233	38,420
Debt issued designated at fair value	19, 24	66,592	57,031
Other financial liabilities designated at fair value	22b, 24	36,157	33,594
<b>Total financial liabilities measured at fair value through profit or loss</b>		<b>291,452</b>	<b>283,717</b>
Provisions	21a	2,938	3,457
Other non-financial liabilities	22c	6,168	6,275
<b>Total liabilities</b>		<b>917,988</b>	<b>905,624</b>
<b>Equity</b>			
Share capital		338	338
Share premium		24,659	24,655
Retained earnings		23,451	23,317
Other comprehensive income recognized directly in equity, net of tax		5,306	3,946
<b>Equity attributable to shareholders</b>		<b>53,754</b>	<b>52,256</b>
Equity attributable to non-controlling interests		174	176
<b>Total equity</b>		<b>53,928</b>	<b>52,432</b>
<b>Total liabilities and equity</b>		<b>971,916</b>	<b>958,055</b>

## Statement of changes in equity

<i>USD million</i>	Share capital	Share premium	Retained earnings
<b>Balance as of 1 January 2017</b>	<b>338</b>	<b>27,154</b>	<b>21,480</b>
Issuance of share capital			
Premium on shares issued and warrants exercised		6	
Tax (expense) / benefit		16	
Dividends		(2,219)	
Preferred notes			
Translation effects recognized directly in retained earnings			(46)
New consolidations / (deconsolidations) and other increases / (decreases)		(324)	
Total comprehensive income for the year			755
<i>of which: net profit / (loss)</i>			758
<i>of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax</i>			
<i>of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans</i>			314
<i>of which: OCI that will not be reclassified to the income statement, net of tax – own credit</i>			(317)
<i>of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation</i>			
<b>Balance as of 31 December 2017</b>	<b>338</b>	<b>24,633</b>	<b>22,189</b>
Effect of adoption of IFRS 9			(518)
Effect of adoption of IFRS 15			(25)
<b>Balance as of 1 January 2018 after the adoption of IFRS 9 and IFRS 15</b>	<b>338</b>	<b>24,633</b>	<b>21,646</b>
Issuance of share capital			
Premium on shares issued and warrants exercised		34	
Tax (expense) / benefit		(5)	
Dividends			(3,098)
Translation effects recognized directly in retained earnings			(21)
New consolidations / (deconsolidations) and other increases / (decreases)		(7)	
Total comprehensive income for the year			4,790
<i>of which: net profit / (loss)</i>			4,107
<i>of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax</i>			
<i>of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans</i>			175
<i>of which: OCI that will not be reclassified to the income statement, net of tax – own credit</i>			509
<i>of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation</i>			
<b>Balance as of 31 December 2018</b>	<b>338</b>	<b>24,655</b>	<b>23,317</b>



Other comprehensive income recognized directly in equity, net of tax <sup>1</sup>	<i>of which: foreign currency translation</i>	<i>of which: at fair value through other comprehensive income</i>	<i>of which: cash flow hedges</i>	Total equity attributable to shareholders	Preferred noteholders	Non-controlling interests	Total equity
<b>3,985</b>	<b>2,933</b>	<b>96</b>	<b>955</b>	<b>52,957</b>	<b>631</b>	<b>39</b>	<b>53,627</b>
				0			0
				6			6
				16			16
				(2,219)	(73)	(4)	(2,297)
				0	(878)		(878)
46		7	39	0			0
				(324)		18	(306)
797	1,522	(91)	(635)	1,552	320	6	1,878
				758	73	4	834
797	1,522	(91)	(635)	797			797
				314			314
				(317)			(317)
				0	247	2	250
<b>4,828</b>	<b>4,455</b>	<b>13</b>	<b>360</b>	<b>51,987</b>	<b>0</b>	<b>59</b>	<b>52,046</b>
(74)		(74)		(591)			(591)
				(25)			(25)
<b>4,754</b>	<b>4,455</b>	<b>(61)</b>	<b>360</b>	<b>51,370</b>	<b>0</b>	<b>59</b>	<b>51,429</b>
				0			0
				34			34
				(5)			(5)
				(3,098)		(10)	(3,108)
21		3	18	0			0
				(7)		122	115
(829)	(515)	(45)	(269)	3,961	0	5	3,967
				4,107		7	4,113
(829)	(515)	(45)	(269)	(829)			(829)
				175			175
				509			509
				0		(1)	(1)
<b>3,946</b>	<b>3,940</b>	<b>(103)</b>	<b>109</b>	<b>52,256</b>	<b>0</b>	<b>176</b>	<b>52,432</b>

## Statement of changes in equity (continued)

<i>USD million</i>	Share capital	Share premium	Retained earnings
<b>Balance as of 31 December 2018</b>	<b>338</b>	<b>24,655</b>	<b>23,317</b>
Effect of adoption of IFRIC 23			(11)
<b>Balance as of 1 January 2019 after the adoption of IFRIC 23</b>	<b>338</b>	<b>24,655</b>	<b>23,306</b>
Issuance of share capital			
Premium on shares issued and warrants exercised		0	
Tax (expense) / benefit		11	
Dividends			(3,250)
Translation effects recognized directly in retained earnings			(9)
New consolidations / (deconsolidations) and other increases / (decreases)		(7)	
Total comprehensive income for the year			3,403
<i>of which: net profit / (loss)</i>			3,965
<i>of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax</i>			
<i>of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans</i>			(170)
<i>of which: OCI that will not be reclassified to the income statement, net of tax – own credit</i>			(392)
<i>of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation</i>			
<b>Balance as of 31 December 2019</b>	<b>338</b>	<b>24,659</b>	<b>23,451</b>

<sup>1</sup> Excludes defined benefit plans and own credit that are recorded directly in Retained earnings.

Other comprehensive income recognized directly in equity, net of tax <sup>1</sup>	<i>of which: foreign currency translation</i>	<i>of which: at fair value through other comprehensive income</i>	<i>of which: cash flow hedges</i>	Total equity attributable to shareholders	Preferred noteholders	Non-controlling interests	Total equity
3,946	3,940	(103)	109	52,256	0	176	52,432
				(11)			(11)
3,946	3,940	(103)	109	52,245	0	176	52,421
				0			0
				0			0
				11			11
				(3,250)		(8)	(3,258)
9		0	9	0			0
				(7)		5	(3)
1,351	92	117	1,143	4,754	0	2	4,756
				3,965		6	3,971
1,351	92	117	1,143	1,351			1,351
				(170)			(170)
				(392)			(392)
				0		(4)	(4)
5,306	4,032	14	1,260	53,754	0	174	53,928

### **UBS AG shares issued**

As of 31 December 2019, shares issued by UBS AG totaled 3,858,408,466 (31 December 2018: 3,858,408,466 shares) and were entirely held by UBS Group AG.

### **Authorized share capital**

UBS AG had no authorized capital available to issue on 31 December 2019.

### **Conditional share capital**

Conditional capital up to a maximum of CHF 38,000,000, represented by up to 380,000,000 fully paid registered shares with a nominal value of CHF 0.10 each, was available as of 31 December 2019 for conversion rights and warrants granted in connection with the issuance of bonds or similar financial instruments.

## Statement of cash flows

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
<b>Cash flow from / (used in) operating activities</b>			
Net profit / (loss)	3,971	4,113	834
<b>Non-cash items included in net profit and other adjustments:</b>			
Depreciation and impairment of property, equipment and software	1,576	1,052	945
Impairment of goodwill	110	0	0
Amortization and impairment of intangible assets	65	65	71
Credit loss expense / (recovery)	78	117	131
Share of net profits of associates / joint ventures and impairment of associates	(45)	(528)	(69)
Deferred tax expense / (benefit)	460	374	3,398
Net loss / (gain) from investing activities	220	(49)	(198)
Net loss / (gain) from financing activities	6,506	(4,829)	2,763
Other net adjustments	862	(1,092)	(1,077)
<b>Net change in operating assets and liabilities:</b>			
Loans and advances to banks / amounts due to banks	(4,336)	3,504	(3,236)
Securities financing transactions	8,678	(11,230)	(111)
Cash collateral on derivative instruments	2,842	(1,449)	(2,454)
Loans and advances to customers	(3,205)	(4,152)	(15,661)
Customer deposits	23,399	7,931	(12,073)
Financial assets and liabilities at fair value held for trading and derivative financial instruments	(18,873)	11,093	(23,560)
Brokerage receivables and payables	(2,347)	11,432	
Financial assets at fair value not held for trading, other financial assets and liabilities	126	10,902	(1,801)
Provisions, other non-financial assets and liabilities	(537)	1,377	(29)
Income taxes paid, net of refunds	(741)	(888)	(1,021)
<b>Net cash flow from / (used in) operating activities</b>	<b>18,805</b>	<b>27,744</b>	<b>(53,147)</b>
<b>Cash flow from / (used in) investing activities</b>			
Purchase of subsidiaries, associates and intangible assets	(26)	(287)	(106)
Disposal of subsidiaries, associates and intangible assets <sup>1</sup>	114	137	339
Purchase of property, equipment and software	(1,401)	(1,473)	(1,532)
Disposal of property, equipment and software	11	114	210
Purchase of financial assets measured at fair value through other comprehensive income	(3,424)	(1,999)	(8,626)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	3,913	1,361	15,250
Net (purchase) / redemption of debt securities measured at amortized cost	(562)	(3,770)	
Net (purchase) / redemption of financial assets held to maturity			(91)
<b>Net cash flow from / (used in) investing activities</b>	<b>(1,374)</b>	<b>(5,918)</b>	<b>5,444</b>

Table continues on the next page.

## Statement of cash flows (continued)

Table continued from previous page.

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
<b>Cash flow from / (used in) financing activities</b>			
Net short-term debt issued / (repaid)	(17,149)	(12,245)	24,500
Distributions paid on UBS shares	(3,250)	(3,098)	(2,219)
Repayment of lease liabilities <sup>2</sup>	(496)		
Issuance of long-term debt, including debt issued designated at fair value	59,199	54,726	40,270
Repayment of long-term debt, including debt issued designated at fair value	(68,883)	(44,344)	(45,187)
Funding from UBS Group AG and its subsidiaries	5,848	5,956	11,180
Dividends paid and repayments of preferred notes			(782)
Net changes in non-controlling interests	(8)	(31)	(5)
<b>Net cash flow from / (used in) financing activities</b>	<b>(24,738)</b>	<b>963</b>	<b>27,758</b>
<b>Total cash flow</b>			
<b>Cash and cash equivalents at the beginning of the year</b>	<b>125,853</b>	<b>104,787</b>	<b>118,984</b>
Net cash flow from / (used in) operating, investing and financing activities	(7,307)	22,789	(19,944)
Effects of exchange rate differences on cash and cash equivalents	1,258	(1,722)	5,749
<b>Cash and cash equivalents at the end of the year<sup>3</sup></b>	<b>119,804</b>	<b>125,853</b>	<b>104,787</b>
of which: cash and balances at central banks <sup>4</sup>	106,957	108,268	89,968
of which: loans and advances to banks	11,317	15,452	12,726
of which: money market paper <sup>5</sup>	1,530	2,133	2,093
<b>Additional information</b>			
Net cash flow from / (used in) operating activities includes:			
Interest received in cash <sup>6</sup>	15,344	14,666	12,721
Interest paid in cash <sup>6</sup>	10,800	9,372	6,748
Dividends on equity investments, investment funds and associates received in cash <sup>7</sup>	3,145	2,322	1,828

<sup>1</sup> Includes dividends received from associates. <sup>2</sup> Upon adoption of IFRS 16 on 1 January 2019, cash payments for the principal portion of the lease liability previously classified within operating activities have been reclassified to financing activities. <sup>3</sup> USD 3,192 million, USD 5,245 million and USD 2,497 million of cash and cash equivalents (mainly reflected in Loans and advances to banks) were restricted as of 31 December 2019, 31 December 2018 and 31 December 2017, respectively. Refer to "Note 26 Restricted and transferred financial assets" in the "Consolidated financial statements" section of the Annual Report 2019 for more information. <sup>4</sup> Includes only balances with an original maturity of three months or less. <sup>5</sup> Money market paper is included in the balance sheet under Financial assets at fair value held for trading (31 December 2019: USD 235 million; 31 December 2018: USD 366 million; 31 December 2017: USD 135 million), Financial assets measured at fair value through other comprehensive income (31 December 2019: USD 24 million; 31 December 2018: USD 8 million; 31 December 2017: USD 17 million), Financial assets at fair value not held for trading (31 December 2019: USD 920 million; 31 December 2018: USD 1,556 million; 31 December 2017: USD 1,941 million) and Other financial assets measured at amortized cost (31 December 2019: USD 351 million; 31 December 2018: USD 204 million; 31 December 2017: USD 0 million). <sup>6</sup> Interest received and paid in cash was restated to represent the total of interest on financial instruments measured at amortized cost / fair value through other comprehensive income (31 December 2018: USD 10,013 million interest received and USD 6,549 million interest paid and 31 December 2017: USD 10,469 million interest received and USD 5,485 million interest paid) and interest on financial instruments measured at fair value through profit or loss (31 December 2018: USD 4,653 million interest received and USD 2,823 million interest paid and 31 December 2017: USD 2,252 million interest received and USD 1,264 million interest paid). <sup>7</sup> Includes dividends received from associates reported within Net cash flow from / (used in) investing activities.

## Changes in liabilities arising from financing activities

<i>USD million</i>	Debt issued measured at amortized cost	<i>of which:</i> <i>short-term</i>	<i>of which:</i> <i>long-term</i>	Debt issued designated at fair value	Over-the- counter (OTC) debt instruments <sup>2</sup>	Funding from UBS Group AG and its subsidiaries <sup>3</sup>	Total
<b>Balance as of 1 January 2018</b>	107,458	52,270	55,187	50,782	4,428	35,648	198,316
Cash flows	(13,358)	(12,245)	(1,113)	13,332	(1,838)	5,956	4,092
Non-cash changes	(2,855)	(1,000)	(1,854)	(7,083)	(140)	(402)	(10,481)
<i>of which: foreign currency translation</i>	(2,624)	(1,000)	(1,623)	309	(59)	(289)	(2,663)
<i>of which: fair value changes</i>				(7,392)	(82)	0	(7,475)
<i>of which: other</i>	(231)	0	(231) <sup>1</sup>	0	0	(113) <sup>1</sup>	(344)
<b>Balance as of 31 December 2018</b>	91,245	39,025	52,220	57,031	2,450	41,202	191,928
Cash flows	(28,355)	(17,149)	(11,206)	1,947	(425)	5,848	(20,985)
Non-cash changes	(55)	(39)	(16)	7,614	(3)	1,033	8,588
<i>of which: foreign currency translation</i>	(346)	(39)	(307)	210	(6)	(128)	(270)
<i>of which: fair value changes</i>				7,404	3	17	7,424
<i>of which: other</i>	291	0	291 <sup>1</sup>	0	0	1,144 <sup>1</sup>	1,434
<b>Balance as of 31 December 2019</b>	<b>62,835</b>	<b>21,837</b>	<b>40,998</b>	<b>66,592</b>	<b>2,022</b>	<b>48,083</b>	<b>179,531</b>

<sup>1</sup> Includes the effect of fair value hedges on long-term debt. Refer to Note 1a item j and Note 20 for more information. <sup>2</sup> Included in balance sheet line Other financial liabilities designated at fair value.

<sup>3</sup> Includes funding from UBS Group AG and its subsidiaries measured at amortized cost (refer to Note 18b Funding from UBS Group AG and its subsidiaries) and measured at fair value (refer to Note 22b Other financial liabilities designated at fair value).

# Notes to the UBS AG consolidated financial statements

## Note 1 Summary of significant accounting policies

The following table provides an overview of information included in this Note.

<b>511</b>	<b>a) Significant accounting policies</b>	<b>533</b>	4) Fee and commission income and expenses
<b>511</b>	Basis of accounting	<b>535</b>	5) Cash and cash equivalents
<b>511</b>	1) Consolidation	<b>535</b>	6) Share-based and other deferred compensation plans
<b>511</b>	a. Consolidation principles	<b>535</b>	7) Pension and other post-employment benefit plans
<b>512</b>	b. Structured entities	<b>536</b>	8) Income taxes
<b>513</b>	2) Segment reporting	<b>537</b>	9) Investments, in associates
<b>514</b>	3) Financial instruments	<b>537</b>	10) Property, equipment and software
<b>514</b>	a. Recognition	<b>538</b>	11) Goodwill and intangible assets
<b>514</b>	b. Classification, measurement and presentation	<b>538</b>	12) Provisions and contingent liabilities
<b>521</b>	c. Interest income and expense	<b>539</b>	13) Foreign currency translation
<b>521</b>	d. Derecognition	<b>540</b>	14) Non-controlling interests and preferred noteholders
<b>522</b>	e. Securities borrowing / lending and repurchase / reverse repurchase transactions	<b>541</b>	15) Leasing
<b>522</b>	f. Fair value of financial instruments	<b>542</b>	<b>b) Changes in accounting policies, comparability and other adjustments</b>
<b>523</b>	g. Allowances and provisions for expected credit losses		
<b>529</b>	h. Restructured and modified financial assets	<b>545</b>	<b>c) International Financial Reporting Standards and Interpretations to be adopted in 2020 and later and other changes</b>
<b>530</b>	i. Offsetting		
<b>530</b>	j. Hedge accounting		
<b>531</b>	k. Embedded derivatives in financial liabilities		
<b>531</b>	l. Financial liabilities		
<b>532</b>	m. Own credit		
<b>532</b>	n. Loan commitments		
<b>532</b>	o. Financial guarantee contracts		
<b>533</b>	p. Other net income from financial instruments measured at fair value through profit or loss		

## Accounting policies applicable to prior periods

The accounting policies described in Note 1a have been applied consistently in 2019, 2018 and 2017 unless otherwise stated in Note 1b. Exceptions include IFRS 9, *Financial Instruments* (effective from 1 January 2018), IFRS 15, *Revenue from Contracts with Customers* (effective from 1 January 2018), and IFRS 16, *Leases* (effective from 1 January 2019).

Within Note 1a, policies applied in 2018 and 2017, or only in 2017 that differ from those applied to the financial year ended 31 December 2019 are identified with a **Comparative policy** signpost. A triangle symbol – ▲ – indicates the end of these comparative policy sections.



## Note 1 Summary of significant accounting policies (continued)

### a) Significant accounting policies

This Note describes the significant accounting policies applied in the preparation of the consolidated financial statements (the Financial Statements) of UBS AG and its subsidiaries (UBS AG). On 27 February 2020, the Financial Statements were authorized for issue by the Board of Directors.

#### Basis of accounting

The Financial Statements have been prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB), and are presented in US dollars (USD), which is also the functional currency of: UBS AG's Head Office; UBS AG, London Branch; and UBS AG's US-based operations.

Disclosures provided in the "Risk, treasury and capital management" section of this report that are marked as audited form an integral part of the Financial Statements. These disclosures relate to requirements under IFRS 7, *Financial Instruments: Disclosures*, and IAS 1, *Presentation of Financial Statements*, and are not repeated in this section.

The accounting policies described in this Note have been applied consistently in 2019, 2018 and 2017 unless otherwise stated in Note 1b. Exceptions include IFRS 9, *Financial Instruments* (effective from 1 January 2018), IFRS 15, *Revenue from Contracts with Customers* (effective from 1 January 2018), and IFRS 16, *Leases* (effective from 1 January 2019). Within this Note, policies applied in 2018 and 2017 or only in 2017 that differ from those applied to the financial year ended 31 December 2019 are identified as "Comparative policy."

#### Critical accounting estimates and judgments

Preparation of these Financial Statements under IFRS requires management to apply judgment and make estimates and assumptions that affect reported amounts of assets, liabilities, income and expenses and disclosure of contingent assets and liabilities, and may involve significant uncertainty at the time they are made. Such estimates and assumptions are based on the best available information. UBS AG regularly reassesses the estimates and assumptions, which encompass historical experience, expectations of the future and other pertinent factors, to determine their continuing relevance based on current conditions, updating them as necessary. Changes in those estimates and assumptions may have a significant effect on the Financial Statements. Furthermore, actual results may differ significantly from UBS AG's estimates, which could result in significant losses to UBS AG, beyond what was anticipated or provided for.

The following areas contain estimation uncertainty or require critical judgment and have a significant effect on the amounts recognized in the Financial Statements:

- fair value measurement (refer to item 3f in this Note and to Note 24);
- expected credit loss measurement (refer to item 3g in this Note and to Note 23);
- assessment of the business model and certain contractual features when classifying financial instruments (refer to item 3b in this Note);
- pension and other post-employment benefit plans (refer to item 7 in this Note and to Note 29);
- income taxes (refer to item 8 in this Note and to Note 8);
- goodwill (refer to item 11 in this Note and to Note 16);
- provisions and contingent liabilities (refer to item 12 in this Note and to Note 21);
- consolidation of structured entities (refer to item 1 in this Note and to Note 31); and
- determination of the functional currency and assessing the earliest date from which it is practical to perform a restatement following a change in presentational currency for the year ended 31 December 2018 (refer to item 13 in this Note).

### 1) Consolidation

#### a. Consolidation principles

The Financial Statements comprise the financial statements of UBS AG and its subsidiaries, presented as a single economic entity, whereby intercompany transactions and balances have been eliminated. UBS AG consolidates all entities that it controls, including controlled structured entities (SEs), which is the case when it has: (i) power over the relevant activities of the entity; (ii) exposure to an entity's variable returns; and (iii) the ability to use its power to affect its own returns.

Where an entity is governed by voting rights, control is generally indicated by a direct shareholding of more than one-half of the voting rights.

## Note 1 Summary of significant accounting policies (continued)

In other cases, the assessment of control is more complex and requires greater use of judgment. Where UBS AG has an interest in an entity that exposes it to variability, UBS AG considers whether it has power over the relevant activities of the entity that allows it to affect the variability of its returns. Consideration is given to all facts and circumstances to determine whether UBS AG has power over another entity, i.e., the current ability to direct the relevant activities of an entity when decisions about those activities need to be made. Factors such as the purpose and design of the entity, rights held through contractual arrangements (such as call rights, put rights or liquidation rights) as well as potential decision-making rights are all considered in this assessment. Where UBS AG has power over the relevant activities, a further assessment is made to determine whether, through that power, it has the ability to affect its own returns by assessing whether power is held in a principal or agent capacity. Consideration is given to: (i) the scope of decision-making authority; (ii) rights held by other parties, including removal or other participating rights; and (iii) exposure to variability, including remuneration, relative to total variability of the entity, as well as whether that exposure is different from that of other investors. If, after reviewing these factors, UBS AG concludes that it can exercise its power to affect its own returns, the entity is consolidated.

Subsidiaries, including SEs, are consolidated from the date when control is obtained and are deconsolidated from the date when control ceases. Control, or the lack thereof, is reassessed if facts and circumstances indicate that there is a change to one or more of the elements required to establish that control is present.

→ Refer to Note 31 for more information

### b. Structured entities

UBS AG sponsors the formation of SEs and interacts with non-sponsored SEs for a variety of reasons, including allowing clients to obtain or be exposed to particular risk profiles, to provide funding or to sell or purchase credit risk. An SE is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity. Such entities generally have a narrow and well-defined objective and include those historically referred to as special-purpose entities, as well as some investment funds. UBS AG assesses whether an entity is an SE by considering the nature of the activities of the entity as well as the substance of voting or similar rights afforded to other parties, including investors and independent boards or directors. UBS AG considers rights such as the ability to liquidate the entity or remove the decision maker to be similar to voting rights when the holder has the substantive ability to exercise such rights without cause. In the absence of such rights or in cases where the existence of such rights cannot be fully established, the entity is considered to be an SE.

The classes of SEs with which UBS AG is involved include the following:

- *Securitization structured entities* are established to issue securities to investors that are backed by assets held by the SE and whereby (i) significant credit risk associated with the securitized exposures has been transferred to third parties and (ii) there is more than one risk position or tranche issued by the securitization vehicle in line with the Basel III securitization definition. All securitization entities are classified as SEs.
- *Client investment structured entities* are established predominantly for clients to invest in specific assets or risk exposures through purchasing notes issued by the SE, predominantly on a fixed-term basis. The SE may source assets via a transfer from UBS AG or through an external market transaction. In some cases, UBS AG may enter into derivatives with the SE to either align the cash flows of the entity with the investor's intended investment objective or to introduce other desired risk exposures. In certain cases, UBS AG may have interests in a third-party-sponsored SE to hedge specific risks or participate in asset-backed financing.
- *Investment fund structured entities* have a collective investment objective, are managed by an investment manager and are either passively managed, so that any decision making does not have a substantive effect on variability, or are actively managed, and investors or their governing bodies do not have substantive voting or similar rights. UBS AG creates and sponsors a large number of funds in which it may have an interest through the receipt of variable management fees and/or a direct investment. In addition, UBS AG has interests in a number of funds created and sponsored by third parties, including exchange-traded funds and hedge funds, to hedge issued structured products.

When UBS AG does not consolidate an SE, but has an interest in an SE or has sponsored an SE, disclosures are provided on the nature of these interests and sponsorship activities.

#### Critical accounting estimates and judgments

Each individual entity is assessed for consolidation in line with the aforementioned consolidation principles. The assessment of control can be complex and requires the use of significant judgment. As the nature and extent of UBS AG's involvement are unique to each entity, there is no uniform consolidation outcome by entity. Certain entities within a class may be consolidated while others may not. When carrying out the consolidation assessment, judgment is exercised considering all the relevant facts and circumstances, including the nature and activities of the investee, as well as the substance of voting and similar rights.

→ Refer to Note 31 for more information

## Note 1 Summary of significant accounting policies (continued)

### 2) Segment reporting

UBS AG's businesses are organized globally into four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank. All four business divisions are supported by Corporate Center and qualify as reportable segments for the purpose of segment reporting. Together with Corporate Center, the four business divisions reflect the management structure of the Group. Financial information about the four business divisions and Corporate Center is presented separately in internal management reports.

Prior to 2018, UBS AG's businesses were organized globally into five business divisions: Wealth Management, Wealth Management Americas, Personal & Corporate Banking, Asset Management and the Investment Bank, all of which were supported by Corporate Center. The five business divisions qualified as reportable segments for the purpose of segment reporting and, together with Corporate Center, reflected the management structure of the Group. Corporate Center – Non-core and Legacy Portfolio was managed and reported as a separate reportable unit within Corporate Center. Financial information about the five business divisions and Corporate Center was presented separately in internal management reports.

Effective from 2018, UBS AG combined its Wealth Management and Wealth Management Americas business divisions into a single Global Wealth Management business division. Global Wealth Management is managed on an integrated basis, with a single set of performance targets and an integrated operating plan and management structure. Consistent with this, the operating results of Global Wealth Management are presented and assessed on an integrated basis in internal management reports. Consequently, from 2018, Global Wealth Management qualifies as an operating and reportable segment for the purposes of segment reporting and is presented in these Financial Statements alongside Personal & Corporate Banking, Asset Management, the Investment Bank

and Corporate Center. Following the change in the composition of UBS AG's operating segments and corresponding reportable segments, previously reported segment information has been restated. This change had no material effect on the former segments, including recognized goodwill.

→ Refer to item 11 in this Note and Note 16 for more information

Effective from 2019, UBS AG has operationally combined Group Treasury activities with Group Asset and Liability Management (Group ALM) and calls this combined unit Group Treasury. In addition, UBS AG provides results for total Corporate Center only and does not separately report Corporate Center – Services, Group Treasury and Non-core and Legacy Portfolio due to the substantial reduction in the size and resource consumption of these units. Prior-period information has been restated.

UBS AG's internal accounting policies, which include management accounting policies and service level agreements, determine the revenues and expenses directly attributable to each reportable segment. Transactions between the reportable segments are carried out at internally agreed rates and are reflected in the operating results of the reportable segments. Revenue-sharing agreements are used to allocate external client revenues to reportable segments where several reportable segments are involved in the value creation chain. Commissions are credited to the reportable segments based on the corresponding client relationship. Total intersegment revenues for UBS AG are immaterial, as the majority of the revenues are allocated across the segments by means of revenue-sharing agreements. Interest income earned from managing UBS AG's consolidated equity is allocated to the reportable segments based on average attributed tangible equity and currency composition. Assets and liabilities of the reportable segments are funded through and invested with Corporate Center, and the net interest margin is reflected in the results of each reportable segment.

## Note 1 Summary of significant accounting policies (continued)

Segment assets are based on a third-party view and do not include intercompany balances. This view is in line with internal reporting to management. Certain assets managed centrally by Corporate Center may be allocated to other segments on a basis different to that on which the corresponding costs or revenues are allocated. For example, certain assets are reported on the balance sheet of Corporate Center, notwithstanding that the costs or revenues associated with these assets may be entirely or partly allocated to the operating segments. Similarly, certain assets are reported in the business divisions, whereas the corresponding costs or revenues are entirely or partly allocated to Corporate Center.

Non-current assets disclosed for segment reporting purposes represent assets that are expected to be recovered more than 12 months after the reporting date, excluding financial instruments, deferred tax assets and post-employment benefits.

→ Refer to Notes 1b and 2 for more information

### 3) Financial instruments

#### a. Recognition

UBS AG recognizes financial instruments when it becomes a party to the contractual provisions of the instrument. UBS AG applies settlement date accounting to all regular way purchases and sales of non-derivative financial instruments.

In transactions in which UBS AG acts as a transferee, to the extent that the transfer of a financial asset does not qualify for derecognition by the transferor, UBS AG does not recognize the transferred instrument as its asset.

UBS AG also acts in a fiduciary capacity, which results in the holding or placing of assets on behalf of individuals, trusts, retirement benefit plans and other institutions. Unless these items meet the definition of an asset and the recognition criteria are satisfied, such assets are not recognized on UBS AG's balance sheet. Consequently, the related income is excluded from these Financial Statements.

Client cash balances associated with derivatives clearing and execution services are not recognized on the balance sheet if, through contractual agreement, regulation or practice, UBS AG neither obtains benefits from nor controls the client cash balances.

#### b. Classification, measurement and presentation

All financial instruments are on initial recognition measured at fair value. In the case of financial instruments subsequently measured at amortized cost or fair value through other comprehensive income (FVOCI), the initial fair value is adjusted for directly attributable transaction costs.

#### *Policy applicable from 1 January 2018<sup>1</sup>*

On initial recognition, financial assets are classified as measured at amortized cost, FVOCI or fair value through profit or loss (FVTPL).

A debt instrument is measured at amortized cost if it meets both of the following conditions:

- it is held within a business model that has an objective to hold financial assets to collect contractual cash flows; and
- the contractual terms of the financial asset result in cash flows that are solely payments of principal and interest (SPPI) on the principal amount outstanding.

A debt instrument is measured at FVOCI if it meets both of the following conditions:

- it is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and
- the contractual terms of the financial asset result in cash flows that are SPPI on the principal amount outstanding.

All other financial assets are measured at FVTPL and consist of held for trading assets, assets mandatorily measured on a fair value basis and derivatives, except to the extent that they are designated in a hedging relationship, in which case the IAS 39 hedge accounting requirements continue to apply.

#### *Business model assessment*

UBS AG determines the nature of the business model, for example if the objective is to hold the financial asset and collect the contractual cash flows, by considering the way in which the financial assets are managed to achieve a particular business objective as determined by management.

Financial assets that are held for trading or managed on a fair value basis are measured at FVTPL insofar as the associated business model is neither to hold the financial assets to collect contractual cash flows nor to hold to collect contractual cash flows and sell.

UBS AG originates loans to hold to maturity and to sell or sub-participate to other parties, resulting in a transfer of substantially all the risks and rewards, and derecognition of the loan or portions of it. UBS AG considers the activities of lending to hold and lending to sell or sub-participate as two separate business models, with financial assets within the former considered to be within a business model that has an objective of holding assets to collect contractual cash flows, and those within the latter included in a trading portfolio. In certain cases, it may not be possible on origination to identify whether loans or portions of loans will be sold or sub-participated and certain loans may be managed on a fair value basis through, for instance, using credit derivatives. These financial assets are mandatorily measured at FVTPL.

<sup>1</sup> The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 9.

## Note 1 Summary of significant accounting policies (continued)

### Critical accounting estimates and judgments

UBS AG exercises judgment in determining the appropriate level at which to assess its business models. In general, the assessment is performed at the product level, e.g., retail and commercial mortgages. In other cases, the assessment is carried out at a more granular level, e.g., loan portfolios by region, and, if required, further disaggregation is performed by business strategy. A detailed assessment is carried out considering how the financial assets are evaluated and reported to UBS AG's key management, the risks that affect the performance of the business and the way that management is compensated. In addition, UBS AG exercises judgment in determining the effect of sales of financial instruments on the business model assessment. In particular, an assessment is made on whether and the extent to which sales are consistent with the objective of the business model.

### *Contractual cash flow characteristics*

In assessing whether the contractual cash flows are SPPI, UBS AG considers whether the contractual terms of the financial asset contain a term that could change the timing or amount of contractual cash flows arising over the life of the instrument, which could affect whether the instrument is considered to meet the SPPI criterion.

For example, UBS AG holds portfolios of private mortgage contracts and corporate loans in Personal & Corporate Banking that commonly contain clauses that provide for two-way compensation if prepayment occurs. The amount of compensation paid by or to UBS AG reflects the effect of changes in market interest rates. UBS AG has determined that the inclusion of the change in market interest rates in the compensation amount is reasonable for the early termination of the contract, and therefore results in contractual cash flows that are SPPI.

### Critical accounting estimates and judgments

UBS AG applies judgment when considering whether certain contractual features, such as interest rate reset frequency or non-recourse features, significantly affect future cash flows and whether compensation paid or received on early termination of lending arrangements results in cash flows that are not SPPI. A thorough analysis of all relevant facts and circumstances is assessed before concluding whether contractual cash flows of the financial instrument are consistent with payments representing principal and interest.

After initial recognition, UBS AG classifies, measures and presents its financial assets and liabilities in accordance with IFRS 9, as described in the table on the following pages.

## Note 1 Summary of significant accounting policies (continued)

### Classification, measurement and presentation of financial assets from 1 January 2018

Financial assets Classification	Significant items included	Measurement and presentation
<b>Measured at amortized cost</b>	<p>This classification includes:</p> <ul style="list-style-type: none"> <li>– cash and balances at central banks;</li> <li>– loans and advances to banks;</li> <li>– cash collateral receivables on securities borrowed;</li> <li>– receivables on reverse repurchase agreements;</li> <li>– cash collateral receivables on derivative instruments;</li> <li>– residential and commercial mortgages;</li> <li>– corporate loans;</li> <li>– secured loans, including Lombard loans, and unsecured loans;</li> <li>– loans to financial advisors; and</li> <li>– debt securities held as high-quality liquid assets (HQLA).</li> </ul>	<p>Measured at amortized cost using the effective interest rate (EIR) method less allowances for expected credit losses (ECL) (refer to items 3c and 3g in this Note for more information).</p> <p>The following items are recognized in the income statement:</p> <ul style="list-style-type: none"> <li>– interest income, which is accounted for in accordance with item 3c in this Note;</li> <li>– ECL and reversals; and</li> <li>– foreign exchange translation gains and losses.</li> </ul> <p>Upfront fees and direct costs relating to loan origination, refinancing or restructuring as well as to loan commitments – when it is probable that UBS AG will enter into a specific lending relationship – are deferred and amortized over the life of the loan using the EIR method.</p> <p>When the financial asset at amortized cost is derecognized, the gain or loss is recognized in the income statement.</p> <p>Amounts arising from exchange-traded derivatives (ETD) and certain over-the-counter (OTC) derivatives cleared through central clearing counterparties that are either considered to be daily settled or in substance net settled on a daily basis (refer to items 3d and 3i in this Note) are presented within <i>Cash collateral receivables on derivative instruments</i>.</p>
<b>Measured at FVOCI</b>	Debt instruments measured at FVOCI	<p>This classification primarily includes debt securities and certain asset-backed securities held as HQLA.</p> <p>Measured at fair value with unrealized gains and losses reported in <i>Other comprehensive income</i>, net of applicable income taxes, until such investments are derecognized (when sold, collected or otherwise disposed). Upon derecognition, any accumulated balances in <i>Other comprehensive income</i> are reclassified to the income statement and reported within <i>Other income</i>.</p> <p>The following items are recognized in the income statement:</p> <ul style="list-style-type: none"> <li>– interest income, which is accounted for in accordance with item 3c in this Note;</li> <li>– ECL and reversals; and</li> <li>– foreign exchange translation gains and losses.</li> </ul> <p>The amounts recognized in the income statement are determined on the same basis as for financial assets measured at amortized cost.</p>

## Note 1 Summary of significant accounting policies (continued)

### Classification, measurement and presentation of financial assets from 1 January 2018 (continued)

Financial assets Classification		Significant items included	Measurement and presentation
Measured at FVTPL	Held for trading	<p>Financial assets held for trading include:</p> <ul style="list-style-type: none"> <li>– all derivatives with a positive replacement value, except those that are designated and effective hedging instruments; and</li> <li>– other financial assets acquired principally for the purpose of selling or repurchasing in the near term, or that are part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking. Included in this category are debt instruments (including those in the form of securities, money market paper, and traded corporate and bank loans) and equity instruments.</li> </ul>	<p>Measured at fair value with changes recognized in profit or loss.</p> <p>Changes in fair value, initial transaction costs, dividends and gains and losses realized on disposal or redemption are recognized in <i>Other net income from financial instruments measured at fair value through profit or loss</i>, except interest income on instruments other than derivatives (refer to item 3c in this Note and Note 1b for more information), interest on derivatives designated as hedging instruments in certain types of hedge accounting relationships and forward points on certain short- and long-duration foreign exchange contracts, which are reported in <i>Net interest income</i>.</p>
	Mandatorily measured at FVTPL – Other	<p>A financial asset is mandatorily measured at FVTPL if:</p> <ul style="list-style-type: none"> <li>– it is not held in a business model whose objective is to hold assets to collect contractual cash flows or to hold them to collect contractual cash flows and sell; and/or</li> <li>– the contractual terms give rise to cash flows that are not SPPI; and/or</li> <li>– it is not held for trading.</li> </ul> <p>The following financial assets are mandatorily measured at FVTPL:</p> <ul style="list-style-type: none"> <li>– certain structured loans, certain commercial loans, receivables under reverse repurchase and cash collateral on securities borrowing agreements that are managed on a fair value basis;</li> <li>– loans managed on a fair value basis and hedged with credit derivatives;</li> <li>– certain debt securities held as HQLA and managed on a fair value basis;</li> <li>– certain investment fund holdings and assets held to hedge delivery obligations related to cash-settled employee compensation plans – these assets represent holdings in investment funds, whereby the contractual cash flows do not meet the SPPI criterion because the entry and exit price is based on the fair value of the fund's assets;</li> <li>– brokerage receivables, for which contractual cash flows do not meet the SPPI criterion because the aggregate balance is accounted for as a single unit of account, with interest being calculated on the individual components;</li> <li>– auction rate securities, for which contractual cash flows do not meet the SPPI criterion because interest may be reset at rates that contain leverage;</li> <li>– equity instruments; and</li> <li>– assets held under unit-linked investment contracts.</li> </ul>	<p>Derivative assets (including derivatives that are designated and effective hedging instruments) are generally presented as <i>Derivative financial instruments</i>, except those exchange-traded and OTC-cleared derivatives that are considered to be settled on a daily basis or in substance net settled on a daily basis, which are presented within <i>Cash collateral receivables on derivative instruments</i>.</p> <p>The presentation of fair value changes on derivatives that are designated and effective hedging instruments depends on the type of hedge relationship (refer to item 3j in this Note for more information).</p> <p>Financial assets held for trading (other than derivatives) are presented as <i>Financial assets at fair value held for trading</i>.</p> <p>Other financial assets mandatorily measured at fair value through profit or loss are presented as <i>Financial assets at fair value not held for trading</i>, except for brokerage receivables, which are presented as a separate line item on UBS AG's balance sheet.</p>



## Note 1 Summary of significant accounting policies (continued)

### Classification, measurement and presentation of financial liabilities

Financial liabilities Classification		Significant items included	Measurement and presentation
Measured at amortized cost		<p>This classification includes:</p> <ul style="list-style-type: none"><li>– demand and time deposits;</li><li>– retail savings / deposits;</li><li>– amounts payable under repurchase agreements;</li><li>– cash collateral on securities lent;</li><li>– non-structured fixed-rate bonds;</li><li>– subordinated debt;</li><li>– certificates of deposit and covered bonds;</li><li>– obligations against funding from UBS Group AG and its subsidiaries ; and</li><li>– cash collateral payables on derivative instruments.</li></ul>	<p>Measured at amortized cost using the EIR method.</p> <p>Upfront fees and direct costs relating to the issuance or origination of the liability are deferred and amortized over the life of the liability using the EIR method.</p> <p>When the financial liability at amortized cost is derecognized, the gain or loss is recognized in the income statement.</p> <p>Amortized cost liabilities are presented on the balance sheet primarily as <i>Amounts due to banks, Customer deposits, Payables from securities financing transactions, Debt issued measured at amortized cost and Funding from UBS Group AG and its subsidiaries</i>.</p> <p>Amounts arising from ETD and certain OTC derivatives cleared through central clearing counterparties that are either considered to be daily settled or in substance net settled on a daily basis (refer to items 3d and 3i in this Note for more information) are presented within <i>Cash collateral payables on derivative instruments</i>.</p>
Measured at fair value through profit or loss	Held for trading	<p>Financial liabilities held for trading include:</p> <ul style="list-style-type: none"><li>– all derivatives with a negative replacement value (including certain loan commitments), except those that are designated and effective hedging instruments; and</li><li>– obligations to deliver financial instruments, such as debt and equity instruments, that UBS AG has sold to third parties, but does not own (short positions).</li></ul>	<p>Measurement of financial liabilities classified at FVTPL follows the same principles as for financial assets classified at FVTPL, except that the amount of change in the fair value of the financial liability that is attributable to changes in UBS AG’s own credit risk is presented in OCI.</p> <p>Financial liabilities measured at FVTPL are presented as <i>Financial liabilities at fair value held for trading</i> and <i>Other financial liabilities designated at fair value</i>, respectively, except for brokerage payables and debt issued, which are presented separately on UBS AG’s balance sheet.</p>
	Designated at FVTPL	<p>UBS AG designates at FVTPL the following financial liabilities:</p> <ul style="list-style-type: none"><li>– issued hybrid debt instruments that primarily include equity-linked, credit-linked and rates-linked bonds or notes;</li><li>– issued debt instruments managed on a fair value basis;</li><li>– certain payables under repurchase agreements and cash collateral on securities lending agreements that are managed in conjunction with associated reverse repurchase agreements and cash collateral on securities borrowed (from 1 January 2018);</li><li>– amounts due under unit-linked investment contracts whose cash flows are linked to financial assets measured at FVTPL and eliminate an accounting mismatch (from 1 January 2018); and</li><li>– brokerage payables, which arise in conjunction with brokerage receivables and are measured at FVTPL to achieve measurement consistency (from 1 January 2018).</li></ul>	<p>Derivative liabilities (including derivatives that are designated and effective hedging instruments) are generally presented as <i>Derivative financial instruments</i>, except those exchange-traded and OTC-cleared derivatives that are considered to be settled on a daily basis or in substance net settled on a daily basis, which are presented within <i>Cash collateral payables on derivative instruments</i>.</p> <p>Bifurcated embedded derivatives are measured at fair value, but are presented on the same balance sheet line as the host contract measured at amortized cost.</p> <p>Derivatives that are designated and effective hedging instruments are also measured at fair value. The presentation of fair value changes differs depending on the type of hedge relationship (refer to item 3j in this Note for more information).</p>



## Note 1 Summary of significant accounting policies (continued)

### Comparative policy | Policy applicable prior to 1 January 2018

Prior to 1 January 2018, on initial recognition, UBS AG classified, measured and presented its financial assets and liabilities in accordance with IAS 39, *Financial Instruments: Recognition and Measurement*. Classification, measurement and presentation requirements in respect of financial liabilities have been

substantially retained by IFRS 9 and are detailed in the "Classification, measurement and presentation of financial instruments from 1 January 2018" table. The following table sets out details of classification, measurement and presentation of financial assets prior to 1 January 2018.

### Classification, measurement and presentation of financial assets prior to 1 January 2018

Financial assets Classification	Significant items included	Measurement and presentation <sup>1</sup>
<b>Held for trading</b>	<p>Financial assets held for trading include:</p> <ul style="list-style-type: none"> <li>– all derivatives with a positive replacement value, except those that are designated and effective hedging instruments; and</li> <li>– any other financial asset acquired principally for the purpose of selling or repurchasing in the near term, or part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking. Included in this category are debt instruments (including those in the form of securities, money market paper and traded corporate and bank loans), equity instruments, and assets held under unit-linked investment contracts.</li> </ul>	<p>Measured at fair value with changes recognized in profit or loss.</p> <p>Changes in fair value, initial transaction costs and gains and losses realized on disposal or redemption are recognized in <i>Other net income from financial instruments measured at fair value through profit or loss</i> (prior to 1 January 2019: <i>Other net income from fair value changes on financial instruments</i>), except interest and dividend income on instruments other than derivatives (refer to item 3c in this Note), interest on derivatives designated as hedging instruments in certain types of hedge accounting relationships and forward points on certain short duration foreign exchange contracts, which are reported in <i>Net interest income</i>.</p>
<b>Designated at fair value through profit or loss</b>	<p>A financial asset may be designated at fair value through profit or loss only upon initial recognition and this designation is irrevocable.</p> <p>The fair value option can be applied only if one of the following criteria is met:</p> <ul style="list-style-type: none"> <li>– the financial instrument is a hybrid instrument that includes a substantive embedded derivative;</li> <li>– the financial instrument is part of a portfolio that is risk managed on a fair value basis and reported to senior management on that basis; or</li> <li>– the application of the fair value option eliminates or significantly reduces an accounting mismatch that would otherwise arise.</li> </ul> <p>UBS AG designated at fair value through profit or loss the following financial assets:</p> <ul style="list-style-type: none"> <li>– certain structured loans, reverse repurchase and securities borrowing agreements that are managed on a fair value basis;</li> <li>– loans that are hedged predominantly with credit derivatives – these instruments are designated at fair value to eliminate an accounting mismatch;</li> <li>– certain debt securities held as high-quality liquid assets (HQLA) and managed by Corporate Center – Group Treasury on a fair value basis; and</li> <li>– assets held to hedge delivery obligations related to cash-settled employee compensation plans – these assets are designated at fair value in order to eliminate an accounting mismatch that would otherwise arise as a result of the liability being measured on a fair value basis.</li> </ul>	<p>Derivative assets are generally presented as <i>Derivative financial instruments</i>.</p> <p>Bifurcated embedded derivatives are measured at fair value, but presented on the same balance sheet line as the host contract measured at amortized cost.</p> <p>The presentation of fair value changes on derivatives that are designated and effective hedging instruments differs depending on the type of hedge relationship (refer to item 3j in this Note for more information).</p> <p>Financial assets held for trading (other than derivatives) are presented as <i>Financial assets at fair value held for trading</i>.</p> <p>Financial assets designated at fair value through profit or loss are presented as <i>Financial assets at fair value not held for trading</i>.</p>

<sup>1</sup> Presentation categories in this table reflect retrospective amendments to UBS AG's balance sheet presentation carried out upon transition to IFRS 9 to facilitate comparability.

## Note 1 Summary of significant accounting policies (continued)

### Classification, measurement and presentation of financial assets prior to 1 January 2018 (continued)

Financial assets Classification	Significant items included	Measurement and presentation
<b>Loans and receivables (amortized cost)</b>	<p>Non-derivative financial assets with fixed or determinable payments that are not quoted in an active market and are not assets for which UBS AG may not recover substantially all of its initial net investment for reasons other than credit deterioration. This classification includes:</p> <ul style="list-style-type: none"> <li>– cash and balances with central banks;</li> <li>– cash collateral receivables on derivative instruments;</li> <li>– residential and commercial mortgages;</li> <li>– secured loans, including reverse repurchase agreements, receivables under stock borrowing and Lombard loans, and unsecured loans;</li> <li>– certain securities held within Corporate Center – Non-core and Legacy Portfolio; and</li> <li>– trade and lease receivables.</li> </ul>	<p>Measured at amortized cost using the effective interest rate method less allowances for credit losses (refer to items 3c and 3g in this Note).</p> <p>Upfront fees and direct costs relating to loan origination, refinancing or restructuring as well as to loan commitments are deferred and amortized over the life of the loan using the effective interest rate method.</p> <p>Loans and receivables are presented on the balance sheet primarily as <i>Cash and balances with central banks</i>, <i>Loans and advances to banks</i>, <i>Loans and advances to customers</i>, <i>Receivables from securities financing transactions</i> and <i>Cash collateral receivables on derivative instruments</i>.</p> <p>Amounts arising from exchange-traded derivatives (ETD) and certain over-the-counter (OTC) derivatives cleared through central clearing counterparties that are either considered to be daily settled or qualify for offsetting (refer to items 3d and 3i in this Note) are presented within <i>Cash collateral receivables on derivative instruments</i>.</p>
<b>Available for sale</b>	<p>Financial assets classified as available for sale are non-derivative financial assets that are not classified as held for trading, designated at fair value through profit or loss, or loans and receivables. This classification mainly includes debt securities held as HQLA and managed by Corporate Center – Group Treasury, certain asset-backed securities managed by Corporate Center – Group Treasury, investment fund holdings and strategic and commercial equity investments.</p>	<p>Measured at fair value with unrealized gains and losses reported in <i>Other comprehensive income</i>, net of applicable income taxes, until such investments are sold, collected or otherwise disposed of, or until any such investment is determined to be impaired (refer to item 3g in this Note). Upon disposal, any accumulated balances in <i>Other comprehensive income</i> are reclassified to the income statement and reported within <i>Other income</i>.</p> <p>Interest and dividend income are recognized in the income statement in accordance with item 3c in this Note. Refer to item 13 in this Note for information about the treatment of foreign exchange translation gains and losses.</p>
<b>Held to maturity</b>	<p>Non-derivative financial assets with fixed or determinable payments and fixed maturities for which UBS AG has the positive intention and ability to hold to maturity.</p> <p>This classification mainly includes debt securities held as HQLA and managed by Corporate Center – Group Treasury.</p>	<p>Measured at amortized cost using the effective interest rate method less allowances for credit losses (refer to items 3c and 3g in this Note).</p>

## Note 1 Summary of significant accounting policies (continued)

### c. Interest income and expense

Interest income and expense are recognized in the income statement applying the effective interest rate (EIR) method. When calculating the EIR for financial instruments (other than credit-impaired financial instruments), UBS AG estimates future cash flows considering all contractual terms of the instrument, but not expected credit losses.

In determining interest income and expense, the EIR is applied to the gross carrying amount of the financial asset (unless the asset is credit-impaired) or the amortized cost of a financial liability (prior to 1 January 2018: the amortized cost of a financial asset or financial liability). However, when a financial asset becomes credit-impaired after initial recognition, interest income is determined by applying the EIR to the amortized cost of the instrument, which represents the gross carrying amount adjusted for any credit loss allowance. Furthermore, for financial assets that were credit-impaired on initial recognition, interest is determined by applying a credit-adjusted EIR to the amortized cost of the instrument.

Upfront fees, including loan commitment fees where a loan is expected to be issued, and direct costs are included within the initial measurement of a financial instrument measured at amortized cost or FVOCI (prior to 1 January 2018: the financial asset classified as available for sale). Such fees and costs are therefore recognized over the expected life of the instrument as part of its EIR.

Fees related to loan commitments where no loan is expected to be issued, as well as loan syndication fees where UBS AG does not retain a portion of the syndicated loan or where UBS AG does retain a portion of the syndicated loan at the same effective yield for comparable risk as other participants, are included in *Net fee and commission income*.

→ Refer to item 4 in this Note for more information

### Presentation of interest in the income statement

Effective from 1 January 2018, interest income or expense on financial instruments measured at amortized cost and financial assets measured at FVOCI (prior to 1 January 2018: financial assets classified as available for sale) are presented separately within *Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income* and *Interest expense from financial instruments measured at amortized cost*.

UBS AG also presents interest income and expense on financial instruments (excluding derivatives) measured at FVTPL including forward points on certain short- and long-duration foreign exchange contracts separately in *Interest income* (or *Interest expense*) *from financial instruments measured at fair value through profit or loss*. Furthermore, interest income and expense on derivatives designated as hedging instruments in effective hedge relationships are presented consistently with the interest income and expense of the respective hedged item.

Interest income on financial assets, excluding derivatives, is included in interest income when positive and in *Interest expense* when negative, because negative interest income arising on a financial asset does not meet the definition of revenue. Similarly, interest expense on financial liabilities, excluding derivatives, is included in interest expense, except when interest rates are negative, in which case it is included in interest income.

→ Refer to item 3j in this Note and Note 3 for more information

### d. Derecognition

#### Financial assets

UBS AG derecognizes a financial asset, or a portion of a financial asset, from its balance sheet when the contractual rights to cash flows from the asset have expired, or have been transferred, usually by sale, thus exposing the purchaser to either substantially all the risks and rewards of the asset or a significant part of the risks and rewards combined with a practical ability to sell or pledge the asset.

A financial asset is considered to have been transferred when UBS AG: (i) transfers the contractual rights to receive the cash flows of the financial asset; or (ii) retains the contractual rights to receive the cash flows of that asset, but assumes a contractual obligation to pay the cash flows to one or more entities.

Where financial assets have been pledged as collateral or in similar arrangements, they are considered to have been transferred if the counterparty has received the contractual right to the cash flows of the pledged assets, as may be evidenced, for example, by the counterparty's right to sell or repledge the assets. Where the counterparty to the pledged financial assets has not received the contractual right to the cash flows, UBS AG does not consider this to be a transfer for the purposes of derecognition.

## Note 1 Summary of significant accounting policies (continued)

In transactions where substantially all of the risks and rewards of ownership of a financial asset are neither retained nor transferred, UBS AG derecognizes the financial asset if control over the asset is surrendered, and the rights and obligations retained following the transfer are recognized separately as assets and liabilities, respectively. In transfers where control over the financial asset is retained, UBS AG continues to recognize the asset to the extent of its continuing involvement, determined by the extent to which it is exposed to changes in the value of the transferred asset following the transfer.

Certain over-the-counter (OTC) derivative contracts and most exchange-traded futures and option contracts cleared through central clearing counterparties and exchanges are considered to be settled on a daily basis through the daily margining process, as the payment or receipt of the variation margin represents legal or economic settlement of a derivative contract, which results in derecognition of the associated positive and negative replacement values.

→ Refer to item 3h of this Note and Note 25 for more information

### Financial liabilities

UBS AG derecognizes a financial liability from its balance sheet when it is extinguished; i.e., when the obligation specified in the contract is discharged, canceled or expires. When an existing financial liability is exchanged for a new one from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification results in derecognition of the original liability and the recognition of a new liability with any difference in the respective carrying amounts being recognized in the income statement.

#### e. Securities borrowing / lending and repurchase / reverse repurchase transactions

Securities borrowing / lending and repurchase / reverse repurchase transactions are generally entered into on a collateralized basis. In such transactions, UBS AG typically borrows or lends equity and debt securities in exchange for securities or cash collateral.

These transactions are treated as collateralized financing transactions where the securities transferred / received are not derecognized or recognized on the balance sheet. Securities transferred / received with the right to resell or repledge are disclosed separately.

In reverse repurchase and securities borrowing agreements, the cash delivered is derecognized and a corresponding receivable, including accrued interest, is recorded in the balance sheet line *Receivables from securities financing transactions*, representing UBS AG's right to receive the cash. Similarly, in repurchase and securities lending agreements, the cash received is recognized and a corresponding obligation, including accrued interest, is recorded in *Payables from securities financing transactions*. Additionally, the sale of securities that is settled by delivering securities received in reverse repurchase or securities borrowing transactions triggers the recognition of a trading liability.

Repurchase and reverse repurchase transactions with the same counterparty, maturity, currency and central securities depository are generally presented net, subject to meeting the offsetting requirements described in item 3i of this Note.

→ Refer to Notes 26 and 25 for more information

#### f. Fair value of financial instruments

UBS AG accounts for a significant portion of its assets and liabilities at fair value. Fair value is the price on the measurement date that would be received for the sale of an asset or paid to transfer a liability in an orderly transaction between market participants in the principal market, or in the most advantageous market in the absence of a principal market.

All financial instruments measured at fair value are categorized into one of three fair value hierarchy levels. Level 1 financial instruments are those for which fair values can be derived from quoted prices in active markets. Level 2 financial instruments are those for which fair values must be derived using valuation techniques for which all significant inputs are, or are based on, observable market data. Level 3 financial instruments are those for which fair values can only be derived on the basis of valuation techniques for which significant inputs are not based on observable market data.

## Note 1 Summary of significant accounting policies (continued)

### Critical accounting estimates and judgments

The use of valuation techniques, modeling assumptions and estimates of unobservable market inputs in the fair valuation of financial instruments requires significant judgment and could affect the amount of gain or loss recorded for a particular position. Valuation techniques that rely more heavily on unobservable inputs inherently require a higher level of judgment than those entirely based on observable inputs.

Valuation techniques, including models, that are used to determine fair values are periodically reviewed and validated by qualified personnel, independent of those who created them. Models are calibrated with the objective of ensuring that outputs reflect observable market data, to the extent possible. Also, UBS AG prioritizes the use of observable inputs, when available, over unobservable inputs. Judgment is required in selecting appropriate models as well as inputs for which observable data is less readily available.

UBS AG's governance framework over fair value measurement is described in Note 24b.

The level of subjectivity and the degree of management judgment involved in the development of estimates and the selection of assumptions are more significant for instruments valued using specialized and sophisticated models and where some or all of the parameter inputs are less observable (Level 3 instruments) and may require adjustment to reflect factors that market participants would consider in estimating fair value, such as close-out costs, credit exposure, model-driven valuation uncertainty, funding costs and benefits, trading restrictions and other factors, which are presented in Note 24d. UBS AG provides a sensitivity analysis of the estimated effects arising from changing significant unobservable inputs in Level 3 financial instruments to reasonably possible alternative assumptions within Note 24g.

→ Refer to Note 24 for more information

### g. Allowances and provisions for expected credit losses

#### *Policy applicable from 1 January 2018<sup>1</sup>*

Expected credit losses (ECL) are recognized for financial assets measured at amortized cost, financial assets measured at FVOCI, fee and lease receivables, financial guarantees and loan commitments. ECL are also recognized on the undrawn portion of revolving revocable credit lines, which include UBS AG's credit card limits and master credit facilities, which are customary in the Swiss market for corporate and commercial clients. UBS AG refers to both as "other credit lines," with clients allowed to draw down on-demand balances (with the Swiss master credit facilities also allowing for term products) and which can be terminated by UBS AG at any time. Though these other credit lines are revocable, UBS AG is exposed to credit risk because the client has the ability to draw down funds before UBS AG can take credit risk mitigation actions.

### *Recognition of expected credit losses*

ECL represent the difference between contractual cash flows and those UBS AG expects to receive, discounted at the EIR. For loan commitments and other credit facilities in scope of ECL, expected cash shortfalls are determined by considering expected future drawdowns.

ECL are recognized on the following basis:

- Maximum 12-month ECL are recognized from initial recognition, reflecting the portion of lifetime cash shortfalls that would result if a default occurs in the 12 months after the reporting date, weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in stage 1. For instruments with a remaining maturity of less than 12 months, ECL are determined for this shorter period.
- Lifetime ECL are recognized if a significant increase in credit risk (SICR) is observed subsequent to the instrument's initial recognition, reflecting lifetime cash shortfalls that would result from all possible default events over the expected life of a financial instrument, weighted by the risk of a default occurring. Instruments in this category are referred to as instruments in stage 2. Where an SICR is no longer observed, the instrument will move back to stage 1.
- Lifetime ECL are always recognized for credit-impaired financial instruments, referred to as instruments in stage 3. The IFRS 9 determination of whether an instrument is credit-impaired is based on the occurrence of one or more loss events, with lifetime ECL generally derived by estimating expected cash flows based on a chosen recovery strategy. Credit-impaired exposures may include positions for which no loss has occurred or no allowance has been recognized, for example, because they are expected to be fully recoverable through the collateral held.
- Changes in lifetime ECL since initial recognition are also recognized for assets that are purchased or originated credit-impaired (POCI). POCI financial assets are initially recognized at fair value, with interest income subsequently being recognized based on a credit-adjusted EIR. POCI financial instruments include those that are newly recognized following a substantial restructuring and remain a separate category until derecognition.

UBS AG does not apply the low-credit-risk practical expedient that allows a lifetime ECL for lease or fee receivables to be recognized irrespective of whether a significant increase in credit risk has occurred. Instead, UBS AG has incorporated lease and fee receivables into the standard ECL calculation.

<sup>1</sup> The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 9.

## Note 1 Summary of significant accounting policies (continued)

A write-off is made when all or part of a financial asset is deemed uncollectible or forgiven. Write-offs reduce the principal amount of a claim and are charged against previously established allowances for credit losses. Recoveries, in part or in full, of amounts previously written off are generally credited to *Credit loss (expense) / recovery*. Write-offs and partial write-offs represent derecognition / partial derecognition events.

ECL are recognized in profit or loss with a corresponding ECL allowance reported as a decrease in the carrying amount of financial assets measured at amortized cost on the balance sheet. For financial assets measured at fair value through OCI, the carrying amount is not reduced, but an accumulated amount is recognized in OCI. For off-balance sheet financial instruments and other credit lines, provisions for ECL are reported in *Provisions*. ECL are recognized within the income statement in *Credit loss (expense) / recovery*.

### Default and credit impairment

UBS AG applies a single definition of default for classifying assets and determining the probability of default of its obligors for risk modeling purposes. The definition of default is based on quantitative and qualitative criteria. A counterparty is classified as defaulted at the latest when material payments of interest, principal or fees are overdue for more than 90 days, or more than 180 days for certain exposures in relation to loans to private and commercial clients in Personal & Corporate Banking, and to private clients of Global Wealth Management Region Switzerland. UBS AG does not consider the general 90-day presumption for default recognition appropriate for these latter portfolios based on an analysis of the cure rates, which demonstrated that strict application of the 90-day criterion would not accurately reflect the inherent credit risk. Counterparties are also classified as defaulted when bankruptcy, insolvency proceedings or enforced liquidation have commenced; obligations have been restructured on preferential terms (forbearance); or there is other evidence that payment obligations will not be fully met without recourse to collateral. The latter may be the case even if, to date, all contractual payments have been made when due. If a counterparty is defaulted, generally all claims against the counterparty are treated as defaulted.

An instrument is classified as credit-impaired if the counterparty is defaulted, and/or the instrument is identified as POCI. An instrument is POCI if it has been purchased at a deep discount to its carrying amount following a risk event of the issuer or originated with a defaulted counterparty. Once a financial asset is classified as defaulted / credit-impaired (except when it is POCI), it is reported as a stage 3 instrument and remains as such unless all past due amounts have been rectified, additional payments have been made on time, the position is not classified as credit-restructured, and there is general evidence of credit recovery. A three-month probation period is applied before a transfer back to stages 1 or 2 can be triggered.

However, most instruments remain in stage 3 for a longer period.

### Measurement of expected credit losses

IFRS 9 ECL reflect an unbiased, probability-weighted estimate based on either loss expectations resulting from default events over a maximum 12-month period from the reporting date or over the remaining life of a financial instrument. The method used to calculate individual probability-weighted unbiased ECL is based on a combination of the following principal factors: probability of default (PD), loss given default (LGD) and exposure at default (EAD). Parameters are generally determined on an individual financial asset level. Based on the materiality of the portfolio, for credit card exposures and personal account overdrafts in Switzerland, and certain loans to financial advisors of Global Wealth Management Region Americas, a portfolio approach is applied that derives an average PD and LGD for the entire portfolio. PDs and LGDs used in the ECL calculation are point in time (PIT)-based for key portfolios and consider both current conditions and expected cyclical changes. For each instrument or group of instruments, parameter time series are generated consisting of the instruments' PD, LGD and EAD profiles considering the respective period of exposure to credit risk. For material portfolios, PD and LGD are determined for four different scenarios, whereas EAD projections are treated as scenario independent.

For the purpose of determining the ECL-relevant parameters, UBS AG leverages its Pillar 1 internal ratings-based (IRB) models that are also used in determining expected loss (EL) and risk-weighted assets under the Basel III framework and Pillar 2 stress loss models. Adjustments have been made to these models and new IFRS 9-related models have been developed that consider the complexity, structure and risk profile of relevant portfolios and take account of the fact that PDs and LGDs used in the ECL calculation are PIT-based, as opposed to the corresponding Basel III through-the-cycle (TTC) parameters. All models that are relevant for measuring expected credit losses have been subject to the existing model validation and oversight processes. The assignment of internal counterparty rating grades and the determination of default probabilities for the purposes of Basel III are not affected by the IFRS 9 ECL calculation.

**Probability of default (PD):** The PD represents the likelihood of a default over a specified time period. A 12-month PD represents the likelihood of default determined for the next 12 months and a lifetime PD represents the probability of default over the remaining lifetime of the instrument. The lifetime PD calculation is based on a series of 12-month PIT PDs that are derived from TTC PDs and scenario forecasts. This modeling is region-, industry- and client segment-specific and considers both macroeconomic scenario-dependencies and client-idiosyncratic information. To derive the cumulative lifetime PD per scenario, the series of 12-month PIT PDs are transformed into marginal PIT PDs, taking any assumed default events from prior periods into account.



## Note 1 Summary of significant accounting policies (continued)

**Loss given default (LGD):** The LGD represents an estimate of the loss at the time of a potential default occurring during the life of a financial instrument. The determination of the LGD takes into account expected future cash flows from collateral and other credit enhancements, or expected payouts from bankruptcy proceedings for unsecured claims and, where applicable, time to realization of collateral and the seniority of claims. The LGD is commonly expressed as a percentage of the EAD.

**Exposure at default (EAD):** The EAD represents an estimate of the exposure to credit risk at the time of a potential default occurring during the life of a financial instrument. It represents the cash flows outstanding at the time of default, considering expected repayments, interest payments and accruals, discounted at the EIR. Future drawdowns on facilities are considered through a credit conversion factor (CCF) that is reflective of historical drawdown and default patterns and the characteristics of the respective portfolios. ECL-specific CCFs have been modeled to capture client segment- and product-specific patterns after removing Basel III standard-specific elements, i.e., conservatism and focus on a 12-month period prior to default.

### *Estimation of expected credit losses*

#### *Number of scenarios and estimation of scenario weights*

The determination of the probability-weighted ECL requires evaluating a range of diverse and relevant future economic conditions, especially with a view to modeling the non-linear effect of assumptions about macroeconomic factors on the estimate.

To accommodate this requirement, UBS AG uses four different economic scenarios in the ECL calculation: an upside, a baseline, a mild downside and a severe downside scenario. Each scenario is represented by a specific scenario narrative, which is relevant considering the exposure of key portfolios to economic risks, and for which a set of consistent macroeconomic variables is determined. Those variables range from above-trend economic growth to severe recession. The baseline scenario is aligned to the economic and market assumptions used for UBS AG business planning purposes. An econometric model is used to provide an input into the scenario weight assessment process giving a first indication of the probability that the GDP forecast used for each scenario would materialize, if historically observed deviations of GDP growth from trend growth were representative. As such historical analyses of GDP development do not include an assessment of the underlying economic or political causes, management positions the model output into the context of current conditions and future expectations and applies material judgment in determining the final scenario weights. The determined weights constitute the probabilities that the respective set of macroeconomic conditions will occur and not that the chosen particular narratives with the related macroeconomic variables will materialize.

#### *Macroeconomic and other factors*

The range of macroeconomic, market and other factors that is modeled as part of the scenario determination is wide, and historical information is used to support the identification of the key factors. As the forecast horizon increases, the availability of information decreases and judgment increases. For cycle-sensitive PD and LGD determination purposes, UBS AG projects the relevant economic factors for a period of three years before reverting, over a specified period, to a cycle-neutral PD and LGD for longer-term projections.

Factors relevant for the ECL calculation vary by type of exposure and are determined during the credit cycle index model development process in close alignment with expert judgment. Certain variables may only be relevant for specific types of exposures, such as house price indices for mortgage loans, while other variables have key relevance in the ECL calculation for all exposures. Regional and client segment characteristics are generally taken into account, with specific focus on Switzerland and the US considering UBS AG's key ECL-relevant portfolios.

For UBS AG, the following forward-looking macroeconomic variables represent the most relevant factors in the ECL calculation:

- GDP growth rates, given their significant effect on borrowers' performance;
- house price indices, given their significant effect on mortgage collateral valuations;
- unemployment rates, given their significant effect on private clients' ability to meet contractual obligations;
- interest rates, given their significant effect on the counterparties' abilities to service debt;
- consumer price indices, given their overall relevance for companies' performance, private clients' purchasing power and economic stability; and
- equity indices, given that they are an important factor in our corporate rating tools.

The forward-looking macroeconomic assumptions used in the ECL calculation are developed by UBS AG economists, risk methodology personnel and credit risk officers. Assumptions and scenarios are validated and approved through a Scenario Committee and an Operating Committee, which also aim to ensure a consistent use of forward-looking information throughout UBS AG, including in the business planning process. ECL inputs are tested and reassessed for appropriateness at least once a quarter and appropriate adjustments are made when needed.

#### *Scenario generation, review process and governance*

All aspects of the scenario selection, including the specific narratives, their weight for the ECL estimation, and the key macroeconomic and other factors, are subject to a formal governance and approval process.

## Note 1 Summary of significant accounting policies (continued)

A team of economists, who are part of Group Risk Control, provide the basic analysis taking into account information obtained through established risk identification and assessment processes, which involve a broad range of experts, in particular, risk specialists and other in-house economists. Material risks with a high likelihood of materializing are then factored into the scenario selection process. Once narratives have been developed, key macroeconomic factors that are consistent with the severity of the case and interdependencies are determined.

The scenarios, their weight and the key macroeconomic and other factors are subject to a critical assessment by members of the Scenario Committee, where senior credit officers from the divisions and representatives from Group Risk Control are represented. Important aspects for the review are the extent to which the selected scenarios reflect the vulnerabilities of the relevant portfolios; whether their transformation into PIT PD and LGD values is in line with credit risk officers' expectations; and whether there may be pockets of exposures, where particular credit risk concerns may not be capable of being addressed systematically and require an expert-based overlay for stage allocation and ECL allowance. This also ensures a consistent use of forward-looking information throughout UBS AG and an alignment with the business planning process.

The Operating Committee is jointly chaired by the Group Controller and Chief Accounting Officer, and the Risk Chief Operating Officer and Group Chief Risk Model Officer, and is comprised of the divisional Chief Risk Officers and divisional Chief Financial Officers as well as senior Corporate Center Risk and Finance representatives. They review the proposals submitted by the Scenario Committee and approve the final selection of scenarios and factors and any expert-based overlays as they may be required to cover temporary issues, either related to specific risk elements in a portfolio, or due to identified technical deficiencies pending remediation (model updates, data quality, etc.).

The Group Model Governance Board, as the highest authority under UBS AG's model governance framework, ratifies the decisions by the Operating Committee.

### *ECL measurement period*

The period for which lifetime ECL are determined is based on the maximum contractual period that UBS AG is exposed to credit risk, taking into account contractual extension, termination and prepayment options. For irrevocable loan commitments and financial guarantee contracts, the measurement period represents the maximum contractual period for which UBS AG has an obligation to extend credit.

Additionally, some financial instruments include both an on-demand loan and a revocable undrawn commitment, where the contractual cancellation right does not limit UBS AG's exposure to credit risk to the contractual notice period, as the client has the ability to draw down funds before UBS AG can take risk-mitigating actions. In such cases, UBS AG is required to estimate

the period over which it is exposed to credit risk. This applies to UBS AG's credit card limits, which do not have a defined contractual maturity date, are callable on demand and where the drawn and undrawn components are managed as one unit. The exposure arising from UBS AG's credit card limits is not significant and is managed at a portfolio level, with credit actions triggered when balances are past due. An ECL measurement period of seven years is applied for credit card limits, capped at 12 months for stage 1 balances, as a proxy for the period that UBS AG is exposed to credit risk.

Customary master credit agreements in the Swiss corporate market also include on-demand loans and revocable undrawn commitments. For smaller commercial facilities, a risk-based monitoring (RbM) approach is in place that highlights negative trends as risk events, at an individual facility level, based on a combination of continuously updated risk indicators. The risk events trigger additional credit reviews by a risk officer, allowing for informed credit decisions to be taken. Larger corporate facilities are not subject to RbM, but are reviewed at least annually through a formal credit review. UBS AG has assessed these credit risk management practices and considers both the RbM approach and formal credit review as substantive credit reviews resulting in a re-origination of the facility. Following this, a 12-month measurement period from the reporting date is used for both types of facilities as an appropriate proxy of the period over which UBS AG is exposed to credit risk, with 12 months also used as a look-back period for assessing SICR, always from the respective reporting date.

### *Significant increase in credit risk*

Financial instruments subject to ECL are monitored on an ongoing basis. To determine whether the recognition of a maximum 12-month ECL continues to be appropriate, an assessment is made as to whether an SICR has occurred since initial recognition of the financial instrument. The assessment criteria include both quantitative and qualitative factors. UBS AG does not make use of the expedient that no particular SICR test is required for instruments that have low credit risk at reporting date.

Primarily, UBS AG assesses changes in an instrument's risk of default on a quantitative basis by comparing the annualized forward-looking and scenario-weighted lifetime PD of an instrument determined at two different dates:

- at the reporting date; and
- at inception of the instrument.

In both cases, the respective PDs are determined for the residual lifetime of the instrument, i.e., the period between the reporting date and maturity. If, based on UBS AG's quantitative modeling, an increase exceeds a set threshold, an SICR is deemed to have occurred and the instrument is transferred to stage 2 with lifetime ECL being recognized.



## Note 1 Summary of significant accounting policies (continued)

The threshold applied varies depending on the original credit quality of the borrower. For instruments with lower default probabilities at inception due to good credit quality of the counterparty, the SICR threshold is set at a higher level than for instruments with higher default probabilities at inception. This implies that for instruments with initially lower default probabilities, a relatively higher deterioration in credit quality is needed to trigger an SICR than for those instruments with originally higher PDs. The SICR assessment based on PD changes is made at an individual financial asset level. A high-level overview of the SICR trigger, which is a multiple of the annualized remaining lifetime PIT PD expressed in rating downgrades that entail the same multiple of PD values, together with the corresponding ratings at origination of an instrument, is provided in the "SICR thresholds" table below. This simplified view is aligned to internal ratings as disclosed in "Internal UBS AG rating scale and mapping of external ratings" presented in "Credit risk" in the "Risk management and control" section of this report. The actual SICR thresholds applied are defined on a more granular level interpolating between the values shown in the table below.

### SICR thresholds

Internal rating at origination of the instrument	Rating downgrades / SICR trigger
0-3	3
4-8	2
9-13	1

→ Refer to the "Risk management and control" section of this report for more details about the bank's internal grading system

Irrespective of the SICR assessment based on default probabilities, credit risk is generally deemed to have significantly increased for an instrument if the contractual payments are more than 30 days past due. For certain less material portfolios, specifically the Swiss credit card portfolio and the loans to financial advisors of Global Wealth Management Region Americas, the 30-day past due criterion is used as the primary indicator of an SICR. Where instruments are transferred to stage 2 due to the 30-day past due criterion, a minimum period of six months is applied before a transfer back to stage 1 can be triggered. For instruments in Personal & Corporate Banking and Global Wealth Management Region Switzerland that are between 90 and 180 days past due but have not been reclassified to stage 3, a one-year period is applied before a transfer back to stage 1 can be triggered.

Additionally, based on individual counterparty-specific indicators, external market indicators of credit risk or general economic conditions, counterparties may be moved to a watch list, which is used as a secondary qualitative indicator for an SICR and hence for a transfer to stage 2. Exception management is further applied, allowing for individual and collective adjustments on exposures sharing the same credit risk characteristics to take account of specific situations that are not otherwise fully reflected. Instruments for which an SICR since initial recognition is determined based on criteria other than changed default probabilities or watch list items remain in stage 2 for at least six months post resolution of the stage 2 trigger event.

In general, the overall SICR determination process does not apply to Lombard loans, securities financing transactions and certain other asset-based lending transactions, because of the risk management practices adopted, including daily monitoring processes with strict margining requirements that often require the delivery of collateral within a number of days. If margin calls are not satisfied, a position is closed out and classified as a stage 3 position. In exceptional cases, an individual adjustment and a transfer into stage 2 may be made to take account of specific facts.

Credit risk officers are responsible for ensuring that the stage allocation of instruments reflects the identification of an SICR, which for accounting purposes is in some aspects different from internal credit risk management processes for loans with increased credit risk, mainly because ECL accounting requirements are instrument-specific, such that a borrower can have multiple exposures allocated to different stages, and that maturing loans in stage 2 will migrate to stage 1 upon renewal irrespective of the actual credit risk at that time. Under a risk-based approach, a holistic counterparty credit assessment and the absolute level of risk at any given date will determine what risk mitigating actions may be warranted.

→ Refer to the "Risk management and control" section of this report for more information

## Note 1 Summary of significant accounting policies (continued)

### Critical accounting estimates and judgments

The calculation of ECL requires management to apply significant judgment and make estimates and assumptions that involve significant uncertainty at the time they are made. Changes to these estimates and assumptions can result in significant changes to the timing and amount of ECL to be recognized.

#### *Determination of a significant increase in credit risk*

IFRS 9 does not include a definition of what constitutes an SICR. UBS AG's assessment of whether an SICR has occurred since initial recognition is based on reasonable and supportable forward-looking information, both qualitative and quantitative, and includes significant management judgment. More stringent criteria could significantly increase the number of instruments migrating to stage 2. An IFRS 9 Operating Committee has been established to review and challenge the SICR approach and any potential changes and determinations made in the quarter.

#### *Scenarios, scenario weights and macroeconomic factors*

ECL reflect an unbiased and probability-weighted amount, which UBS AG determines by evaluating a range of possible outcomes. Management selects forward-looking scenarios and judges the suitability of respective weights to be applied. Each of the scenarios is based on management's assumptions around future economic conditions in the form of macroeconomic, market and other factors. Changes in the scenarios and weights, the corresponding set of macroeconomic variables and the assumptions made around those variables for the forecast horizon would have a significant effect on the ECL. An IFRS 9 Scenario Committee, in addition to the Operating Committee, has been established to derive, review and challenge the selection and weights.

#### *ECL measurement period*

Lifetime ECL are generally determined based upon the contractual maturity of the transaction, which significantly affects ECL. The ECL calculation is therefore sensitive to any extension of contractual maturities triggered by business decisions, consumer behaviors and an increased number of stage 2 positions. In addition, for credit card limits and Swiss callable master credit facilities, judgment is required as UBS AG must determine the period over which it is exposed to credit risk. A seven-year period has been applied for credit card limits, capped at 12 months for stage 1 positions, and a 12-month period has been applied for master credit facilities.

#### *Modeling and management adjustments*

A number of complex models have been developed or modified to calculate ECL, with additional management adjustments required. Internal counterparty rating changes, new or revised models and changes to data may significantly affect ECL. The models are governed by UBS AG's model validation controls, which aim to ensure independent verification, and are approved by the Group Model Governance Board (the GMGB). The management adjustments are approved by the IFRS 9 Operating Committee and endorsed by the GMGB.

UBS AG provides a sensitivity analysis of the effect of scenario selection, scenario weights and SICR trigger points on ECL measurement within Note 23g.

### Comparative policy | Policy applicable prior to 1 January 2018

A claim is impaired and an allowance or provision for credit losses is recognized when objective evidence demonstrates that a loss event has occurred after the initial recognition and that the loss event has an effect on the future cash flows that can be reliably estimated (incurred loss approach). UBS AG considers a claim to be impaired if it will be unable to collect all amounts due thereon based on the original contractual terms as a result of credit deterioration of the issuer or counterparty. A claim can be a loan or receivable measured at amortized cost, or a commitment, such as a letter of credit, a guarantee or a similar instrument.

An allowance for credit losses is reported as a decrease in the carrying amount of a financial asset. For an off-balance sheet item, such as a commitment, a provision for credit losses is reported in *Provisions*. Changes to allowances and provisions for credit losses are recognized in *Credit loss (expense) / recovery*.

### Critical accounting estimates and judgments

Allowances and provisions for credit losses are evaluated at both a counterparty-specific level and collectively. Judgment is used in making assumptions about the timing and amount of impairment losses.

### Counterparty-specific allowances and provisions

Loans are evaluated individually for impairment if objective evidence indicates that a loan may be impaired. Individual credit exposures are evaluated on the basis of the borrower's overall financial condition, resources and payment record, the prospects of support from contractual guarantors and, where applicable, the realizable value of any collateral. The impairment loss for a loan is the excess of the carrying amount of the financial asset over the estimated recoverable amount. The estimated recoverable amount is the present value, calculated using the loan's original effective interest rate, of expected future cash flows, including amounts that may result from restructuring or the liquidation of collateral. If a loan has a variable interest rate, the discount rate for calculating the recoverable amount is the current effective interest rate. Upon impairment, interest income is accrued by applying the original effective interest rate to the impaired carrying amount of the loan.

## Note 1 Summary of significant accounting policies (continued)

All impaired loans are reviewed and analyzed at least annually. Any subsequent changes to the amounts and timing of the expected future cash flows compared with prior estimates result in a change in the allowance for credit losses and are charged or credited to *Credit loss (expense) / recovery*. An allowance for impairment is reversed only when the credit quality has improved to such an extent that there is reasonable assurance of timely collection of principal and interest in accordance with the original contractual terms of the instrument, or the equivalent value thereof. A write-off is made when all or part of a financial asset is deemed uncollectible or forgiven. Write-offs reduce the principal amount of a claim and are charged against previously established allowances for credit losses. Recoveries, in part or in full, of amounts previously written off are credited to *Credit loss (expense) / recovery*.

### Collective allowances and provisions

Collective allowances and provisions are calculated for portfolios with similar credit risk characteristics, taking into account historical loss experience and current conditions. The methodology and assumptions used are reviewed regularly to reduce any differences between estimated and actual loss experience. For all of its portfolios, UBS AG also assesses whether there have been any unforeseen developments that might result in impairments that are not immediately observable at a counterparty level. To determine whether an event-driven collective allowance for credit losses is required, UBS AG considers global economic drivers to assess the most vulnerable countries and industries. As the allowance cannot be allocated to individual loans, the loans are not considered to be impaired and interest is accrued on each loan according to its contractual terms. If objective evidence becomes available that indicates that an individual financial asset is impaired, it is removed from the group of financial assets assessed for impairment on a collective basis and is assessed separately as counterparty-specific.

### Impairment of financial assets classified as available for sale

At each balance sheet date, UBS AG assesses whether indicators of impairment are present. Available-for-sale debt instruments are impaired when there is objective evidence, using the same criteria described on the previous page, that, as a result of one or more events that occurred after the initial recognition of the asset, the estimated future cash flows have decreased.

Objective evidence that there has been an impairment of an available-for-sale equity instrument is a significant or prolonged decline in the fair value of the asset. UBS AG uses a rebuttable presumption that such instruments are impaired where there has been a decline in fair value of more than 20% below its original cost or fair value has been below original cost for more than six months.

To the extent a financial asset classified as available for sale is determined to be impaired, the related cumulative net unrealized loss previously recognized in *Other comprehensive income* is reclassified to the income statement within *Other income*. For equity instruments, any further loss is recognized directly in the income statement, whereas for debt instruments, any further loss is recognized in the income statement only if there is additional objective evidence of impairment. After the recognition of an impairment on a financial asset classified as available for sale, increases in the fair value of equity instruments are reported in *Other comprehensive income*. For debt instruments, such increases in the fair value, up to amortized cost in the transaction currency, are recognized in *Other income*, provided that the fair value increase is related to an event occurring after the impairment loss was recorded. Increases in excess of that amount are reported in *Other comprehensive income*. ▲

### h. Restructured and modified financial assets

When payment default is expected or where default has already occurred, UBS AG may grant concessions to borrowers in financial difficulties that it would otherwise not consider in the normal course of its business, such as preferential interest rates, extension of maturity, modifying the schedule of repayments, debt / equity swap, subordination, etc. When a concession or forbearance measure is granted, each case is considered individually and the exposure is generally classified as being in default. Forbearance classification will remain until the loan is collected or written off, non-preferential conditions are granted that supersede the preferential conditions or until the counterparty has recovered and the preferential conditions no longer exceed our risk tolerance.

Contractual adjustments when there is no evidence of imminent payment default, or where changes to terms and conditions are within UBS AG's usual risk tolerance, are not considered to be in forbearance. Modifications represent contractual amendments that result in an alteration of future contractual cash flows and that can occur within UBS AG's normal risk tolerance or as part of a credit restructuring where a counterparty is in financial difficulties.

A restructuring or modification of a financial asset could lead to a substantial change in the terms and conditions, resulting in the original financial asset being derecognized and a new financial asset being recognized. Where the modification does not result in a derecognition, any difference between the modified contractual cash flows discounted at the original EIR and the existing gross carrying amount of a financial asset is recognized in profit or loss as a modification gain or loss. Furthermore, the subsequent SICR assessment is made by comparing the risk of default at the reporting date based on the modified contractual terms of the financial asset with the risk of default at initial recognition based on the original, unmodified contractual terms of the financial asset.

## Note 1 Summary of significant accounting policies (continued)

### i. Offsetting

UBS AG nets financial assets and liabilities on its balance sheet if (i) it has the unconditional and legally enforceable right to set off the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS AG and all of the counterparties, and (ii) intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. Netted positions include, for example, certain derivatives and repurchase and reverse repurchase transactions with various counterparties, exchanges and clearing houses.

In assessing whether UBS AG intends to either settle on a net basis, or to realize the asset and settle the liability simultaneously, emphasis is placed on the effectiveness of operational settlement mechanics in eliminating substantially all credit and liquidity exposure between the counterparties. This condition precludes offsetting on the balance sheet for substantial amounts of UBS AG's financial assets and liabilities, even though they may be subject to enforceable netting arrangements. For OTC derivative contracts, balance sheet offsetting is generally only permitted in circumstances in which a market settlement mechanism exists via an exchange or central clearing counterparty that effectively accomplishes net settlement through a daily exchange of collateral via a cash margining process. For repurchase arrangements and securities financing transactions, balance sheet offsetting may be permitted only to the extent that the settlement mechanism eliminates, or results in insignificant, credit and liquidity risk, and processes the receivables and payables in a single settlement process or cycle.

→ Refer to Note 25 for more information

### j. Hedge accounting

UBS AG uses derivative and non-derivative instruments to manage exposures to interest rate and foreign currency risks, including exposures arising from forecast transactions. UBS AG continues to apply hedge accounting requirements as set out in IAS 39. Qualifying instruments may be designated as hedging instruments in: (i) hedges of the change in fair value of recognized assets or liabilities (fair value hedges); (ii) hedges of the variability in future cash flows attributable to a recognized asset or liability or highly probable forecast transactions (cash flow hedges); or (iii) hedges of a net investment in a foreign operation (net investment hedges).

At the time a financial instrument is designated in a hedge relationship, UBS AG formally documents the relationship between the hedging instrument(s) and hedged item(s), including the risk management objectives and strategy in undertaking the hedge transaction and the methods that will be used to assess the effectiveness of the hedging relationship. Accordingly, UBS AG assesses, both at the inception of the hedge and on an ongoing basis, whether the hedging instruments, primarily derivatives, have been "highly effective" in offsetting changes in the fair value or cash flows associated with the designated risk of the hedged items.

A hedge is considered highly effective if the following criteria are met: (i) at inception of the hedge and throughout its life, the hedge is expected to be highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk; and (ii) actual results of the hedge are within a range of 80–125%. In the case of hedging forecast transactions, the transaction must have a high probability of occurring and must present an exposure to variations in cash flows that could ultimately affect the reported net profit or loss. UBS AG discontinues hedge accounting when: (i) it determines that a hedging instrument is not, or has ceased to be, highly effective as a hedge; (ii) the derivative expires or is sold, terminated or exercised; (iii) the hedged item matures, is sold or repaid; or (iv) forecast transactions are no longer deemed highly probable. UBS AG may also discontinue hedge accounting voluntarily.

Hedge ineffectiveness represents the amount by which the changes in the fair value of the hedging instrument differ from changes in the fair value of the hedged item attributable to the hedged risk, or the amount by which changes in the present value of future cash flows of the hedging instrument exceed changes in the present value of expected cash flows of the hedged item. Such ineffectiveness is recorded in current-period earnings in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2018: *Net trading income*).

Interest from derivatives designated as hedging instruments in effective fair value hedge relationships is presented within *Interest income from loans and deposits* and *Interest expense on debt issued*, within *Net interest income*. Interest from derivatives designated as hedging instruments in effective cash flow hedge relationships that is reclassified from other comprehensive income when the hedged transaction affects profit or loss is presented within *Interest income from derivative instruments designated as cash flow hedges*.

→ Refer to Note 3 for more information

## Note 1 Summary of significant accounting policies (continued)

### Fair value hedges

For qualifying fair value hedges, the change in the fair value of the hedging instrument is recognized in the income statement along with the change in the fair value of the hedged item that is attributable to the hedged risk. In fair value hedges of interest rate risk, the fair value change of the hedged item attributable to the hedged risk is reflected as an adjustment to the carrying amount of the hedged item. If the hedge accounting relationship is terminated for reasons other than the derecognition of the hedged item, the adjustment to the carrying amount is amortized to the income statement over the remaining term to maturity of the hedged item using the effective interest rate method. For a portfolio hedge of interest rate risk, the equivalent change in fair value is reflected within *Other financial assets measured at amortized cost* or *Other financial liabilities measured at amortized cost*. If the portfolio hedge relationship is terminated for reasons other than the derecognition of the hedged item, the amount included in *Other financial assets measured at amortized cost* or *Other financial liabilities measured at amortized cost* is amortized to the income statement over the remaining term to maturity of the hedged items using the straight-line method.

### Cash flow hedges

Fair value gains or losses associated with the effective portion of derivatives designated as cash flow hedges for cash flow repricing risk are recognized initially in *Other comprehensive income* within *Equity*. When the hedged forecast cash flows affect profit or loss, the associated gains or losses on the hedging derivatives are reclassified from *Equity* to the income statement.

If a cash flow hedge of forecast transactions is no longer considered effective, or if the hedge relationship is terminated, the cumulative gains or losses on the hedging derivatives previously reported in *Equity* remain there until the committed or forecast transactions occur and affect profit or loss. If the forecast transactions are no longer expected to occur, the deferred gains or losses are reclassified immediately to the income statement.

### Hedges of net investments in foreign operations

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Gains or losses on the hedging instrument relating to the effective portion of the hedge are recognized directly in *Equity* (and presented in the statement of changes in equity and statement of comprehensive income under *Foreign currency translation*), while any gains or losses relating to the ineffective and/or undesignated portion (for example, the interest element of a forward contract) are recognized in the income statement. Upon disposal or partial disposal of the foreign operation, the cumulative value of any such gains or losses recognized in *Equity* associated with the entity is reclassified to *Other income*.

### Economic hedges that do not qualify for hedge accounting

Derivative instruments that are transacted as economic hedges but do not qualify for hedge accounting are treated in the same way as derivative instruments used for trading purposes; i.e., realized and

unrealized gains and losses are recognized in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2018: *Net trading income*), except for the forward points on certain short- and long-duration foreign exchange contracts, which are reported in *Net interest income*.

→ Refer to Note 11 for more information

### k. Embedded derivatives in financial liabilities

Derivatives may be embedded in other financial instruments (host contracts). For example, they could be represented by the conversion feature embedded in a convertible bond. Such hybrid instruments arise predominantly from the issuance of certain structured debt instruments. An embedded derivative in a financial liability is generally required to be separated from the host contract and accounted for as a standalone derivative instrument at fair value through profit or loss if: (i) the host contract is not measured at fair value with changes in fair value reported in the income statement; (ii) the economic characteristics and risks of the embedded derivative are not closely related to the economic characteristics and risks of the host contract; and (iii) the terms of the embedded derivative would meet the definition of a standalone derivative, were they contained in a separate contract.

Typically, UBS AG applies the fair value option to hybrid instruments (refer to item 3b in this Note for more information), in which case bifurcation of an embedded derivative component is not required.

### l. Financial liabilities

Financial liabilities measured at amortized cost include *Debt issued measured at amortized cost* and *Funding from UBS Group AG and its subsidiaries*, which constitute obligations of UBS AG arising from funding it has received from UBS Group AG or its subsidiaries, which are not within the UBS AG's scope of consolidation. The latter includes contingent capital instruments issued to UBS Group AG and its subsidiaries that contain contractual provisions under which the principal amounts would be written down upon either a specified CET1 ratio breach or a determination by FINMA that a viability event has occurred. Such contractual provisions are not derivatives as the underlying is deemed to be a non-financial variable specific to a party to the contract. Where there is a legal bail-in mechanism for write-down or conversion into equity (as is the case, for instance, with senior unsecured debt issued by UBS AG that is subject to write-down or conversion under resolution authority granted to FINMA under Swiss law), such a mechanism does not form part of the contractual terms and, therefore, does not affect the amortized cost accounting treatment applied to these instruments. If the debt were to be written down or converted into equity in a future period, the financial liability would be partially or fully derecognized, with the difference between the carrying amount of the debt written down or converted into equity and the fair value of any equity shares issued recognized in the income statement.



## Note 1 Summary of significant accounting policies (continued)

In cases where, as part of UBS AG's risk management activity, fair value hedge accounting is applied to fixed-rate debt instruments measured at amortized cost, their carrying amount is adjusted for changes in fair value related to the hedged exposure. Refer to item 3j for more information about hedge accounting.

Debt issued and subsequently repurchased in relation to market-making or other activities is treated as redeemed. A gain or loss on redemption (depending on whether the repurchase price of the bond is lower or higher than its carrying amount) is recorded in *Other income*. A subsequent sale of own bonds in the market is treated as a reissuance of debt.

UBS AG uses the fair value option to designate certain issued debt instruments as financial liabilities designated at fair value through profit or loss, on the basis that such financial instruments include embedded derivatives and/or are managed on a fair value basis (refer to item 3b in this Note for more information).

### m. Own credit

Changes in the fair value of financial liabilities designated at fair value through profit or loss related to own credit are recognized in *Other comprehensive income* directly within *Retained earnings* and will not be reclassified to the income statement in future periods.

### n. Loan commitments

#### *Policy applicable from 1 January 2018<sup>1</sup>*

Loan commitments are arrangements under which clients can borrow stipulated amounts under defined terms and conditions.

Loan commitments that can be canceled at any time by UBS AG at its discretion are neither recognized on the balance sheet nor included in off-balance sheet disclosures.

Loan commitments that cannot be canceled by UBS AG once the commitments have been communicated to the beneficiary or that are revocable only because of automatic cancellation upon deterioration in a borrower's creditworthiness are considered irrevocable and are classified as: (i) derivative loan commitments measured at fair value through profit or loss; (ii) loan commitments designated at fair value through profit or loss; or (iii) other loan commitments.

UBS AG recognizes ECL on non-cancelable other loan commitments and those that can be canceled at any time if UBS AG is exposed to credit risk (refer to item 3g in this Note). Corresponding ECL are presented within *Provisions* on UBS AG's balance sheet. ECL relating to these other loan commitments are recorded in the income statement in *Credit loss (expense) / recovery*.

When a client draws on a commitment, the resulting loan is presented within *Financial assets at fair value held for trading*, or within *Financial assets at fair value not held for trading* when the associated loan commitments are measured at fair value through profit or loss, and within *Loans and advances to customers* when the associated loan commitment is not measured at fair value through profit or loss.

#### *Comparative policy | Policy applicable prior to 1 January 2018*

When a client draws on a commitment, the resulting loan is classified as a: (i) trading asset, consistent with the associated derivative loan commitment; (ii) financial asset designated at fair value through profit or loss, consistent with the loan commitment designated at fair value through profit or loss; or as a (iii) loan when the associated loan commitment is accounted for as other loan commitments which are not measured at fair value through profit or loss. Consistent with item 3g above, claims under other loan commitments are impaired and an allowance or provision for credit losses is recognized when objective evidence demonstrates that a loss event has occurred after the initial recognition and that the loss event has an effect on the future cash flows that can be reliably estimated (incurred loss approach).▲

### o. Financial guarantee contracts

#### *Policy applicable from 1 January 2018<sup>1</sup>*

Financial guarantee contracts are contracts that require the issuer to make specified payments to reimburse the holder for an incurred loss because a specified debtor fails to make payments when due in accordance with the terms of a specified debt instrument. UBS AG issues such financial guarantees to banks, financial institutions and other parties on behalf of clients to secure loans, overdrafts and other banking facilities.

<sup>1</sup> The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 9.

## Note 1 Summary of significant accounting policies (continued)

Certain issued financial guarantees that are managed on a fair value basis are designated at fair value through profit or loss. Financial guarantees that are not managed on a fair value basis are initially recognized in the financial statements at fair value and are subsequently measured at the higher of:

- the amount of ECL (refer to item 3g in this Note); and
- the amount initially recognized less the cumulative amount of income recognized as of the reporting date.

ECL resulting from guarantees is recorded in the income statement in *Credit loss (expense) / recovery*.

### Comparative policy | Policy applicable prior to 1 January 2018

Financial guarantees that are not managed on a fair value basis are initially recognized in the financial statements at fair value and are subsequently measured at the higher of the amount initially recognized less cumulative amortization and, to the extent a payment under the guarantee has become probable, the present value of the expected payment. Any change in the liability relating to probable expected payments resulting from guarantees is recorded in the income statement in *Credit loss (expense) / recovery*. ▲

### p. Other net income from financial instruments measured at fair value through profit or loss

The line item *Other net income from financial instruments measured at fair value through profit or loss* includes fair value gains and losses on financial instruments at fair value through profit or loss other than interest income and expense on non-derivatives (refer to item 3c in this Note). In addition, effective 1 January 2019, the line item includes dividends (prior to 1 January 2019, dividends were included within *Net interest income*), intermediation income arising from certain client-driven Global Wealth Management and Personal & Corporate Banking financial transactions, foreign currency translation effects and income and expenses from exposures to precious metals.

## 4) Fee and commission income and expenses

### Policy applicable from 1 January 2018<sup>1</sup>

UBS AG earns fee income from a diverse range of services it provides to its clients. Fee income can be divided into two broad categories: fees earned from services that are provided over a certain period of time, such as asset or portfolio management, custody services and certain advisory services; and fees earned from point-in-time services, such as underwriting fees and brokerage fees (e.g., securities and derivative execution and clearing).

→ Refer to Note 4 for more information, including the disaggregation of revenues

### Performance obligations satisfied over time

Fees earned from services that are provided over a certain period of time are recognized on a pro rata basis over the service period, provided the fees are not contingent on successfully meeting specified performance criteria that are beyond the control of UBS AG (see measurement below).

Costs to fulfill services over time are recorded in the income statement immediately, because such services are considered to be a series of services that are substantially the same from day to day and have the same pattern of transfer. The costs to fulfill neither generate nor enhance the resources of UBS AG that will be used to satisfy future performance obligations and cannot be distinguished between those that relate to satisfied and unsatisfied performance obligations. Therefore, these costs do not qualify to be recognized as an asset. Where costs incurred relate to contracts that include variable consideration that is constrained by factors beyond UBS AG's control (e.g., successful mergers and acquisitions (M&A) activity), or where UBS AG has a history of not recovering such costs on similar transactions, such costs are expensed immediately as incurred.

### Performance obligations satisfied at a point in time

Fees earned from providing transaction-type services are recognized when the service has been completed, provided such fees are not subject to refund or another contingency beyond the control of UBS AG.

Incremental costs to fulfill services provided at a point in time are typically incurred and recorded at the same time as the performance obligation is satisfied and revenue is earned, and are therefore not recognized as an asset, e.g., brokerage. Where recovery of costs to fulfill relates to an uncompleted point-in-time service for which the satisfaction of the performance obligation in the contract is dependent upon factors beyond the control of UBS AG, such as underwriting a successful securities issuance, or where UBS AG has a history of not recovering such costs through reimbursement on similar transactions, the costs are expensed immediately as incurred.

<sup>1</sup> The accounting policy in this section applies from 1 January 2018, the effective date of IFRS 15.

## Note 1 Summary of significant accounting policies (continued)

### Measurement

Fee and commission income is measured based on consideration specified in a legally enforceable contract with a customer, excluding amounts such as taxes collected on behalf of third parties. Consideration can include both fixed and variable amounts. Variable consideration includes refunds, discounts, performance bonuses and other amounts that are contingent on the occurrence or non-occurrence of a future event. Variable consideration that is contingent on an uncertain event can only be recognized to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue for a contract will not occur. This is referred to as the variable consideration constraint. UBS AG does not consider the highly probable criterion to be met where the contingency on which income is dependent is beyond the control of UBS AG. In such circumstances, UBS AG only recognizes revenue when the contingency has been resolved or an uncertain event has occurred. Examples include asset management performance-linked fees, which are only payable if the returns of a fund exceed a benchmark and are only recognized after the performance period has elapsed. Similarly, M&A advisory fees that are dependent on a successful client transaction are not recognized until the transaction on which the fees are dependent has been executed. Asset management fees (excluding performance-based fees) received on a periodic basis, typically quarterly, that are determined based on a fixed percentage of net asset value that has not been established at the reporting date, are estimated and accrued ratably over the period to the next invoice date, except during periods in which market volatility indicates there is a risk of significant reversal. Research revenues earned by the Investment Bank under commission-sharing or research payment account agreements are not recognized until the client has provided a definitive allocation of amounts between research providers, as prior to this UBS AG generally does not have an enforceable right to a specified amount of consideration.

Consideration received is allocated to the separately identifiable performance obligations in a contract. Owing to the nature of UBS AG's business, contracts that include multiple performance obligations are typically those that are considered to include a series of similar performance obligations fulfilled over time with the same pattern of transfer to the client, e.g., asset management. As a consequence, UBS AG is not required to apply significant judgment in allocating the consideration received across the various performance obligations. UBS AG has taken the practical expedient to not disclose information about the allocation of the transaction price to remaining performance obligations in contracts. This is because contracts are typically less than one year in duration. Where contracts have a longer duration, they are either subject to the variable consideration constraint, with fees calculated on future net asset value, which cannot be included within the transaction price for the contract, or result in revenue being recognized ratably using the output method corresponding directly to the value of the services completed to date and to

which UBS AG would be entitled to invoice upon termination of the contract, e.g., loan commitments.

### Presentation of fee and commission income and expense

Fee and commission income and expense are presented gross on the face of the income statement when UBS AG is considered to be principal in the contractual relationship with its customer and any suppliers used to fulfill such contracts. This occurs where UBS AG has control over such services and its relationship with suppliers prior to provision of the service to the client. UBS AG only considers itself to be an agent in relation to services provided by third parties, e.g., third-party execution costs for exchange-traded derivatives and fees payable to third-party research providers, where the client controls both the choice of supplier and the scope of the services to be provided. Furthermore, in order to be considered an agent UBS AG should generally not take responsibility for the quality of the service, transform or integrate the services into a UBS AG product. In such circumstances, UBS AG is essentially acting as a payment agent for its client. When UBS AG is acting as an agent, any costs incurred are directly offset against the associated income.

### Presentation of expenses in the income statement

UBS AG presents expenses primarily in line with their nature in the income statement, differentiating between expenses that are directly attributable to the satisfaction of specific performance obligations associated with the generation of revenues, which are presented within *Total operating income*, and those that are related to personnel, general and administrative expenses, which are presented within *Total operating expenses*.

### Contract assets, contract liabilities and capitalized expenses

UBS AG has applied the practical expedient of allowing for costs incurred to obtain a contract to be expensed as incurred where the amortization period for any asset recognized would be less than 12 months.

Where UBS AG provides services to clients, consideration is due immediately upon satisfaction of a point-in-time service or at the end of a prespecified period for a service performed over time; e.g., certain asset management fees are collected monthly or quarterly, through deduction from a client account, deduction from fund assets or through separate invoicing. Where receivables are recorded, they are presented within *Other financial assets measured at amortized cost*.

Contract liabilities relate to prepayments received from customers where UBS AG is yet to satisfy its performance obligation.

Contract assets are recorded when an entity's right to consideration in exchange for services transferred is conditional on something other than the passage of time, e.g., the entity's future performance.

UBS AG has not recognized any material contract assets, contract liabilities or capitalized expenses during the period and has therefore not provided a contract balances reconciliation.



## Note 1 Summary of significant accounting policies (continued)

### Comparative policy | Policy applicable prior to 1 January 2018

Fees earned from services that are provided over a certain period of time are recognized ratably over the service period, with the exception of performance-linked fees or fee components with specific performance criteria. Such fees are recognized when, as of the reporting date, the performance benchmark has been met and when collectibility is reasonably assured.

Fees earned from providing transaction-type services are recognized when the service has been completed and the fee is fixed or determinable, i.e., not subject to refund or adjustment.

Fee income generated from providing a service that does not result in the recognition of a financial instrument is presented within *Net fee and commission income*. Fees generated from the acquisition, issue or disposal of a financial instrument are presented in the income statement in line with the balance sheet classification of that financial instrument. ▲

→ Refer to Note 4 for more information

### 5) Cash and cash equivalents

For the purpose of the statement of cash flows, cash and cash equivalents comprise balances with an original maturity of three months or less, including cash, money market paper and balances at central and other banks.

### 6) Share-based and other deferred compensation plans

#### Share-based compensation plans

UBS Group AG is the grantor of and maintains the obligation to settle share-based compensation plans that are awarded to employees of UBS AG. As a consequence, UBS AG classifies the awards of UBS Group AG shares as equity-settled share-based payment transactions. UBS AG recognizes the fair value of awards granted to its employees by reference to the fair value of UBS Group AG's equity instruments on the date of grant, taking into account the terms and conditions inherent in the award, including, where relevant, dividend rights, transfer restrictions in effect beyond the vesting date, market conditions, and non-vesting conditions. These awards are generally subject to vesting conditions that require employees to complete a specified period of service and, for performance shares, to satisfy specified performance conditions. Share-based compensation expense is recognized, on a per-tranche basis, over the service period based on an estimate of the number of instruments expected to vest and is adjusted to reflect actual outcomes of service or performance conditions. Where the vesting period is shortened, for example in the case of employees affected by restructuring programs or mutually agreed termination provisions, the expense is recognized on an accelerated basis to the termination date.

Where no future service is required, such as for employees who are eligible for retirement or who have met certain age and length-of-service criteria, the services are presumed to have been received and the share-based compensation expense is recognized immediately on, or prior to, the date of grant. Such awards may remain forfeitable. For equity-settled awards, forfeiture events resulting from a breach of a non-vesting condition (i.e., one that does not relate to a service or performance condition) do not result in an adjustment to the share-based compensation expense.

The fair value is not remeasured unless the terms of the award are modified such that there is an incremental increase in value. No adjustments are made for modifications that result in a decrease in value. The equity effects in UBS AG that arise from recognizing UBS Group AG share-based compensation plans are offset through a recharge from UBS Group AG to UBS AG and its subsidiaries.

→ Refer to Note 30 for more information

#### Other compensation plans

The employees of UBS AG are granted deferred compensation plans that are settled in cash or other financial instruments, the amount of which may be fixed or may vary based on the achievement of specified performance conditions or the value of specified underlying assets. Compensation expense is recognized over the period that the employee provides services to become entitled to the award. Where the service period is shortened, for example in the case of employees affected by restructuring programs or mutually agreed termination provisions, recognition of expense is accelerated to the termination date. Where no future service is required, such as for employees who are eligible for retirement or who have met certain age and length-of-service criteria, the services are presumed to have been received and compensation expense is recognized immediately on, or prior to, the date of grant. The amount recognized is based on the present value of the amount expected to be paid under the plan and is remeasured at each reporting date, so that the cumulative expense recognized equals the cash or the fair value of respective financial instruments distributed.

→ Refer to Note 30 for more information

### 7) Pension and other post-employment benefit plans

UBS AG sponsors various post-employment benefit plans for its employees worldwide, which include defined benefit and defined contribution pension plans, and other post-employment benefits, such as medical and life insurance benefits that are payable after the completion of employment.

→ Refer to Note 29 for more information

## Note 1 Summary of significant accounting policies (continued)

### Defined benefit plans

UBS AG offers defined benefit plans, such as pension and medical insurance benefit plans. Defined benefit plans specify an amount of benefit that an employee will receive, which usually depends on one or more factors, such as age, years of service and compensation. The defined benefit liability recognized in the balance sheet is the present value of the defined benefit obligation less the fair value of the plan assets at the balance sheet date, with changes resulting from remeasurements recorded immediately in *Other comprehensive income*. If the fair value of the plan assets is higher than the present value of the defined benefit obligation, the recognition of the resulting net defined benefit asset is limited to the present value of economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. UBS AG applies the projected unit credit method to determine the present value of its defined benefit obligations, the related current service cost and, where applicable, past service cost. The projected unit credit method sees each period of service as giving rise to an additional unit of benefit entitlement and measures each unit separately to build up the final obligation. These amounts, which take into account the specific features of each plan, including risk sharing between employee and employer, are calculated periodically by independent qualified actuaries.

#### Critical accounting estimates and judgments

The net defined benefit liability or asset at the balance sheet date and the related personnel expense depend on the expected future benefits to be provided, determined using a number of economic and demographic assumptions. A range of assumptions could be applied, and different assumptions could significantly alter the defined benefit liability or asset and pension expense recognized. The most significant assumptions include life expectancy, the discount rate, expected salary increases, pension increases and, in addition for the Swiss plan and one of the US defined benefit pension plans, interest credits on retirement savings account balances. Life expectancy is determined by reference to published mortality tables. The discount rate is determined by reference to the rates of return on high-quality fixed-income investments of appropriate currency and term at the measurement date. The assumption for salary increases reflects the long-term expectations for salary growth and takes into account historical salary development by age groups, expected inflation and expected supply and demand in the labor market. A sensitivity analysis for reasonable possible movements in each significant assumption for UBS AG's post-employment obligations is provided within Note 29.

### Defined contribution plans

A defined contribution plan is a pension plan under which UBS AG pays fixed contributions into a separate entity from which post-employment and other benefits are paid. UBS AG has no legal or constructive obligation to pay further contributions if the plan does not hold sufficient assets to pay employees the benefits relating to employee service in the current and prior periods. UBS AG's contributions are expensed when the employees have rendered services in exchange for such contributions. This is generally in the year of contribution. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available.

## 8) Income taxes

UBS AG is subject to the income tax laws of Switzerland and those of the non-Swiss jurisdictions in which UBS AG has business operations.

UBS AG's provision for income taxes is composed of current and deferred taxes. Current income taxes represent taxes to be paid or refunded for the current period or previous periods.

Deferred taxes are recognized for temporary differences between the carrying amounts and tax bases of assets and liabilities that will result in taxable or deductible amounts in future periods and are measured using the applicable tax rates and laws that have been enacted or substantively enacted by the end of the reporting period and which will be in effect when such differences are expected to reverse.

Deferred tax assets arise from a variety of sources, the most significant being: (i) tax losses that can be carried forward to be used against profits in future years; and (ii) temporary differences that will result in deductions against profits in future years. Deferred tax assets are recognized only to the extent that it is probable that sufficient taxable profits will be available against which these differences can be used. When an entity or tax group has a history of recent losses, deferred tax assets are only recognized to the extent there are sufficient taxable temporary differences or there is convincing other evidence that sufficient taxable profit will be available against which the unused tax losses can be utilized.

Deferred tax liabilities are recognized for temporary differences between the carrying amounts of assets and liabilities in the balance sheet that reflect the expectation that certain items will give rise to taxable income in future periods.

Deferred and current tax assets and liabilities are offset when: (i) they arise in the same tax reporting group; (ii) they relate to the same tax authority; (iii) the legal right to offset exists; and (iv) they are intended to be settled net or realized simultaneously.

## Note 1 Summary of significant accounting policies (continued)

Current and deferred taxes are recognized as income tax benefit or expense in the income statement, except for current and deferred taxes recognized: (i) upon the acquisition of a subsidiary (for which such amounts would affect the amount of goodwill arising from the acquisition); (ii) for gains and losses on the sale of treasury shares (for which the tax effects are recognized directly in *Equity*); (iii) for unrealized gains or losses on financial instruments that are classified at FVOCI (prior to 1 January 2018: financial assets classified as available for sale); (iv) for changes in fair value of derivative instruments designated as cash flow hedges; (v) for remeasurements of defined benefit plans; or (vi) for certain foreign currency translations of foreign operations. Amounts relating to points (iii) through (vi) are recognized in *Other comprehensive income* within *Equity*.

UBS AG reflects the potential effect of uncertain tax positions for which acceptance by the relevant tax authority is not considered probable by adjusting current or deferred taxes, as applicable, using either the most likely amount or expected value methods, depending on which method is deemed a better predictor of the basis on which and extent to which the uncertainty will be resolved.

### Critical accounting estimates and judgments

Tax laws are complex, and judgment and interpretations about the application of such laws are required when accounting for income taxes. UBS AG considers the performance of its businesses and the accuracy of historical forecasts and other factors in evaluating the recoverability of its deferred tax assets, including the remaining tax loss carry-forward period, and its assessment of expected future taxable profits in the forecast period used for recognizing deferred tax assets. Estimating future profitability is inherently subjective and is particularly sensitive to future economic, market and other conditions, which are difficult to predict.

The level of deferred tax asset recognition is influenced by management's assessment of UBS AG's future profitability based on relevant business plan forecasts. Existing assessments are reviewed and, if necessary, revised to reflect changed circumstances. This review is conducted annually, generally in the fourth quarter of each year, but adjustments may be made at other times, if required. In a situation where recent losses have been incurred, convincing other evidence that there will be sufficient future profitability is required.

If profit forecast assumptions in future periods deviate from the current outlook, the value of UBS AG's deferred tax assets may be affected. Any increase or decrease in the carrying amount of deferred tax assets would primarily be recognized through the income statement but would not affect cash flows.

In addition, judgment is required to assess the expected value of uncertain tax positions that are incorporated into the estimate of income and deferred tax and the assessment of the related probabilities, including in relation to the interpretation of tax laws, the resolution of any income tax-related appeals or litigation and the assessment of the related probabilities.

→ Refer to Note 8 for more information

## 9) Investments in associates

Interests in entities where UBS AG has significant influence over the financial and operating policies of the entity, but does not have control, are classified as investments in associates and accounted for under the equity method of accounting. Typically, UBS AG has significant influence when it holds or has the ability to hold between 20% and 50% of a company's voting rights. Investments in associates are initially recognized at cost, and the carrying amount is increased or decreased after the date of acquisition to recognize UBS AG's share of the investee's comprehensive income and any impairment losses.

The net investment in an associate is impaired if there is objective evidence of a loss event and the carrying amount of the investment in the associate exceeds its recoverable amount.

→ Refer to Note 31 for more information

## 10) Property, equipment and software

Property, equipment and software includes own-used properties, leasehold improvements, information technology hardware, externally purchased and internally generated software, as well as communication and other similar equipment. Property, equipment and software is measured at cost less accumulated depreciation and impairment losses and is reviewed at each reporting date for indication for impairment. Software development costs are capitalized only when the costs can be measured reliably and it is probable that future economic benefits will arise. Depreciation of property, equipment and software begins when they are available for use (i.e., when they are in the location and condition necessary for them to be capable of operating in the manner intended by management). Depreciation is calculated on a straight-line basis over an asset's estimated useful life. The estimated useful economic lives of UBS AG's property, equipment and software are:

- properties, excluding land: ≤ 67 years
- IT hardware and communication equipment: ≤ 7 years
- other machines and equipment: ≤ 10 years
- software: ≤ 10 years
- leased properties and leasehold improvements: the shorter of the lease term or the economic life of asset (typically ≤ 20 years).

## Note 1 Summary of significant accounting policies (continued)

Property, equipment and software are generally tested for impairment at the appropriate cash-generating unit (CGU) level, alongside goodwill and intangible assets as described in item 11 of this Note. An impairment charge is however only recognized for such assets if both the asset's fair value less costs of disposal and value in use (if determinable) is below its carrying amount. The fair value of such an asset, other than property which has a market price, is generally determined using a replacement cost approach that reflects the amount that would be currently required by a market participant to replace the service capacity of the asset. If such assets are no longer used, they are tested individually for impairment.

→ Refer to Note 15 for more information

### 11) Goodwill and intangible assets

Goodwill represents the excess of the cost of an acquisition over the fair value of UBS AG's share of net identifiable assets of the acquired entity at the date of the acquisition. Goodwill is not amortized, but at the end of each reporting period or when indicators of impairment exist, UBS AG assesses whether there is any indication that goodwill is impaired. If such indicators exist, UBS AG is required to test the goodwill for impairment. Irrespective of whether there is any indication of impairment, UBS AG tests goodwill for impairment annually.

Following the integration in 2018 of the Wealth Management and Wealth Management Americas business divisions into the single reportable segment Global Wealth Management, UBS AG continued to separately monitor the goodwill previously allocated to the two former business divisions. As a consequence, for the purpose of goodwill impairment testing, the former Wealth Management and Wealth Management Americas business divisions are considered to be two separate cash-generating units referred to in Note 16 as Global Wealth Management Americas and Global Wealth Management ex Americas. The remaining goodwill balances are tested at the level of Asset Management and the Investment Bank, with each segment considered a separate cash-generating unit.

The impairment test is performed for each cash-generating unit to which goodwill is allocated by comparing the recoverable amount, based on its value-in-use, to the carrying amount of the respective cash-generating unit. An impairment charge is recognized in the income statement if the carrying amount exceeds the recoverable amount.

If the estimated earnings and other assumptions in future periods deviate from the current outlook, the value of UBS AG's goodwill may become impaired in the future, giving rise to losses in the income statement. Recognition of any impairment of goodwill would reduce net profit and equity, but would not affect cash flows.

Intangible assets are comprised of separately identifiable intangible items arising from business combinations and certain purchased trademarks and similar items. Intangible assets are recognized at cost. The cost of an intangible asset acquired in a business combination is its fair value at the date of acquisition. Intangible assets with a finite useful life are amortized using the straight-line method over their estimated useful life, generally not exceeding 20 years. In rare cases, intangible assets can have an indefinite useful life, in which case they are not amortized. At each reporting date, intangible assets are reviewed for indications of impairment. If such indications exist, the intangible assets are analyzed to assess whether their carrying amount is fully recoverable. An impairment loss is recognized if the carrying amount exceeds the recoverable amount.

#### Critical accounting estimates and judgments

UBS AG's methodology for goodwill impairment testing is based on a model that is most sensitive to the following key assumptions: (i) forecasts of earnings available to shareholders in years one to three; (ii) changes in the discount rates; and (iii) changes in the long-term growth rate.

The key assumptions are linked to external market information, where applicable. Earnings available to shareholders are estimated on the basis of forecast results, which are part of the business plan approved by the BoD. The discount rates are determined by applying a capital asset pricing model-based approach, as well as considering quantitative and qualitative inputs from both internal and external analysts, the view of management and regional differences in risk-free rates, at the level of individual cash-generating units. Long-term growth rates are determined in a consistent manner based on nominal or real GDP growth rate forecasts, considering different regions worldwide as incorporated in the business plan approved by the BoD.

The key assumptions used to determine the recoverable amounts of each cash-generating unit are tested for sensitivity by applying reasonably possible changes to those assumptions. Refer to Note 16 for details about how the reasonably possible changes may affect the results of UBS AG's model for goodwill impairment testing.

→ Refer to Notes 2 and 16 for more information

### 12) Provisions and contingent liabilities

Provisions are liabilities of uncertain timing or amount, and are generally recognized in accordance with IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*, when: (i) UBS AG has a present obligation as a result of a past event; (ii) it is probable that an outflow of resources will be required to settle the obligation; and (iii) a reliable estimate of the amount of the obligation can be made.

UBS AG recognizes IAS 37 provisions for litigation, regulatory and similar matters when, in the opinion of management after seeking legal advice, the requirements for recognition have been met. A provision may also be established for claims that have not yet been asserted against UBS AG, but are nevertheless expected to be, based on UBS AG experience with similar asserted claims.

## Note 1 Summary of significant accounting policies (continued)

IAS 37 provisions are measured considering the best estimate of the consideration required to settle the present obligation at the balance sheet date. Such estimates are based on all available information and are revised over time as more information becomes available. If the effect of the time value of money is material, provisions are discounted and measured at the present value of the expenditure expected to settle or discharge the obligation, using a rate that reflects the current market assessments of the time value of money and the risks specific to the obligation.

Provisions that are similar in nature are aggregated to form a class, while the remaining provisions, including those of less significant amounts, are disclosed under *Other provisions*. Provisions are presented separately on the balance sheet and, when they are no longer considered uncertain in timing or amount, are reclassified to their respective liability lines depending on their nature.

When all conditions required to recognize a provision are not met, a contingent liability is disclosed, unless the likelihood of an outflow of resources is remote. Contingent liabilities are also disclosed for possible obligations that arise from past events whose existence will be confirmed only by uncertain future events not wholly within the control of UBS AG. Such disclosures are not made if it is not practicable to do so.

The majority of UBS AG's provisions relate to litigation, regulatory and similar matters, restructuring, and employee benefits. Restructuring provisions are generally recognized as a consequence of management agreeing to materially change the scope of the business or the manner in which it is conducted, including changes in the management structure. Provisions for employee benefits relate mainly to service anniversaries and sabbatical leave, and are recognized in accordance with measurement principles set out in item 7 of this Note. In addition, UBS AG presents expected credit loss allowances within *Provisions* if they relate to a loan commitment, financial guarantee contract or a revolving revocable credit line.

### Critical accounting estimates and judgments

Recognition of provisions often involves significant judgment in assessing the existence of an obligation that results from past events and in estimating the probability, timing and amount of any outflows of resources. This is particularly the case for litigation, regulatory and similar matters, which, due to their nature, are subject to many uncertainties making their outcome difficult to predict. Such matters may involve unique fact patterns or novel legal theories, proceedings that have not yet been initiated or are at early stages of adjudication, or as to which alleged damages have not been quantified by the claimants. Determining whether an obligation exists as a result of a past event and estimating the probability, timing and amount of any potential outflows is based on a variety of assumptions, variables, and known and unknown uncertainties.

The amount of any provision recognized is sensitive to the assumptions used and there could be a wide range of possible outcomes for any particular matter.

Statistical or other quantitative analytical tools are generally of limited use in determining whether to establish or determine the amount of provisions in the case of litigation, regulatory or similar matters. Furthermore, information currently available to management may be incomplete or inaccurate, increasing the risk of erroneous assumptions with regard to the future development of such matters. Management regularly reviews all the available information regarding such matters, including legal advice, which is a significant consideration, to assess whether the recognition criteria for provisions have been satisfied and to determine the timing and amount of any potential outflows.

→ Refer to Note 21 for more information

### 13) Foreign currency translation

Transactions denominated in a foreign currency are translated into the functional currency of the reporting entity at the spot exchange rate on the date of the transaction. At the balance sheet date, all monetary assets, including those at FVOCI (prior to 1 January 2018: monetary financial assets classified as available for sale), and monetary liabilities denominated in foreign currency are translated into the functional currency using the closing exchange rate. Translation differences (which for monetary financial assets at FVOCI are determined as if they were financial assets measured at amortized cost) are reported in *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2018: *Net trading income*).

Non-monetary items measured at historical cost are translated at the exchange rate on the date of the transaction. Prior to 1 January 2018, foreign currency translation differences on non-monetary financial assets classified as available for sale were recorded directly in *Equity* until the asset was derecognized.



## Note 1 Summary of significant accounting policies (continued)

Upon consolidation, assets and liabilities of foreign operations (which from 1 October 2018 also include UBS AG's Switzerland-based operations with Swiss franc functional currency) are translated into US dollars, UBS AG's presentation currency, at the closing exchange rate on the balance sheet date, and income and expense items and other comprehensive income are translated at the average rate for the period. The resulting foreign currency translation differences attributable to shareholders are recognized in *Foreign currency translation* within *Equity*, which forms part of *Total equity attributable to shareholders*, whereas the foreign currency translation differences attributable to non-controlling interests are included within *Equity attributable to non-controlling interests*. Share capital issued, share premium and treasury shares held are translated at the historic average rate, whereby the difference between the historic average rate and the spot rate realized upon repayment of share capital or disposal of treasury shares is reported as *Share premium*. Cumulative amounts recognized in OCI in respect of cash flow hedges and financial assets measured at FVOCI (prior to 1 January 2018: financial assets classified as available for sale) are translated at the closing exchange rate as of the balance sheet dates, with any translation effects adjusted through *Retained earnings*.

When a foreign operation is disposed or partially disposed of and UBS AG no longer controls the foreign operation, the cumulative amount of foreign currency translation differences within *Total equity attributable to shareholders* and *Equity attributable to non-controlling interests* related to that foreign operation is reclassified to the income statement as part of the gain or loss on disposal. Similarly, if an investment in an associate becomes an investment in a subsidiary, the cumulative amount of foreign currency translation differences is reclassified to profit or loss. When UBS AG disposes of a portion of its interest in a subsidiary that includes a foreign operation but retains control, the related portion of the cumulative currency translation balance is reclassified to *Equity attributable to non-controlling interests*.

→ Refer to Note 37 for more information

### Critical accounting estimates and judgments

The determination of an entity's functional currency and the trigger for a change requires management to apply significant judgment and assumptions. IAS 21, *The Effects of Changes in Foreign Exchange Rates*, requires management to consider the underlying transactions, events and conditions that are relevant to the entity when determining the appropriate functional currency and any changes. UBS AG's conclusion, in the fourth quarter of 2018, that the functional currency of UBS AG's Head Office in Switzerland and UBS AG London Branch had changed from the Swiss franc to the US dollar was based on a detailed assessment of the primary currencies affecting and influencing the economics of each entity, considering revenue-generating income streams, expenses, funding and risk management activities.

In addition, determining the earliest date from which it is practicable to perform a restatement following a voluntary change in presentational currency also requires management to apply significant judgment and make estimates and assumptions. UBS AG's decision in 2018 to change the presentation currency of its consolidated financial statements from the Swiss franc to the US dollar was made in line with IAS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*, by assessing the earliest date from which it was practicable to perform a restatement, taking into consideration whether sufficiently reliable data was available for earlier periods and whether any assumptions on management intent or significant estimates of amounts were required. UBS AG carried out a detailed and extensive data analysis before concluding that 1 January 2004 represented the earliest date available, with the consequence that foreign currency translation gains and losses prior to 2004 were disregarded, and foreign currency translation effects were first calculated from 1 January 2004 onward.

## 14) Non-controlling interests and preferred noteholders

### Non-controlling interests and preferred noteholders

*Net profit* is split into *Net profit attributable to shareholders*, *Net profit attributable to non-controlling interest* and *Net profit attributable to preferred noteholders*. Similarly, *Equity* is split into *Equity attributable to shareholders*, *Equity attributable to non-controlling interests* and *Equity attributable to preferred noteholders*.

Non-controlling interests subject to option arrangements, e.g., written puts, are generally deemed to be acquired by UBS AG. As a result, the amounts allocated to non-controlling interests are reduced accordingly and a liability equivalent to each option's exercise price is recognized, with any difference between these two amounts recorded in *Share premium*.

## Note 1 Summary of significant accounting policies (continued)

### 15) Leasing

#### *Policy applicable from 1 January 2019<sup>1</sup>*

UBS AG predominantly enters into lease contracts, or contracts that include lease components, as a lessee of real estate, including offices, retail branches and sales offices, with a small number of IT hardware leases. UBS AG identifies non-lease components of a contract and accounts for them separately from lease components.

When UBS AG is a lessee in a lease arrangement, UBS AG recognizes a lease liability and corresponding right-of-use (RoU) asset at the commencement of the lease term when UBS AG acquires control of the physical use of the asset. Lease liabilities are presented within *Other financial liabilities measured at amortized cost* and RoU assets within *Property, equipment and software*. The lease liability is measured based on the present value of the lease payments over the lease term, discounted using UBS AG's unsecured borrowing rate, given that the rate implicit in a lease is generally not observable to the lessee. Interest expense on the lease liability is presented within *Interest expense from financial instruments measured at amortized cost*. The RoU asset is recorded at an amount equal to the lease liability but is adjusted for rent prepayments, initial direct costs, any costs to refurbish the leased asset and/or lease incentives received. The RoU asset is depreciated over the shorter of the lease term or the useful life of the underlying asset, with the depreciation presented within *Depreciation and impairment of property, equipment and software*.

Lease payments generally include fixed payments and variable payments that depend on an index (such as an inflation index). When a lease contains an extension or termination option that UBS AG considers reasonably certain to be exercised, the expected rental payments or costs of termination are included within the lease payments used to generate the lease liability. UBS AG does not typically enter into leases with purchase options or residual value guarantees.

Where UBS AG acts as a lessor or sub-lessor under a finance lease, a receivable is recognized in *Other financial assets measured at amortized cost* at an amount equal to the present value of the aggregate of the lease payments plus any unguaranteed residual value that UBS AG expects to recover at the end of the lease term. Initial direct costs are also included in the initial measurement of the lease receivable. Lease payments received during the lease term are allocated as repayments of the outstanding receivable. Interest income reflects a constant periodic rate of return on UBS AG's net investment using the interest rate implicit in the lease (or, for sub-leases, the rate for the head lease). UBS AG reviews the estimated unguaranteed residual value annually, and if the estimated residual value to be realized is less than the amount assumed at lease inception, a loss is recognized for the expected shortfall. Where UBS AG acts as a lessor or sub-lessor in an operating lease, UBS AG recognizes the operating lease income on a straight-line basis over the lease term.

Lease receivables are subject to impairment requirements as set out in item 3g of this Note. Expected credit losses (ECL) on lease receivables are determined following the general impairment model within IFRS 9, *Financial Instruments*, without utilizing the simplified approach of always measuring impairment at the amount of lifetime ECL.

#### *Comparative policy | Policy applicable prior to 1 January 2019*

Leases that transfer substantially all the risks and rewards, but not necessarily legal title in the underlying assets, are classified as finance leases. All other leases are classified as operating leases. Lease contracts classified as operating leases where UBS AG is the lessee include non-cancelable long-term leases of office buildings in most UBS AG locations. Operating lease rentals payable are recognized as an expense on a straight-line basis over the lease term, which commences with control of the physical use of the property. Lease incentives are treated as a reduction of rental expense and are recognized on a consistent basis over the lease term.

→ Refer to Note 15 and 33 for more information

<sup>1</sup> The accounting policy in this section applies from 1 January 2019, the effective date of IFRS 16.

## Note 1 Summary of significant accounting policies (continued)

### b) Changes in accounting policies, comparability and other adjustments

#### New or amended accounting standards

##### *Amendments to IAS 39, IFRS 9 and IFRS 7 (Interest Rate Benchmark Reform)*

In September 2019, the IASB issued *Interest Rate Benchmark Reform – Amendments to IFRS 9, IAS 39 and IFRS 7*, enabling hedge accounting to continue during the period of uncertainty before existing interest rate benchmarks are replaced with alternative risk-free interest rates. The amendments are mandatorily effective from 1 January 2020, with early adoption permitted, and apply to hedge relationships that exist at the beginning of the reporting period or are designated thereafter, and to the gains or losses that exist in OCI on adoption. As permitted by the transitional provisions, UBS AG early adopted the revisions in 2019. Adopting these amendments allows UBS AG to maintain its existing hedge accounting relationships and to assume that the current benchmark rates will continue to exist, such that the hedge relationships are considered highly effective on a retrospective and prospective basis, with no consequential impact on the financial statements. Further, the amendments bring in additional disclosure requirements on the effects arising from the change in interest rate benchmarks, which are presented in Note 28.

##### *IFRS 16, Leases*

Effective from 1 January 2019, UBS AG adopted IFRS 16, *Leases*, which replaced IAS 17, *Leases*, and sets out the principles for the recognition, measurement, presentation and disclosure of leases.

IFRS 16 introduces a single lessee accounting model and fundamentally changes how UBS AG accounts for operating leases when acting as a lessee, with a requirement to record a right-of-use (RoU) asset and lease liability on the balance sheet. UBS AG is a lessee in a number of leases, primarily of real estate, including offices, retail branches and sales offices, with a smaller number of IT hardware leases. As permitted by the transitional provisions of IFRS 16, UBS AG elected to apply the modified retrospective approach and has not restated comparative figures. Overall, adoption of IFRS 16 resulted in a USD 3.4 billion increase in both total assets and total liabilities in UBS AG's consolidated financial statements.

The newly recognized right-of-use assets and finance lease receivables were fully allocated to the business divisions. There was no effect on equity.

→ Refer to the tables below and on the following page, and Note 2 for more information

UBS AG applied the following practical expedients that are permitted on transition to IFRS 16 where UBS AG is a lessee in a lease previously classified as an operating lease:

- to not reassess whether or not a contract contained a lease;
- to rely on previous assessments of whether such contracts were considered onerous;
- to rely on previous sale-and-leaseback assessments;
- to adjust lease terms with the benefit of hindsight with respect to whether extension or termination options are reasonably certain of being exercised;
- to discount lease liabilities using the UBS AG's incremental borrowing rate in each currency as of 1 January 2019;
- to initially measure the RoU asset at an amount equal to the lease liability for leases previously classified as operating leases, adjusted for existing lease balances, such as rent prepayments, rent accruals, lease incentives and onerous lease provisions, but excluding initial direct costs; and
- to not apply IFRS 16 to leases the remaining term of which will end within 12 months from the transition date.

The measurement of leases previously classified as finance leases where UBS AG acts as a lessee has not changed on transition to IFRS 16. Similarly, UBS AG has made no adjustments where UBS AG acts as a lessor, in either a finance or operating lease, of physical assets it owns. Where UBS AG acts as an intermediate lessor, i.e., where UBS AG enters into a head lease and sub-leases the asset to a third party, the sub-lease has been classified as either a finance or operating lease based primarily on whether the sub-lease term consumes the majority of the remaining useful life of the RoU asset arising from the head lease as of the transition date.

The following table reconciles the obligations in respect of operating leases as of 31 December 2018 to the opening lease liabilities recognized on 1 January 2019.

#### Reconciliation between operating lease commitments disclosed under IAS 17 and lease liabilities recognized under IFRS 16

<i>USD million</i>	
<b>Total undiscounted operating lease commitments as of 31 December 2018</b>	<b>4,546</b>
Leases with a remaining term of less than one year as of 1 January 2019	(18)
Excluded service components	(296)
Reassessment of lease term for extension or termination options	424
<b>Total undiscounted lease payments</b>	<b>4,657</b>
Discounted at a weighted average incremental borrowing rate of 3.07%	(720)
<b>IFRS 16 transition adjustment</b>	<b>3,937</b>
Finance lease liabilities as of 31 December 2018	19
<b>Carrying amount of total lease liabilities as of 1 January 2019</b>	<b>3,956</b>



## Note 1 Summary of significant accounting policies (continued)

The following table provides details about the determination of RoU assets on transition.

### Determination of RoU assets on transition

USD million	Carrying amount
Recognition of gross RoU assets upon adoption of IFRS 16 (IFRS 16 transition adjustment)	3,937
Offset by liabilities recognized as of 31 December 2018	(515)
<i>of which: other non-financial liabilities (lease incentives)</i>	<i>(204)</i>
<i>of which: other financial liabilities measured at amortized cost (rent accruals)</i>	<i>(180)</i>
<i>of which: provisions (onerous lease provisions)</i>	<i>(131)</i>
<b>Increase in total assets resulting from the adoption of IFRS 16 on 1 January 2019<sup>1</sup></b>	<b>3,422</b>
Reclassification of assets recognized as of 31 December 2018 as an addition to RoU assets	38
<i>of which: other financial assets measured at amortized cost (finance lease assets recognized under IAS 17 as of 31 December 2018)</i>	<i>19</i>
<i>of which: other non-financial assets (prepaid rent)</i>	<i>19</i>
Reclassification of finance lease receivables from sub-leases to other financial assets measured at amortized cost resulting in a reduction of RoU assets	(176)
<b>Total RoU assets as of 1 January 2019 presented within Property, equipment and software</b>	<b>3,284</b>

<sup>1</sup> Total liabilities increased by the same amount upon adoption of IFRS 16.

Lease liabilities are presented within *Other financial liabilities measured at amortized cost* and RoU assets within *Property, equipment and software*. Finance lease receivables are included within *Other financial assets measured at amortized cost*. Due to the practical expedients taken on transition, there was no effect on equity. The weighted average lease term on 1 January 2019 was approximately nine years.

The 2019 depreciation expense for RoU assets, which is presented within *Depreciation and impairment of property, equipment and software*, was USD 463 million. The 2019 interest expense on lease liabilities, which is presented within *Interest expense from financial instruments measured at amortized cost*, was USD 118 million. Occupancy expenses, which are presented within *General and administrative expenses*, decreased by USD 510 million between 2018 and 2019, which primarily reflected the adoption of IFRS 16. The full year effect of the application of IFRS 16 was a net decrease in profit before tax of approximately USD 60 million.

### IFRIC 23, Uncertainty over Income Tax Treatments

Effective from 1 January 2019, UBS AG adopted IFRIC Interpretation 23, *Uncertainty over Income Tax Treatments* (IFRIC 23), which addresses how uncertain tax positions should be accounted for under IFRS. IFRIC 23 requires that, where acceptance of the tax treatment by the relevant tax authority is considered probable, it should be assumed as an accounting recognition matter that treatment of the item will ultimately be accepted. Therefore no tax provision would be required in such cases. However, if acceptance of the tax treatment is not considered probable, the entity is required to reflect that uncertainty using an expected value (i.e., a probability-weighted approach) or the single most likely amount.

Upon adoption of IFRIC 23 on 1 January 2019, UBS AG recognized a net tax expense of USD 11 million in retained earnings.

### Amendments to IAS 19, Employee Benefits

Effective from 1 January 2019, UBS AG adopted amendments to IAS 19, *Employee Benefits*, which address the accounting when a plan amendment, curtailment or settlement occurs during the reporting period. The amendments require entities to use the updated actuarial assumption to determine current service cost and net interest for the remainder of the annual reporting period after such an event. The amendments also clarify how the accounting requirements for a plan amendment, curtailment or settlement affect the asset ceiling requirements. The amendments are effective prospectively for plan amendments, curtailments or settlements that occur on or after 1 January 2019. Adoption on 1 January 2019 had no effect on UBS AG's financial statements.

### Annual Improvements to IFRS Standards 2015–2017 Cycle

Effective from 1 January 2019, UBS AG adopted Annual Improvements to IFRS Standards 2015–2017 Cycle, which resulted in amendments to IFRS 3, *Business Combinations*, IFRS 11, *Joint Arrangements*, IAS 12, *Income Taxes*, and IAS 23, *Borrowing Costs*. Adoption of these amendments on 1 January 2019 had no material effect on UBS AG's financial statements.

## Note 1 Summary of significant accounting policies (continued)

### Other changes to presentation or segment reporting

#### *Presentation of dividend income and expense from financial instruments measured at fair value through profit or loss*

Effective from 1 January 2019, UBS AG refined the presentation of dividend income and expense. This resulted in a reclassification of dividends from *Interest income (expense) from financial instruments measured at fair value through profit or loss* into *Other net income from financial instruments measured at fair value through profit or loss* (prior to 1 January 2019:

*Other net income from fair value changes on financial instruments*). The change aligns the presentation of dividends with related fair value changes from equity instruments and economic hedges, removing volatility that has historically arisen within both *Net interest income* and *Other net income from financial instruments measured at fair value through profit or loss*. There is no effect on *Total operating income* or *Net profit / (loss)*. Prior periods have been restated for this presentational change and the effect on the respective reporting lines is outlined in the table below.

#### Changes to the presentation of dividend income and expense from financial instruments measured at fair value through profit or loss

USD million	For the year ended	
	31.12.18	31.12.17
Interest income from financial instruments measured at fair value through profit or loss	(2,308)	(1,762)
Interest expense from financial instruments measured at fair value through profit or loss	1,331	1,190
<b>Net interest income</b>	<b>(976)</b>	<b>(572)</b>
<b>Other net income from financial instruments measured at fair value through profit or loss</b>	<b>976</b>	<b>572</b>

#### *Changes to Corporate Center*

As of 1 January 2019, UBS AG has operationally combined Group Treasury activities with Group ALM and calls this combined unit Group Treasury.

In order to further align Group and divisional performance, UBS AG adjusted the methodology for the allocation of Group Treasury and Corporate Center – Services funding costs and expenses to the business divisions. At the same time, UBS AG updated its funds transfer pricing framework to better reflect the sources and usage of funding. All of these changes became effective as of 1 January 2019 and prior-period segment information has been restated. Together, these changes decreased the operating results of the business divisions and thereby increased their adjusted cost / income ratios 1–2 percentage points, with an offsetting effect of USD 0.7 billion in Corporate Center's operating profit / (loss) before tax. Corporate Center has retained funding costs for deferred tax assets, costs relating to UBS AG's legal entity transformation program and other costs not attributable to, or representative of the performance of, the business divisions.

Alongside the update to allocations and UBS AG's funds transfer pricing framework, UBS AG has increased the allocation of balance sheet resources from Corporate Center to the business divisions, resulting in USD 223 billion of assets allocated from Corporate Center to the business divisions in restated 2018 numbers, predominantly from high-quality liquid assets and certain other assets centrally managed on behalf of the business divisions.

Further, due to the aforementioned changes to UBS's methodology for allocating funding costs and expenses and a substantial reduction in the size and resource consumption of the various Corporate Center units, UBS AG provides results for total Corporate Center only and does not separately report Corporate Center – Services, Group Treasury and Non-core and Legacy Portfolio, in compliance with IFRS 8, *Operating Segments*. Prior-period information has been restated.

→ Refer to Note 2 for more information

## Note 1 Summary of significant accounting policies (continued)

### c) International Financial Reporting Standards and Interpretations to be adopted in 2020 and later and other changes

#### Adoption of hedge accounting requirements of IFRS 9, *Financial Instruments*

Effective 1 January 2020, UBS AG will adopt the hedge accounting requirements of IFRS 9, *Financial Instruments* for most of its existing hedge accounting programs, including fair value hedges of interest rate risk related to debt instruments, cash flow hedges of forecast transactions and hedges of net investments in foreign operations. As permitted by IFRS 9, UBS AG will continue to account for its fair value hedges of portfolio interest rate risk related to loans under IAS 39, *Financial Instruments: Recognition and Measurement*.

IFRS 9's hedge accounting model further aligns accounting with risk management practices, amends hedge effectiveness requirements and prohibits voluntary de-designations. IFRS 9 permits certain additional hedged items, including layer components, net positions, or aggregated exposures, such as a combination of a non-derivative and derivative, to be designated. IFRS 9 also introduces the concept of "cost of hedging," under which the time value of options, the forward element of a forward contract or foreign currency basis spreads in a cross-currency swap can be deferred in other comprehensive income and, depending on the nature of the hedged transaction, released to the income statement either when the hedged item impacts the income statement or over the term of the hedged item.

The adoption of these requirements will have no consequential financial impact on UBS AG's financial statements. However, the adoption will allow UBS AG to designate more effective hedge accounting relationships going forward, including fair value hedges of foreign currency risk using cross-currency swaps, and reduce income statement volatility caused by foreign currency basis spreads.

#### Conceptual Framework

In March 2018, the IASB issued a revised version of its Conceptual Framework for Financial Reporting (the Framework). The Framework sets out the fundamental concepts of financial reporting and will be used by the IASB in developing IFRS standards. Preparers use the Framework as a point of reference to develop accounting policies in rare instances where a particular business transaction is not covered by existing IFRS standards.

The adoption of the Framework by UBS AG on 1 January 2020 will have no effect on its financial statements.

#### Amendments to IFRS 3, *Business Combinations*

In October 2018, the IASB issued *Definition of a Business (Amendments to IFRS 3)*. The amendments clarify the definition of a business, with the objective of assisting in the determination of whether a transaction should be accounted for as a business combination or an asset acquisition. The amendments apply to transactions with an acquisition date on or after 1 January 2020. The adoption of these amendments on 1 January 2020 will have no effect on its financial statements.

#### IFRS 17, *Insurance Contracts*

In May 2017, the IASB issued IFRS 17, *Insurance Contracts*, which sets out the accounting requirements for contractual rights and obligations that arise from insurance contracts issued and reinsurance contracts held. IFRS 17 is effective from 1 January 2021; however, as part of the targeted amendments to IFRS 17, the IASB is considering delaying the mandatory implementation date by one year. UBS AG is assessing the standard, but does not expect it to have a material effect on its financial statements.

## Note 2a Segment reporting

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The operational structure of UBS AG as of 31 December 2019 was comprised of Corporate Center and four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank.

→ Refer to “Segment reporting” in Note 1a for more information

### Global Wealth Management

Global Wealth Management provides investment advice and solutions to private clients, in particular in the ultra high net worth and high net worth segments. Clients benefit from Global Wealth Management’s comprehensive set of capabilities, including wealth planning, investing, lending, asset protection, philanthropy, corporate and banking services, as well as family office services in collaboration with the Investment Bank and Asset Management. Global Wealth Management has a global footprint, with the US representing its largest market. Clients are served through local offices and dedicated advisors. The ultra high net worth business is managed globally across the regions.

### Personal & Corporate Banking

Personal & Corporate Banking provides comprehensive financial products and services to private, corporate and institutional clients and operates in Switzerland in the private and corporate loan market. Personal & Corporate Banking is central to UBS’s universal bank model in Switzerland and it works with Global Wealth Management, the Investment Bank and Asset Management to help clients receive the best products and solutions for their specific financial needs. While Personal & Corporate Banking operates primarily in its home market of Switzerland, it also provides capabilities to support the growth of the international business activities of UBS AG’s corporate and institutional clients through local hubs in Frankfurt, New York, Hong Kong and Singapore. The business is divided into Personal Banking and Corporate & Institutional Clients (CIC).

### Asset Management

Asset Management is a large-scale and diversified global asset manager. It offers investment capabilities and styles across all major traditional and alternative asset classes, as well as advisory support to institutions, wholesale intermediaries and Global Wealth Management clients around the world. Asset Management offers clients a wide range of investment products and services in different asset classes in the form of segregated, pooled or advisory mandates, as well as registered investment funds in various jurisdictions. It covers the main asset management markets globally, and has a local presence in 22 markets, grouped in four regions: the Americas; Europe, Middle East and Africa; Switzerland; and Asia Pacific.

### Investment Bank

The Investment Bank provides a range of services to institutional, corporate and wealth management clients to help them raise capital, grow their businesses, invest and manage risks. It is focused on its traditional strengths in advisory services, capital markets, equities and foreign exchange, complemented by a targeted rates and credit platform. The Investment Bank uses its research and technology capabilities to support its clients as they adapt to the evolving market structures and changes in the regulatory, technological, economic and competitive landscapes. The Investment Bank delivers solutions to clients, using its intellectual capital and electronic platforms. It also provides services to Global Wealth Management, Personal & Corporate Banking and Asset Management. It has a global reach, with a presence in more than 30 countries and principal offices in the major financial hubs.

### Corporate Center

Corporate Center consists of the Group Chief Operating Officer area (Group Technology, Group Corporate Services, Group Human Resources and Group Operations), Group Treasury, Group Finance, Group Legal, Group Risk Control, Group Communications & Branding, Group Compliance, Regulatory & Governance, UBS in society, and Non-core and Legacy Portfolio (NCL). Over recent years, UBS has progressively aligned its support functions with the business divisions. The majority of these functions are either fully aligned or shared among business divisions, where they have full management responsibility.

Group Treasury manages the structural risk of UBS AG’s balance sheet, including interest rate risk, structural foreign exchange risk and collateral risk, as well as the risks associated with UBS AG’s liquidity and funding portfolios. Group Treasury serves all business divisions through two main risk management areas, and its risk management is fully integrated into UBS AG’s risk governance framework.

NCL manages legacy positions from businesses exited by the Investment Bank. It is overseen by a committee chaired by the Group Chief Risk Officer. The portfolio also includes positions relating to legal matters arising from businesses that were transferred to it at the time of its formation.

Beginning with the first quarter 2019 and in compliance with IFRS 8, *Operating Segments*, UBS AG provides results for total Corporate Center only and does not separately report Corporate Center – Services, Group Treasury and NCL.

## Note 2a Segment reporting (continued)

### Changes in Corporate Center cost and resource allocation to business divisions

In order to further align Group and divisional performance, UBS AG has adjusted its methodology for the allocation of Corporate Center funding costs and expenses to the business divisions. At the same time, it has updated its funds transfer pricing framework to better reflect the sources and usage of funding. Additionally, UBS AG has increased the allocation of balance sheet resources from Corporate Center to the business divisions. Prior periods have been restated and the effect on the respective reporting lines is outlined in the table below.

These changes had no effect on the reported results or financial position of UBS AG.

Upon adoption of IFRS 16, *Leases*, on 1 January 2019, UBS AG additionally allocated approximately USD 3.4 billion of newly recognized right-of-use assets and finance lease receivables to the business divisions.

→ Refer to Note 1b for more information

### Effects of changes in Corporate Center cost and resource allocation to business divisions on prior-period information

USD million increase / (reduction)	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS AG
<b>For the year ended 31 December 2018</b>						
Operating profit / (loss) before tax	(374)	(116)	(25)	(163)	677	0
Total assets	113,702	61,894	3,769	43,562	(222,927)	0
<b>For the year ended 31 December 2017</b>						
Operating profit / (loss) before tax	(351)	(133)	(24)	(180)	689	0
Total assets	102,641	58,196	3,329	41,628	(205,795)	0

### Segment reporting

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS AG
<b>For the year ended 31 December 2019<sup>1</sup></b>						
Net interest income <sup>2</sup>	3,947	1,993	(25)	(669)	(831)	4,415
Non-interest income <sup>2</sup>	12,426	1,745	1,962	7,967	869	24,970
Income	16,373	3,737	1,938	7,298	38	29,385
Credit loss (expense) / recovery	(20)	(21)	0	(30)	(7)	(78)
Total operating income	16,353	3,717	1,938	7,268	31	29,307
Personnel expenses	7,618	852	720	2,732	1,879	13,801
General and administrative expenses	1,283	229	201	738	6,135	8,586
Services (to) / from Corporate Center and other business divisions	4,055	1,179	485	2,922	(8,642)	0
of which: services from Corporate Center	3,922	1,293	530	2,976	(8,721)	0
Depreciation and impairment of property, equipment and software	5	13	1	8	1,549	1,576
Amortization and impairment of goodwill and intangible assets <sup>3</sup>	56	0	0	115	4	175
Total operating expenses	13,018	2,274	1,407	6,515	925	24,138
<b>Operating profit / (loss) before tax</b>	<b>3,335</b>	<b>1,443</b>	<b>531</b>	<b>753</b>	<b>(893)</b>	<b>5,169</b>
Tax expense / (benefit)						1,198
<b>Net profit / (loss)</b>						<b>3,971</b>
<b>Additional information</b>						
Total assets	309,766	209,512	34,565	316,058	102,017	971,916
Additions to non-current assets <sup>4</sup>	68	10	0	1	4,935	5,014

<sup>1</sup> Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b. <sup>2</sup> Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from Net interest income to Non-interest income. Prior-period information was restated accordingly, with virtually all of the effect on UBS AG arising from the Investment Bank. Refer to Note 1b for more information. <sup>3</sup> Refer to Note 16 for more information. <sup>4</sup> Upon adoption of IFRS 16 on 1 January 2019, UBS AG additionally allocated approximately USD 3.4 billion of newly recognized assets to the business divisions, of which USD 3.3 billion related to non-current assets. Refer to Note 1b for more information.

## Note 2a Segment reporting (continued)

<i>USD million</i>	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS AG
<b>For the year ended 31 December 2018<sup>1</sup></b>						
Net interest income <sup>2</sup>	4,101	2,049	(29)	(459)	(690)	4,971
Non-interest income <sup>2</sup>	12,700	2,169	1,881	8,539	499	25,788
Income	16,801	4,218	1,852	8,080	(191)	30,759
Credit loss (expense) / recovery	(15)	(56)	0	(38)	(8)	(117)
Total operating income	16,786	4,162	1,852	8,042	(199)	30,642
Personnel expenses	7,680	799	702	2,936	1,875	13,992
General and administrative expenses	1,771	289	206	706	7,104	10,075
Services (to) / from Corporate Center and other business divisions	4,069	1,261	516	2,938	(8,784)	0
<i>of which: services from Corporate Center</i>	<i>3,935</i>	<i>1,365</i>	<i>561</i>	<i>2,991</i>	<i>(8,852)</i>	<i>0</i>
Depreciation and impairment of property, equipment and software	4	14	2	8	1,023	1,052
Amortization and impairment of goodwill and intangible assets <sup>3</sup>	50	0	1	12	2	65
Total operating expenses	13,574	2,363	1,427	6,600	1,220	25,184
<b>Operating profit / (loss) before tax</b>	<b>3,212</b>	<b>1,799</b>	<b>425</b>	<b>1,442</b>	<b>(1,419)</b>	<b>5,458</b>
Tax expense / (benefit)						1,345
<b>Net profit / (loss)</b>						<b>4,113</b>
<b>Additional information</b>						
Total assets	313,737	200,767	28,140	302,434	112,977	958,055
Additions to non-current assets	196	23	1	89	1,449	1,757

<sup>1</sup> Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b. <sup>2</sup> Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from Net interest income to Non-interest income. Prior-period information was restated accordingly, with virtually all of the effect on UBS AG arising from the Investment Bank. Refer to Note 1b for more information. <sup>3</sup> Refer to Note 16 for more information.

## Note 2a Segment reporting (continued)

<i>USD million</i>	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Corporate Center	UBS AG
<b>For the year ended 31 December 2017<sup>1</sup></b>						
Net interest income <sup>2</sup>	3,880	2,044	(23)	234	(114)	6,021
Non-interest income <sup>2</sup>	12,265	1,815	2,100	7,508	466	24,155
Income <sup>3</sup>	16,145	3,859	2,077	7,742	352	30,176
Credit loss (expense) / recovery	(8)	(20)	0	(92)	(11)	(131)
Total operating income	16,137	3,839	2,077	7,651	341	30,044
Personnel expenses	7,679	849	731	3,007	2,686	14,952
General and administrative expenses	1,308	300	238	728	6,426	9,001
Services (to) / from Corporate Center and other business divisions	3,926	1,200	541	2,858	(8,525)	0
<i>of which: services from Corporate Center</i>	<i>3,803</i>	<i>1,318</i>	<i>580</i>	<i>2,892</i>	<i>(8,593)</i>	<i>0</i>
Depreciation and impairment of property, equipment and software	4	13	1	10	916	945
Amortization and impairment of goodwill and intangible assets <sup>4</sup>	49	0	3	12	7	71
Total operating expenses	12,966	2,363	1,515	6,614	1,510	24,969
<b>Operating profit / (loss) before tax</b>	<b>3,171</b>	<b>1,476</b>	<b>562</b>	<b>1,036</b>	<b>(1,169)</b>	<b>5,076</b>
Tax expense / (benefit)						4,242
<b>Net profit / (loss)</b>						<b>834</b>
<b>Additional information</b>						
Total assets	297,631	197,290	17,968	311,477	115,654	940,020
Additions to non-current assets	120	15	1	3	1,509	1,648

<sup>1</sup> Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b. <sup>2</sup> Effective 1 January 2019, UBS refined the presentation of dividend income and expense, reclassifying dividends from financial instruments measured at fair value through profit or loss from Net interest income to Non-interest income. Prior-period information was restated accordingly, with virtually all of the effect on UBS AG arising from the Investment Bank. Refer to Note 1b for more information. <sup>3</sup> Includes impairments of financial assets classified at fair value through other comprehensive income (prior to 2018 classified as financial assets available for sale) for the year ended 31 December 2017 of USD 15 million, of which USD 12 million was recorded in Asset Management. <sup>4</sup> Refer to Note 16 for more information.

## Note 2b Segment reporting by geographic location

The operating regions shown in the table below correspond to the regional management structure of UBS AG. The allocation of operating income to these regions reflects, and is consistent with, the basis on which the business is managed and its performance is evaluated. These allocations involve assumptions and judgments that management considers to be reasonable, and may be refined to reflect changes in estimates or management structure. The main principles of the allocation methodology are that client revenues are attributed to the

domicile of the client and trading and portfolio management revenues are attributed to the country where the risk is managed. This revenue attribution is consistent with the mandate of the regional Presidents. Certain revenues, such as those related to Non-core and Legacy Portfolio in Corporate Center, are managed at a Group level. These revenues are included in the *Global* line.

The geographic analysis of non-current assets is based on the location of the entity in which the assets are recorded.

### For the year ended 31 December 2019

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.0	41	8.9	46
<i>of which: USA</i>	10.9	37	8.5	44
Asia Pacific	4.7	16	1.3	7
Europe, Middle East and Africa (excluding Switzerland)	5.8	20	2.6	13
Switzerland	6.7	23	6.5	34
Global	0.0	0	0.0	0
<b>Total</b>	<b>29.3</b>	<b>100</b>	<b>19.3</b>	<b>100</b>

### For the year ended 31 December 2018<sup>1</sup>

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.6	41	7.4	46
<i>of which: USA</i>	11.5	37	7.0	43
Asia Pacific	4.9	16	0.8	5
Europe, Middle East and Africa (excluding Switzerland)	6.2	20	1.8	11
Switzerland	7.2	23	6.2	38
Global	(0.3)	(1)	0.0	0
<b>Total</b>	<b>30.6</b>	<b>100</b>	<b>16.2</b>	<b>100</b>

### For the year ended 31 December 2017<sup>1</sup>

	Total operating income		Total non-current assets	
	USD billion	Share %	USD billion	Share %
Americas	12.0	40	7.4	47
<i>of which: USA</i>	11.2	37	6.9	44
Asia Pacific	4.8	16	0.8	5
Europe, Middle East and Africa (excluding Switzerland)	6.1	20	1.7	10
Switzerland	6.9	23	6.0	38
Global	0.2	1	0.0	0
<b>Total</b>	<b>30.0</b>	<b>100</b>	<b>15.8</b>	<b>100</b>

<sup>1</sup> Comparative figures in this table have been restated for the changes in Corporate Center cost and resource allocation to the business divisions and the changes in the equity attribution framework. Refer to further discussion in this note and in Note 1b.



## Income statement notes

### Note 3 Net interest income and other net income from financial instruments measured at fair value through profit or loss

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
Net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3,400	3,628	4,969
Net interest income from financial instruments measured at fair value through profit or loss	1,015	1,344	1,052
Other net income from financial instruments measured at fair value through profit or loss	6,833	6,953	5,640
<b>Total</b>	<b>11,248</b>	<b>11,924</b>	<b>11,661</b>
<i>Global Wealth Management</i>	<i>4,913</i>	<i>5,050</i>	<i>4,942</i>
<i>of which: net interest income</i>	<i>3,947</i>	<i>4,101</i>	<i>3,880</i>
<i>of which: transaction-based income from foreign exchange and other intermediary activity<sup>1</sup></i>	<i>966</i>	<i>948</i>	<i>1,062</i>
<i>Personal &amp; Corporate Banking</i>	<i>2,436</i>	<i>2,452</i>	<i>2,420</i>
<i>of which: net interest income</i>	<i>1,993</i>	<i>2,049</i>	<i>2,044</i>
<i>of which: transaction-based income from foreign exchange and other intermediary activity<sup>1</sup></i>	<i>443</i>	<i>402</i>	<i>376</i>
<i>Asset Management</i>	<i>(13)</i>	<i>(35)</i>	<i>(34)</i>
<i>Investment Bank</i>	<i>4,187</i>	<i>4,757</i>	<i>4,273</i>
<i>Corporate Client Solutions</i>	<i>716</i>	<i>1,051</i>	<i>1,076</i>
<i>Investor Client Services</i>	<i>3,471</i>	<i>3,705</i>	<i>3,197</i>
<i>Corporate Center</i>	<i>(276)</i>	<i>(299)</i>	<i>60</i>

#### Net interest income<sup>2,3</sup>

<b>Net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income</b>			
Interest income from loans and deposits <sup>4</sup>	8,026	7,822	7,766
Interest income from securities financing transactions <sup>5</sup>	2,005	1,567	1,573
Interest income from other financial instruments measured at amortized cost	364	266	99
Interest income from debt instruments measured at fair value through other comprehensive income	120	142	152
Interest income from derivative instruments designated as cash flow hedges	188	324	846
<b>Total interest income from financial instruments measured at amortized cost and fair value through other comprehensive income</b>	<b>10,703</b>	<b>10,121</b>	<b>10,437</b>
Interest expense on loans and deposits <sup>6</sup>	4,541	3,566	2,515
Interest expense on securities financing transactions <sup>7</sup>	1,152	1,130	1,473
Interest expense on debt issued	1,491	1,797	1,480
Interest expense on lease liabilities <sup>8</sup>	118		
<b>Total interest expense from financial instruments measured at amortized cost</b>	<b>7,303</b>	<b>6,494</b>	<b>5,468</b>
<b>Total net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income</b>	<b>3,400</b>	<b>3,628</b>	<b>4,969</b>
<b>Net interest income from financial instruments measured at fair value through profit or loss</b>			
Net interest income from financial instruments at fair value held for trading	1,218	1,111	1,374
Net interest income from brokerage balances	339	575	
Interest income from financial instruments at fair value not held for trading	2,274	1,757	
Other interest income	185	215	0
Interest expense on financial instruments designated at fair value	(3,000)	(2,314)	(322)
<b>Total net interest income from financial instruments measured at fair value through profit or loss</b>	<b>1,015</b>	<b>1,344</b>	<b>1,052</b>
<b>Total net interest income</b>	<b>4,415</b>	<b>4,971</b>	<b>6,021</b>

#### Other net income from financial instruments measured at fair value through profit or loss

Investment Bank Corporate Client Solutions	229	552	633
Investment Bank Investor Client Services	4,628	4,663	3,406
Other business divisions and Corporate Center	1,976	1,737	1,601
<b>Other net income from financial instruments measured at fair value through profit or loss</b>	<b>6,833</b>	<b>6,953</b>	<b>5,640</b>
<i>of which: net gains / (losses) from financial liabilities designated at fair value<sup>9</sup></i>	<i>(8,748)</i>	<i>9,382</i>	<i>(3,979)</i>

<sup>1</sup> Mainly includes spread-related income in connection with client-driven transactions, foreign currency translation effects and income and expenses from precious metals, which are included in the income statement line Other net income from financial instruments measured at fair value through profit or loss. <sup>2</sup> Effective 1 January 2018, UBS AG adopted IFRS 9, Financial Instruments, which resulted in a prospective change in the classification of certain financial instruments. Refer to "Note 1c Changes in accounting policies and comparability and transition effects from the adoption of IFRS 9 Financial Instruments" in the "Consolidated financial statements" section of the Annual Report 2018 for more information. <sup>3</sup> Effective 1 January 2019, UBS AG refined the presentation of dividend income and expense, reclassifying dividends from Interest income (expense) from financial instruments measured at fair value through profit or loss to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. Refer to Note 1b for more information. <sup>4</sup> Consists of interest income from cash and balances at central banks, loans and advances to banks and customers, cash collateral receivables on derivative instruments, and negative interest on amounts due to banks and customer deposits. <sup>5</sup> Includes interest income on receivables from securities financing transactions and negative interest, including fees, on payables from securities financing transactions. <sup>6</sup> Consists of interest expense on amounts due to banks, cash collateral payables on derivative instruments, customer deposits, funding from UBS Group AG and its subsidiaries, and negative interest on cash and balances at central banks, loans and advances to banks. <sup>7</sup> Includes interest expense on payables from securities financing transactions and negative interest, including fees, on receivables from securities financing transactions. <sup>8</sup> Relates to lease liabilities recognized upon adoption of IFRS 16 on 1 January 2019. Refer to Note 1b for more information. <sup>9</sup> Excludes fair value changes of hedges related to financial liabilities designated at fair value and foreign currency translation effects arising from translating foreign currency transactions into the respective functional currency, both of which are reported within Other net income from financial instruments measured at fair value through profit or loss. 2019 included a net loss of USD 1,830 million (2018: net gain of USD 2,152 million) related to financial liabilities related to unit-linked investment contracts, which are designated at fair value through profit or loss. This was offset by a net gain of USD 1,830 million (2018: net loss of USD 2,134 million) related to financial assets for unit-linked investment contracts that are mandatorily measured at fair value through profit or loss not held for trading.

#### Note 4 Net fee and commission income<sup>1</sup>

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
<b>Fee and commission income</b>			
Underwriting fees	784	843	1,029
<i>of which: equity underwriting fees</i>	360	431	573
<i>of which: debt underwriting fees</i>	424	412	456
M&A and corporate finance fees	774	768	698
Brokerage fees	3,248	3,521	3,821
Investment fund fees	4,859	4,955	4,322
Portfolio management and related services	7,656	7,756	7,666
Other	1,836	1,789	1,854
<b>Total fee and commission income<sup>1</sup></b>	<b>19,156</b>	<b>19,632</b>	<b>19,390</b>
<i>of which: recurring</i>	<i>12,545</i>	<i>12,911</i>	
<i>of which: transaction-based</i>	<i>6,449</i>	<i>6,629</i>	
<i>of which: performance-based</i>	<i>163</i>	<i>93</i>	
<b>Fee and commission expense</b>			
Brokerage fees paid	310	316	673
Distribution fees paid	590	580	514
Other	796	807	653
<b>Total fee and commission expense</b>	<b>1,696</b>	<b>1,703</b>	<b>1,840</b>
<b>Net fee and commission income</b>	<b>17,460</b>	<b>17,930</b>	<b>17,550</b>
<i>of which: net brokerage fees</i>	<i>2,938</i>	<i>3,205</i>	<i>3,148</i>

<sup>1</sup> For the year ended 31 December 2019, reflects third-party fee and commission income of USD 11,694 million for Global Wealth Management, USD 3,397 million for the Investment Bank, USD 2,659 million for Asset Management, USD 1,307 million for Personal & Corporate Banking and USD 98 million for Corporate Center (for the year ended 31 December 2018: USD 12,059 million for Global Wealth Management, USD 3,557 million for the Investment Bank, USD 2,579 million for Asset Management, USD 1,338 million for Personal & Corporate Banking and USD 100 million for Corporate Center).

#### Note 5 Other income

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
<b>Associates, joint ventures and subsidiaries</b>			
Net gains / (losses) from acquisitions and disposals of subsidiaries <sup>1</sup>	(36)	(292) <sup>2,3</sup>	32
Net gains / (losses) from disposals of investments in associates	4	46 <sup>4</sup>	0
Share of net profits of associates and joint ventures	46	529 <sup>5</sup>	76
Impairments related to associates	(1)	0	(7)
<b>Total</b>	<b>13</b>	<b>283</b>	<b>101</b>
Net gains / (losses) from disposals of financial assets measured at fair value through other comprehensive income	31	0	195
Impairment of financial assets measured at fair value through other comprehensive income	0	0	(15)
Net gains / (losses) from disposals of financial assets measured at amortized cost	0	0	14
Income from properties <sup>6</sup>	27	24	24
Net gains / (losses) from properties held for sale	(19)	40	0
Income from shared services provided to UBS Group AG or its subsidiaries	464	478	395
Other	161	80	251
<b>Total other income</b>	<b>677</b>	<b>905</b>	<b>965</b>

<sup>1</sup> Includes foreign exchange gains / (losses) reclassified from other comprehensive income related to the disposal or closure of foreign operations. <sup>2</sup> Includes a remeasurement loss of USD 270 million related to UBS Securities China. Refer to Note 32 for more information. <sup>3</sup> Includes a USD 25 million gain on sale of subsidiaries and a USD 31 million pre-tax gain on sale of real estate related to the Widder Hotel. Refer to Note 32 for more information. <sup>4</sup> Reflects a net foreign currency translation gain related to UBS Securities China. Refer to Note 32 for more information. <sup>5</sup> Includes a USD 460 million valuation gain on our equity ownership in SIX related to the sale of SIX Payment Services to Worldline. <sup>6</sup> Includes rent received from third parties.

## Note 6 Personnel expenses

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
Salaries <sup>1</sup>	5,183	5,199	5,423
Variable compensation – performance awards <sup>2</sup>	2,545	2,794	3,054
<i>of which: guarantees for new hires</i>	29	43	36
Variable compensation – other <sup>2</sup>	225	220	231
<i>of which: replacement payments<sup>3</sup></i>	55	68	70
<i>of which: forfeiture credits</i>	(84)	(136)	(106)
<i>of which: severance payments<sup>4</sup></i>	110	106	95
<i>of which: retention plan and other payments</i>	52	64	62
<i>of which: Deferred Contingent Capital Plan – interest expense</i>	93	116	110
Financial advisor compensation <sup>2,5</sup>	4,043	4,054	4,064
Contractors	147	184	318
Social security	627	629	731
Pension and other post-employment benefit plans <sup>6</sup>	569	363	601
Other personnel expenses	461	549	531
<b>Total personnel expenses</b>	<b>13,801</b>	<b>13,992</b>	<b>14,952</b>

<sup>1</sup> Includes role-based allowances. <sup>2</sup> Refer to Note 30 for more information. <sup>3</sup> Replacement payments are payments made to compensate employees for deferred awards forfeited as a result of joining UBS. <sup>4</sup> Includes legally obligated and standard severance payments. <sup>5</sup> Financial advisor compensation consists of grid-based compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated on the basis of financial advisor productivity, firm tenure, assets and other variables. It also includes expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. <sup>6</sup> Changes to the pension fund of UBS AG in Switzerland in 2018 resulted in a reduction in the pension obligation recognized by UBS AG. As a consequence, a pre-tax gain of USD 132 million was recognized in the income statement in 2018, with no overall effect on total equity. Refer to Note 29 for more information.

## Note 7 General and administrative expenses

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
Occupancy <sup>1</sup>	342	852	865
Rent and maintenance of IT and other equipment	339	326	422
Communication and market data services	517	520	544
Administration	5,176	5,383	3,644
<i>of which: shared services costs charged by UBS Group AG or its subsidiaries</i>	4,621	4,803	3,046
<i>of which: UK and German bank levies<sup>2</sup></i>	41	58	20
Marketing and public relations	233	277	338
Travel and entertainment	325	367	382
Professional fees	782	870	1,086
Outsourcing of IT and other services	610	729	1,169
Litigation, regulatory and similar matters <sup>3</sup>	165	657	434
Other	97	95	118
<b>Total general and administrative expenses</b>	<b>8,586</b>	<b>10,075</b>	<b>9,001</b>

<sup>1</sup> Occupancy expenses decreased following the application of IFRS 16, which was adopted on 1 January 2019. Refer to Note 1b for more information. <sup>2</sup> The UK bank levy expenses of USD 30 million (USD 40 million for 2018 and USD 17 million for 2017) included a credit of USD 31 million (USD 45 million and USD 85 million, respectively) related to prior years. <sup>3</sup> Reflects the net increase in provisions for litigation, regulatory and similar matters recognized in the income statement. Refer to Note 21 for more information. Also includes recoveries from third parties of USD 11 million, USD 29 million and USD 55 million for the years ended 31 December 2019, 31 December 2018 and 31 December 2017, respectively.

## Note 8 Income taxes

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
<b>Tax expense / (benefit)</b>			
<b>Swiss</b>			
Current	336	434	408
Deferred	246	2,326	91
<b>Total Swiss</b>	<b>582</b>	<b>2,760</b>	<b>499</b>
<b>Non-Swiss</b>			
Current	402	537	435
Deferred	214	(1,952)	3,308
<b>Total non-Swiss</b>	<b>616</b>	<b>(1,415)</b>	<b>3,743</b>
<b>Total income tax expense / (benefit) recognized in the income statement</b>	<b>1,198</b>	<b>1,345</b>	<b>4,242</b>

### Income tax recognized in the income statement

Income tax expenses of USD 1,198 million were recognized for UBS AG in 2019, representing an effective tax rate of 23.2%. This included net Swiss tax expenses of USD 582 million and net non-Swiss tax expenses of USD 616 million.

The Swiss tax expenses included current tax expenses of USD 336 million related to taxable profits earned by Swiss subsidiaries. In addition, they included deferred tax expenses of USD 246 million, which primarily reflect the amortization of deferred tax assets (DTAs) previously recognized in relation to deductible temporary differences.

The non-Swiss tax expenses included current tax expenses of USD 402 million related to taxable profits earned by non-Swiss subsidiaries and branches. In addition, they included deferred tax expenses of USD 214 million. These included expenses of USD 474 million that primarily reflected the amortization of DTAs previously recognized in relation to tax losses carried forward and deductible temporary differences, including the amortization of US tax loss DTAs at the level of UBS Americas Inc. These were partly offset by a benefit of USD 260 million in respect of additional DTA recognition that resulted from the contribution of real estate assets by UBS AG to UBS Americas Inc. in the year. The additional DTA recognition related to the elections that were made in the fourth quarter of 2018 to capitalize certain historic real estate costs.

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
Operating profit / (loss) before tax	5,169	5,458	5,076
of which: Swiss	2,297	1,427	1,911
of which: non-Swiss	2,872	4,031	3,165
Income taxes at Swiss tax rate of 20.5% for 2019 and 21% for 2018 and 2017	1,060	1,146	1,066
Increase / (decrease) resulting from:			
Non-Swiss tax rates differing from Swiss tax rate	72	68	230
Tax effects of losses not recognized	131	222	173
Previously unrecognized tax losses now utilized	(265)	(25)	(368)
Non-taxable and lower taxed income	(305)	(419)	(306)
Non-deductible expenses and additional taxable income	713	883	588
Adjustments related to prior years – current tax	1	114	(14)
Adjustments related to prior years – deferred tax	(6)	27	6
Change in deferred tax recognition	(293)	(802)	(165)
Adjustments to deferred tax balances arising from changes in tax rates	(9)	0	2,897
Other items	99	130	135
<b>Income tax expense / (benefit)</b>	<b>1,198</b>	<b>1,345</b>	<b>4,242</b>

## Note 8 Income taxes (continued)

The components of operating profit before tax, and the differences between income tax expense reflected in the financial statements and the amounts calculated at the Swiss tax rate, are provided in the table on the previous page and explained below.

### Non-Swiss tax rates differing from Swiss tax rate

To the extent that UBS AG profits or losses arise outside Switzerland, the applicable local tax rate may differ from the Swiss tax rate. This item reflects, for such profits, an adjustment from the tax expense that would arise at the Swiss tax rate to the tax expense that would arise at the applicable local tax rate. Similarly, it reflects, for such losses, an adjustment from the tax benefit that would arise at the Swiss tax rate to the tax benefit that would arise at the applicable local tax rate.

### Tax effects of losses not recognized

This item relates to tax losses of entities arising in the year that are not recognized as DTAs. Consequently, no tax benefit arises in relation to those losses. Therefore, the tax benefit calculated by applying the local tax rate to those losses as described above is reversed.

### Previously unrecognized tax losses now utilized

This item relates to taxable profits of the year that are offset by tax losses of previous years for which no DTAs were previously recorded. Consequently, no current tax or deferred tax expense arises in relation to those taxable profits. Therefore, the tax expense calculated by applying the local tax rate on those profits is reversed.

### Non-taxable and lower taxed income

This item relates to tax deductions for the year in respect of permanent differences. These include deductions in respect of profits that are either not taxable or are taxable at a lower rate of tax than the local tax rate. They also include deductions made for tax purposes, which are not reflected in the accounts.

### Non-deductible expenses and additional taxable income

This item relates to additional taxable income for the year in respect of permanent differences. These include income that is recognized for tax purposes by an entity, but is not included in its profit that is reported in the financial statements. In addition, they include expenses for the year that are non-deductible. For example, the costs of entertaining clients are not deductible in certain locations.

### Adjustments related to prior years – current tax

This item relates to adjustments to current tax expense for prior years, e.g., if the tax payable for a year is agreed with the tax authorities in an amount that differs from the amount previously reflected in the financial statements.

### Adjustments related to prior years – deferred tax

This item relates to adjustments to deferred tax positions recognized in prior years, e.g., if a tax loss for a year is fully recognized and the amount of the tax loss agreed with the tax authorities is expected to differ from the amount previously recognized as DTAs in the accounts.

### Change in deferred tax recognition

This item relates to changes in DTAs, including those previously recognized resulting from reassessments of expected future taxable profits. It also includes changes in temporary differences in the year, for which deferred tax is not recognized.

### Adjustments to deferred tax balances arising from changes in tax rates

This item relates to remeasurements of DTAs and liabilities recognized due to changes in tax rates. These have the effect of changing the future tax saving that is expected from tax losses or deductible tax differences and therefore the amount of DTAs recognized or, alternatively, changing the tax cost of additional taxable income from taxable temporary differences and therefore the deferred tax liability.

### Other items

Other items include other differences between profits or losses at the local tax rate and the actual local tax expense or benefit, including movements in provisions for uncertain positions in relation to the current year and other items.

## Note 8 Income taxes (continued)

### Income tax recognized directly in equity

Certain tax expenses and benefits were recognized directly in equity during the year. These included the following items:

- a net tax expense of USD 327 million recognized in other comprehensive income (OCI) (2018: net benefit of USD 314 million), which included a tax expense of USD 253 million related to cash flow hedges (2018: benefit of USD 67 million), a tax expense of USD 41 million related to financial assets recognized at fair value through OCI (2018: benefit of USD 12 million), a tax expense of USD 1 million related to foreign currency translation gains and losses (2018: expense of USD 2 million), a tax expense of USD 41 million related to defined benefit pension plans (2018: benefit of USD 245 million) and a tax benefit of USD 8 million related to own credit (2018: expense of USD 8 million);
- a net tax benefit of USD 11 million recognized in share premium (2018: benefit of USD 5 million).

### Deferred tax assets and liabilities

UBS AG has gross DTAs, valuation allowances and recognized DTAs related to tax loss carry-forwards and deductible temporary differences and also deferred tax liabilities in respect of taxable temporary differences as shown in the table below. The valuation allowances reflect DTAs that were not recognized because it was not considered probable that future taxable profits will be available to utilize the related tax loss carry-forwards and deductible temporary differences.

Of the recognized DTAs as of 31 December 2019, USD 9.3 billion related to the US and USD 0.2 billion related to other locations (as of 31 December 2018, USD 9.5 billion related to the US and USD 0.6 billion related to other locations).

The recognition of DTAs is supported by forecasts of taxable profits for the entities concerned. In addition, tax planning opportunities are available that would result in additional future taxable income and these would be utilized, if necessary.

As of 31 December 2019, UBS AG has recognized DTAs of USD 75 million (31 December 2018: USD 53 million) in respect of entities that incurred losses in either the current or preceding year.

USD million	31.12.19			31.12.18		
	Gross	Valuation allowance	Recognized	Gross	Valuation allowance	Recognized
<b>Deferred tax assets<sup>1</sup></b>						
Tax loss carry-forwards	14,826	(8,861)	5,965	15,088	(8,989)	6,099
Temporary differences	4,158	(610)	3,548	4,526	(559)	3,967
of which: related to real estate costs capitalized for US tax purposes	2,219	0	2,219	2,159	(25)	2,134
of which: related to compensation and benefits	1,075	(179)	896	1,146	(192)	954
of which: related to trading assets	99	(5)	93	390	(50)	339
of which: related to investments in subsidiaries and goodwill	0	0	0	179	0	179
of which: other	765	(426)	340	653	(292)	361
<b>Total deferred tax assets</b>	<b>18,984</b>	<b>(9,471)</b>	<b>9,513</b>	<b>19,614</b>	<b>(9,548)</b>	<b>10,066</b>
<b>Deferred tax liabilities</b>						
Goodwill and intangible assets			29			26
Cash flow hedges			156			0
Other			126			62
<b>Total deferred tax liabilities</b>			<b>311</b>			<b>88</b>

<sup>1</sup> Less deferred tax liabilities as applicable.

## Note 8 Income taxes (continued)

### Unrecognized tax loss carry-forwards

USD million	31.12.19	31.12.18
Within 1 year	13	0
From 2 to 5 years	609	464
From 6 to 10 years	14,712	16,297
From 11 to 20 years	4,030	4,457
No expiry	18,364	17,210
<b>Total</b>	<b>37,728</b>	<b>38,428</b>

As of 31 December 2019, USD 17.8 billion of the unrecognized tax losses carried forward related to the US, USD 14.9 billion related to the UK and USD 5.0 billion related to other locations (as of 31 December 2018, USD 20.0 billion related to the US, USD 14.2 billion related to the UK and USD 4.2 billion related to other locations).

In general, US federal tax losses incurred prior to 31 December 2017 can be carried forward for 20 years, and US federal tax losses incurred after 31 December 2017 and UK tax losses can be carried forward indefinitely. The amounts of US tax loss carry-forwards that are included in the above table are based on their amount for federal tax purposes rather than for state and local tax purposes.

Deferred tax liabilities are recognized in respect of investments in subsidiaries, branches and associates and interests in joint arrangements, except to the extent that UBS AG can control the timing of the reversal of the associated taxable temporary difference and it is probable that it will not reverse in the foreseeable future. However, as of 31 December 2019, this exception was not considered to apply to any taxable temporary differences.

## Note 9 Earnings per share (EPS) and shares outstanding

In 2015, UBS AG shares were delisted from the SIX Swiss Exchange and the New York Stock Exchange. As of 31 December 2019, 100% of UBS AG's issued shares were held by UBS Group AG and therefore were not publicly traded. Accordingly, earnings per share information is not provided for UBS AG.

## Balance sheet notes

### Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement

The tables on the following pages provide information about financial instruments and certain other credit lines that are subject to expected credit loss (ECL) requirements. UBS has established ECL disclosure segments or "ECL segments" to disaggregate portfolios based on shared risk characteristics and

on the same or similar rating methods applied. The key segments are presented in the table below.

→ **Refer to Note 23 for more information about expected credit loss measurement**

Segment	Segment description	Description of credit risk sensitivity	Business division / Corporate Center
<b>Private clients with mortgages</b>	Lending to private clients secured by owner-occupied real estate and personal account overdrafts of those clients	Sensitive to the interest rate environment, employment status and influence from regional effects (e.g., property values)	– Personal & Corporate Banking – Global Wealth Management
<b>Real estate financing</b>	Rental or income-producing real estate financing to private and corporate clients secured by real estate	Sensitive to GDP development, the interest rate environment and regional effects (e.g., property values)	– Personal & Corporate Banking – Global Wealth Management – Investment Bank
<b>Large corporate clients</b>	Lending to large corporate and multinational clients	Sensitive to GDP development, seasonality, business cycles and collateral values (diverse collateral including real estate and other collateral types)	– Personal & Corporate Banking – Investment Bank
<b>SME clients</b>	Lending to small and medium-sized corporate clients	Sensitive to GDP development, the interest rate environment and, to some extent, seasonality, business cycles and collateral values (diverse collateral including real estate and other collateral types)	– Personal & Corporate Banking
<b>Lombard</b>	Loans secured by pledges of marketable securities, guarantees and other forms of collateral	Sensitive to the market (e.g., changes in collateral as well as in invested assets)	– Global Wealth Management
<b>Credit cards</b>	Credit card solutions in Switzerland and the US	Sensitive to the interest rate environment and employment status	– Personal & Corporate Banking – Global Wealth Management
<b>Commodity trade finance</b>	Working capital financing of commodity traders, generally extended on a self-liquidating transactional basis	Sensitive primarily to the strength of individual transaction structures and collateral values (price volatility of commodities) as the primary source for debt service is directly linked to the shipments financed	– Personal & Corporate Banking
<b>Financial intermediaries and hedge funds</b>	Lending to financial institutions and pension funds, including exposures to broker-dealers and clearing houses	Sensitive to GDP development, the interest rate environment, regulatory changes and political risk	– Personal & Corporate Banking – Investment Bank – Corporate Center

→ Refer to Note 23g for more details regarding sensitivity



## Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

For amortized cost instruments, the net carrying amount represents the maximum exposure to credit risk, taking into account the allowance for credit losses. Financial assets measured at fair value through other comprehensive income (FVOCI) are also subject to ECL; however, unlike for amortized cost instruments, the allowance does not reduce the carrying amount of these financial assets. Rather, the carrying amount of financial assets measured at FVOCI represents the maximum exposure to credit risk.

No purchased credit-impaired financial assets have been recognized in the period. Originated credit-impaired financial assets were not material and are not presented in the table below and on the following page.

In addition to on-balance sheet financial assets, certain off-balance sheet financial instruments and other credit lines are also subject to ECL. The maximum exposure to credit risk for off-balance sheet financial instruments is calculated based on the maximum contractual amounts.

USD million

	31.12.19							
	Carrying amount <sup>1</sup>				ECL allowances			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	107,068	107,068	0	0	0	0	0	0
Loans and advances to banks	12,379	12,298	80	0	(6)	(4)	(1)	(1)
Receivables from securities financing transactions	84,245	84,245	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	23,289	23,289	0	0	0	0	0	0
Loans and advances to customers	327,992	310,705	15,538	1,749	(764)	(82)	(123)	(559)
of which: Private clients with mortgages	132,646	124,063	7,624	959	(110)	(15)	(55)	(41)
of which: Real estate financing	38,481	32,932	5,532	17	(43)	(5)	(34)	(4)
of which: Large corporate clients	9,703	9,184	424	94	(17)	(15)	(4)	(98)
of which: SME clients	11,786	9,817	1,449	521	(303)	(17)	(15)	(271)
of which: Lombard	112,893	112,796	0	98	(22)	(4)	0	(18)
of which: Credit cards	1,661	1,314	325	22	(35)	(8)	(14)	(13)
of which: Commodity trade finance	2,844	2,826	8	10	(81)	(5)	0	(77)
Other financial assets measured at amortized cost	23,012	21,985	451	576	(143)	(35)	(13)	(95)
of which: Loans to financial advisors	2,877	2,341	334	202	(109)	(29)	(11)	(70)
<b>Total financial assets measured at amortized cost</b>	<b>577,985</b>	<b>559,590</b>	<b>16,069</b>	<b>2,326</b>	<b>(915)</b>	<b>(124)</b>	<b>(137)</b>	<b>(655)</b>
Financial assets measured at fair value through other comprehensive income	6,345	6,345	0	0	0	0	0	0
<b>Total on-balance sheet financial assets in scope of ECL requirements</b>	<b>584,329</b>	<b>565,935</b>	<b>16,069</b>	<b>2,326</b>	<b>(915)</b>	<b>(124)</b>	<b>(137)</b>	<b>(655)</b>

Off-balance sheet (in scope of ECL)	Total exposure				ECL provisions			
	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	18,142	17,757	304	82	(42)	(8)	(1)	(33)
of which: Large corporate clients	3,687	3,461	203	24	(10)	(1)	0	(9)
of which: SME clients	1,180	1,055	67	58	(24)	0	0	(23)
of which: Financial intermediaries and hedge funds	7,966	7,950	16	0	(5)	(4)	0	0
of which: Lombard	622	622	0	0	(1)	0	0	(1)
of which: Commodity trade finance	2,334	2,320	13	0	(1)	(1)	0	0
Irrevocable loan commitments	27,547	27,078	419	50	(35)	(30)	(5)	0
of which: Large corporate clients	18,735	18,349	359	27	(27)	(24)	(3)	0
Forward starting reverse repurchase and securities borrowing agreements	1,657	1,657	0	0	0	0	0	0
Committed unconditionally revocable credit lines	36,979	35,735	1,197	46	(34)	(17)	(17)	0
of which: Real estate financing	5,242	4,934	307	0	(16)	(3)	(13)	0
of which: Large corporate clients	4,274	4,188	69	17	(1)	(1)	0	0
of which: SME clients	4,787	4,589	171	27	(9)	(8)	(1)	0
of which: Lombard	7,976	7,975	0	1	0	0	0	0
of which: Credit cards	7,890	7,535	355	0	(6)	(4)	(2)	0
of which: Commodity trade finance	344	344	0	0	0	0	0	0
Irrevocable committed prolongation of existing loans	3,289	3,285	0	4	(3)	(3)	0	0
<b>Total off-balance sheet financial instruments and other credit lines</b>	<b>87,614</b>	<b>85,513</b>	<b>1,920</b>	<b>182</b>	<b>(114)</b>	<b>(58)</b>	<b>(23)</b>	<b>(33)</b>
<b>Total allowances and provisions</b>					<b>(1,029)</b>	<b>(181)</b>	<b>(160)</b>	<b>(688)</b>

<sup>1</sup> The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

## Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

USD million	31.12.18							
	Carrying amount <sup>1</sup>				ECL allowances			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	108,370	108,370	0	0	0	0	0	0
Loans and advances to banks	16,642	16,440	202	0	(7)	(4)	(1)	(3)
Receivables from securities financing transactions	95,349	95,349	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	23,603	23,603	0	0	0	0	0	0
Loans and advances to customers	321,482	299,378	20,357	1,748	(772)	(69)	(155)	(549)
of which: Private clients with mortgages	126,335	115,679	9,859	796	(138)	(16)	(83)	(39)
of which: Real estate financing	36,474	28,578	7,858	38	(59)	(3)	(40)	(16)
of which: Large corporate clients	11,390	10,845	457	88	(95)	(9)	(4)	(82)
of which: SME clients	9,924	8,029	1,263	632	(281)	(13)	(12)	(256)
of which: Lombard	111,722	111,707	0	14	(21)	(4)	0	(17)
of which: Credit cards	1,529	1,216	297	16	(30)	(6)	(13)	(11)
of which: Commodity trade finance	3,260	2,798	445	16	(86)	(5)	(3)	(78)
Other financial assets measured at amortized cost	22,637	21,936	223	478	(155)	(43)	(4)	(109)
of which: Loans to financial advisors	3,291	3,104	62	125	(113)	(34)	(2)	(77)
<b>Total financial assets measured at amortized cost</b>	<b>588,084</b>	<b>565,076</b>	<b>20,782</b>	<b>2,226</b>	<b>(937)</b>	<b>(117)</b>	<b>(159)</b>	<b>(660)</b>
Financial assets measured at fair value through other comprehensive income	6,667	6,667	0	0	0	0	0	0
<b>Total on-balance sheet financial assets in scope of ECL requirements</b>	<b>594,750</b>	<b>571,743</b>	<b>20,782</b>	<b>2,226</b>	<b>(937)</b>	<b>(117)</b>	<b>(159)</b>	<b>(660)</b>
Off-balance sheet (in scope of ECL)	Total exposure				ECL provisions			
	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	18,146	17,321	611	215	(43)	(7)	(2)	(34)
of which: Large corporate clients	3,862	3,599	136	127	(8)	(1)	(1)	(6)
of which: SME clients	1,298	1,057	164	77	(26)	0	0	(25)
of which: Financial intermediaries and hedge funds	7,193	7,125	67	0	(4)	(3)	0	0
of which: Lombard	834	834	0	0	0	0	0	0
of which: Commodity trade finance	2,097	1,851	236	11	(1)	(1)	0	0
Irrevocable loan commitments	31,212	30,590	568	53	(37)	(32)	(5)	0
of which: Large corporate clients	22,019	21,492	519	7	(31)	(26)	(4)	0
Forward starting reverse repurchase and securities borrowing agreements	937	937	0	0	0	0	0	0
Committed unconditionally revocable credit lines	38,851	37,338	1,420	93	(36)	(19)	(16)	0
of which: Real estate financing	2,562	2,150	401	11	(17)	(4)	(12)	0
of which: Large corporate clients	4,260	4,152	91	17	(2)	(1)	0	0
of which: SME clients	4,505	4,163	285	57	(7)	(6)	(1)	0
of which: Lombard	7,402	7,402	0	0	0	(1)	0	0
of which: Credit cards	7,343	7,035	309	0	(6)	(4)	(2)	0
of which: Commodity trade finance	3,467	3,209	254	4	(2)	(2)	0	0
Irrevocable committed prolongation of existing loans	3,339	2,861	456	22	(1)	(1)	0	0
<b>Total off-balance sheet financial instruments and other credit lines</b>	<b>92,486</b>	<b>89,048</b>	<b>3,055</b>	<b>383</b>	<b>(116)</b>	<b>(59)</b>	<b>(23)</b>	<b>(34)</b>
<b>Total allowances and provisions</b>					<b>(1,054)</b>	<b>(176)</b>	<b>(183)</b>	<b>(695)</b>

<sup>1</sup> The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

## Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

Coverage ratios are calculated by taking ECL allowances and provisions divided by the gross carrying amount of the exposures. These ratios have remained broadly unchanged in 2019 and are influenced by the following key factors:

- significant asset balances are held with central banks as part of the requirement to hold high-quality liquid assets;
- Lombard loans are secured with marketable securities in portfolios which are in general highly diversified with strict lending policies that are intended to ensure that credit risk is minimal under most circumstances;
- mortgage loans to private clients and real estate financing are controlled by conservative eligibility criteria, including low loan-to-value ratios and strong debt service capabilities. The risk of rising interest rates has been taken into account in the scenario selection process;
- the amount of unsecured retail lending (including credit cards) in Switzerland is insignificant;
- contractual maturities in the loan portfolio, which are a factor in the calculation of ECLs, are generally short, with a large

part of the loan portfolio having contractual maturities of 12 month or less;

- for example, the carrying amount of Swiss residential mortgage loans would continue to be fully covered or 98% covered by real estate collateral, even if the value of that collateral decreased by 20% or 30%, respectively.

Certain assets reported in stage 2 within the *Private clients with mortgages* and *Real estate financing* segments did not have a comparable rating on origination upon which to base the assessment of whether a significant increase in credit risk (SICR) has occurred. In accordance with the IFRS 9 transition requirements, a lifetime ECL has been recognized for these assets. In the medium term and based on the current economic outlook, UBS expects the proportion of these stage 2 assets to reduce to some extent.

31.12.19								
Financial instruments measured at amortized cost	Gross carrying amount (USD million)				ECL coverage (bps)			
	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Loans and advances to customers	328,756	310,787	15,661	2,308	23	3	79	2,420
of which: Private clients with mortgages	132,756	124,077	7,679	1,000	8	1	72	406
of which: Real estate financing	38,524	32,937	5,567	21	11	2	62	1,765
of which: Large corporate clients	9,819	9,199	429	192	119	16	100	5,088
of which: SME clients	12,089	9,834	1,464	791	251	18	104	3,420
of which: Lombard	112,915	112,799	0	116	2	0	0	1,566
of which: Credit cards	1,696	1,322	339	35	205	60	404	3,718
of which: Commodity trade finance	2,925	2,831	8	87	278	17	3	8,844
Other financial assets measured at amortized cost	23,154	22,019	463	672	62	16	274	1,420
of which: Loans to financial advisors	2,987	2,370	344	272	366	122	305	2,570
<b>Total financial assets measured at amortized cost</b>	<b>578,899</b>	<b>559,714</b>	<b>16,206</b>	<b>2,981</b>	<b>16</b>	<b>2</b>	<b>84</b>	<b>2,198</b>
Financial assets measured at fair value through other comprehensive income	6,345	6,345	0	0	0	0	0	0
<b>Total on-balance sheet financial assets in scope of ECL requirements</b>	<b>585,245</b>	<b>566,059</b>	<b>16,206</b>	<b>2,981</b>	<b>16</b>	<b>2</b>	<b>84</b>	<b>2,198</b>

  

Off-balance sheet (in scope of ECL)	Gross exposure (USD million)				ECL coverage (bps)			
	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	18,142	17,757	304	82	23	4	30	4,032
Irrevocable loan commitments	27,547	27,078	419	50	13	11	120	0
Forward starting reverse repurchase and securities borrowing agreements	1,657	1,657	0	0	0	0	0	0
Committed unconditionally revocable credit lines	36,979	35,735	1,197	46	9	5	143	0
Irrevocable committed prolongation of existing loans	3,289	3,285	0	4	8	8	0	0
<b>Total off-balance sheet financial instruments and other credit lines</b>	<b>87,614</b>	<b>85,513</b>	<b>1,920</b>	<b>182</b>	<b>13</b>	<b>7</b>	<b>120</b>	<b>1,822</b>
<b>Total allowances and provisions</b>					<b>29</b>	<b>9</b>	<b>204</b>	<b>4,020</b>

## Note 10 Financial assets at amortized cost and other positions in scope of expected credit loss measurement (continued)

As explained in Note 1a, the assessment of an SICR considers a number of qualitative and quantitative factors to determine if a stage transfer between stage 1 and stage 2 is required. The primary assessment considers changes in probability of default

(PD) based on rating analyses and economic outlook. Additionally, UBS considers counterparties that have moved to a credit watch list and those with payments that are 30 days past due.

USD million

ECL allowances / provisions

Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	of which: PD layer	of which: watch list	of which: ≥30 days past due	Stage 3
Mortgages, business loans and related off-balance sheet commitments in the region							
Switzerland	723	89	137	93	6	38	497
of which: Private clients with mortgages	88	11	53	40	0	13	27
of which: Real estate financing	59	8	47	36	0	11	4
of which: Large corporate clients	57	6	4	0	4	0	47
of which: SME clients	310	25	9	6	2	1	276
of which: Lombard	3	2	0	0	0	0	1
of which: Leasing	42	6	12	11	0	1	24
of which: Credit cards	33	9	11	0	0	11	12
of which: Other	128	23	2	2	0	0	106

## Note 11 Derivative instruments

### Derivatives: overview

A derivative is a financial instrument for which the value is derived from one or more variables (underlyings). Underlyings may be indices, foreign currency exchange or interest rates, or the value of shares, commodities, bonds or other financial instruments. A derivative commonly requires little or no initial net investment by either counterparty to the trade.

The majority of derivative contracts are negotiated with respect to notional amounts, tenor, price and settlement mechanisms, as is customary with other financial instruments.

Over-the-counter (OTC) derivative contracts are usually traded under a standardized International Swaps and Derivatives Association (ISDA) master agreement between UBS AG and its counterparties. Terms are negotiated directly with counterparties and the contracts have industry standard settlement mechanisms prescribed by ISDA. Beginning in 2016, regulators in various jurisdictions began a phased introduction of rules requiring the payment and collection of initial and variation margin on certain OTC derivative contracts, which may have a bearing on their price and other relevant terms. Under the final rules of the Basel Committee on Banking Supervision (BCBS) and the Board of the International Organization of Securities Commissions (IOSCO) promulgated in July 2019, the final phase-in of margin requirements for non-centrally cleared derivatives will be completed on 1 September 2021.

The industry continues to promote the use of central counterparties (CCPs) to clear OTC trades. The trend toward CCP clearing and settlement will generally facilitate the reduction of systemic credit exposures.

Other derivative contracts are standardized in terms of their amounts and settlement dates, and are bought and sold on regulated exchanges. These are commonly referred to as exchange-traded derivatives (ETD) contracts. Exchanges offer the benefits of pricing transparency, standardized daily settlement of changes in value and consequently reduced credit risk.

For presentation purposes, UBS AG's derivative contracts are subject to IFRS netting provisions. Derivative instruments are measured at fair value and generally classified on the balance sheet as *Derivative financial instruments* within *Assets* when having positive replacement values and *Derivative financial instruments* within *Liabilities* when having negative replacement values. However, ETD that are economically settled on a daily basis and OTC derivatives that are either legally settled or in substance net settled on a daily basis are classified as *Cash collateral receivables on derivative instruments* or *Cash collateral payables on derivative instruments*. Changes in the replacement values of derivatives are recorded in *Other net income from financial instruments measured at fair value through profit or loss*, except for interest on derivatives designated as hedging instruments in effective hedge accounting relationships and forward points on certain short- and long-duration foreign exchange contracts, which are recorded in *Net interest income*.

- **Refer to Note 1a items 3j and 3k for more information**
- **Refer to Note 25 for more information about derivative financial assets and liabilities after consideration of netting potential allowed under enforceable netting arrangements**

UBS AG uses various derivative instruments for both trading and hedging purposes. Derivative product types as well as valuation principles and techniques applied by UBS AG are described in Note 24. Positive replacement values represent the estimated amount UBS AG would receive if the derivative contract were sold on the balance sheet date. Negative replacement values indicate the estimated amount UBS AG would pay to transfer its obligations in respect of the underlying contract were it required or entitled to do so on the balance sheet date.

Derivatives embedded in other financial instruments are not included in the "Derivative instruments" table within this Note. Bifurcated embedded derivatives are presented on the same balance sheet line as the host contract. In cases where UBS AG applies the fair value option to hybrid instruments, bifurcation of an embedded derivative component is not required and as such this component is also not included in the "Derivative instruments" table.

- **Refer to Notes 19 and 24 for more information**

## Note 11 Derivative instruments (continued)

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### Risks of derivative instruments

Derivative instruments are transacted in many trading portfolios, which generally include several types of instruments, not just derivatives. The market risk of derivatives is predominantly managed and controlled as an integral part of the market risk of these portfolios. UBS AG's approach to market risk is described in the audited portions of "Market risk" in the "Risk management and control" section of this report.

Derivative instruments are also transacted with many different counterparties, most of whom are also counterparties for other types of business. The credit risk of derivatives is managed and controlled in the context of UBS AG's overall credit exposure to its counterparties. UBS AG's approach to credit risk is described in the audited portions of "Credit risk" in the "Risk management and control" section of this report. It should be

noted that, although the derivative financial assets shown on the balance sheet can be an important component of UBS AG's credit exposure, the positive replacement values related to a respective counterparty are rarely an adequate reflection of UBS AG's credit exposure in its derivatives business with that counterparty. This is generally the case because, on the one hand, replacement values can increase over time (potential future exposure), while on the other hand, exposure may be mitigated by entering into master netting agreements and bilateral collateral arrangements. Both the exposure measures used internally by UBS AG to control credit risk and the capital requirements imposed by regulators reflect these additional factors.

→ **Refer to Note 25 for more information about derivative financial assets and liabilities after consideration of netting potential allowed under enforceable netting arrangements**

## Note 11 Derivative instruments (continued)

### Derivative instruments<sup>1,2</sup>

	31.12.19					31.12.18				
	Derivative financial assets	Notional values related to derivative financial assets <sup>3</sup>	Derivative financial liabilities	Notional values related to derivative financial liabilities <sup>3</sup>	Other notional values <sup>3,4</sup>	Derivative financial assets	Notional values related to derivative financial assets <sup>3</sup>	Derivative financial liabilities	Notional values related to derivative financial liabilities <sup>3</sup>	Other notional values <sup>3,4</sup>
<i>USD billion</i>										
<b>Interest rate contracts</b>										
Over-the-counter (OTC) contracts										
Forward contracts	0.0	2.8	0.3	5.1	3,136.8	0.0	1.4	0.1	3.1	2,873.9
Swaps	34.3	454.7	26.2	402.9	8,086.0	29.5	459.8	23.5	441.8	7,189.1
Options	8.1	464.8	10.0	486.1		7.6	562.2	9.0	550.0	
Exchange-traded contracts										
Futures					546.9					516.1
Options	0.0	84.4	0.0	66.6	229.5	0.0	27.7	0.0	26.3	199.7
Agency transactions <sup>5</sup>	0.1		0.1			0.0		0.1		
<b>Total</b>	<b>42.6</b>	<b>1,006.6</b>	<b>36.6</b>	<b>960.7</b>	<b>11,999.2</b>	<b>37.1</b>	<b>1,051.1</b>	<b>32.7</b>	<b>1,021.3</b>	<b>10,778.8</b>
<b>Credit derivative contracts</b>										
Over-the-counter (OTC) contracts										
Credit default swaps	1.7	65.0	2.2	66.0		1.7	68.8	2.1	73.2	
Total return swaps	0.3	2.0	0.8	3.3		0.2	3.0	0.6	3.7	
Options and warrants	0.0	3.3	0.0	0.6		0.0	2.7	0.0	1.4	
<b>Total</b>	<b>2.0</b>	<b>70.2</b>	<b>3.0</b>	<b>69.9</b>		<b>1.9</b>	<b>74.5</b>	<b>2.7</b>	<b>78.3</b>	
<b>Foreign exchange contracts</b>										
Over-the-counter (OTC) contracts										
Forward contracts	22.4	935.5	23.4	966.6		20.3	708.8	20.9	731.2	
Interest and currency swaps	22.8	1,573.2	23.8	1,418.5		24.8	1,299.7	24.6	1,203.5	
Options	7.3	660.9	6.8	604.9		8.3	613.8	7.8	577.4	
Exchange-traded contracts										
Futures					1.2					0.4
Options	0.0	4.0	0.0	3.8		0.0	3.6	0.0	5.3	
Agency transactions <sup>5</sup>	0.0		0.0			0.0		0.1		
<b>Total</b>	<b>52.5</b>	<b>3,173.6</b>	<b>54.0</b>	<b>2,993.8</b>	<b>1.2</b>	<b>53.5</b>	<b>2,625.8</b>	<b>53.4</b>	<b>2,517.3</b>	<b>0.4</b>
<b>Equity / index contracts</b>										
Over-the-counter (OTC) contracts										
Forward contracts	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Swaps	4.0	81.3	5.5	96.3		4.7	78.5	5.6	86.3	
Options	5.0	88.6	6.8	144.1		5.5	97.6	7.2	139.6	
Exchange-traded contracts										
Futures					84.9					71.7
Options	7.2	250.4	7.8	294.1	37.2	10.1	232.8	9.0	262.8	34.1
Agency transactions <sup>5</sup>	6.6		5.4			11.2		13.3		
<b>Total</b>	<b>22.8</b>	<b>420.3</b>	<b>25.5</b>	<b>534.5</b>	<b>122.1</b>	<b>31.4</b>	<b>408.9</b>	<b>35.0</b>	<b>488.8</b>	<b>105.9</b>

Table continues on the next page.



## Note 11 Derivative instruments (continued)

### Derivative instruments (continued)<sup>1,2</sup>

Table continued from the previous page.

	31.12.19					31.12.18				
	Derivative financial assets	Notional values related to derivative financial assets <sup>3</sup>	Derivative financial liabilities	Notional values related to derivative financial liabilities <sup>3</sup>	Other notional values <sup>3,4</sup>	Derivative financial assets	Notional values related to derivative financial assets <sup>3</sup>	Derivative financial liabilities	Notional values related to derivative financial liabilities <sup>3</sup>	Other notional values <sup>3,4</sup>
<i>USD billion</i>										
<b>Commodity contracts</b>										
Over-the-counter (OTC) contracts										
Forward contracts	0.1	4.2	0.2	5.7		0.1	3.2	0.1	3.4	
Swaps	0.4	13.8	0.6	15.1		0.7	15.2	0.4	9.9	
Options	1.0	27.4	0.4	23.6		0.4	18.6	0.3	16.1	
Exchange-traded contracts										
Futures					12.0					8.5
Forward contracts	0.0	5.9	0.0	4.9		0.0	6.6	0.0	5.4	
Options	0.1	4.8	0.1	10.7	0.6	0.1	2.9	0.0	3.7	0.1
Agency transactions <sup>5</sup>	0.3		0.5			0.4		0.7		
<b>Total</b>	<b>1.8</b>	<b>56.1</b>	<b>1.7</b>	<b>60.0</b>	<b>12.6</b>	<b>1.8</b>	<b>46.4</b>	<b>1.5</b>	<b>38.5</b>	<b>8.6</b>
<b>Unsettled purchases of non-derivative financial instruments<sup>6</sup></b>	<b>0.1</b>	<b>16.6</b>	<b>0.1</b>	<b>6.9</b>		<b>0.2</b>	<b>17.0</b>	<b>0.1</b>	<b>6.0</b>	
<b>Unsettled sales of non-derivative financial instruments<sup>6</sup></b>	<b>0.1</b>	<b>15.4</b>	<b>0.1</b>	<b>9.7</b>		<b>0.4</b>	<b>15.1</b>	<b>0.2</b>	<b>13.2</b>	
<b>Total derivative instruments, based on IFRS netting<sup>7</sup></b>	<b>121.8</b>	<b>4,758.9</b>	<b>120.9</b>	<b>4,635.4</b>	<b>12,135.1</b>	<b>126.2</b>	<b>4,238.7</b>	<b>125.7</b>	<b>4,163.4</b>	<b>10,893.6</b>

<sup>1</sup> Derivative financial liabilities as of 31 December 2019 include USD 17 million related to derivative loan commitments (31 December 2018: USD 17 million). No notional amounts related to these commitments are included in this table, but they are disclosed in Note 34 under Loan commitments. <sup>2</sup> Includes certain forward starting repurchase and reverse repurchase agreements that are classified as measured at fair value through profit or loss and are recognized within derivative instruments. The fair value of these derivative instruments was not material as of 31 December 2019 or 31 December 2018. No notional amounts related to these instruments are included in this table, but they are disclosed in Note 34 under Forward starting transactions. <sup>3</sup> In cases where derivative financial instruments are presented on a net basis on the balance sheet, the respective notional values of the netted derivative financial instruments are still presented on a gross basis. <sup>4</sup> Other notional values relate to derivatives that are cleared through either a central counterparty or an exchange. The fair value of these derivatives is presented on the balance sheet net of the corresponding cash margin under Cash collateral receivables on derivative instruments and Cash collateral payables on derivative instruments and was not material for all periods presented. <sup>5</sup> Notional values of exchange-traded agency transactions and OTC-cleared transactions entered into on behalf of clients are not disclosed as they have a significantly different risk profile. <sup>6</sup> Changes in the fair value of purchased and sold non-derivative financial instruments between trade date and settlement date are recognized as derivative financial instruments. <sup>7</sup> Financial assets and liabilities are presented net on the balance sheet if UBS AG has the unconditional and legally enforceable right to offset the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of the entity and all of the counterparties, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. Refer to Note 25 for more information on netting arrangements.

The notional amount of a derivative is generally the quantity of the underlying instrument on which the derivative contract is based and is the reference against which changes in the value of the derivative are measured. Notional values in themselves are generally not a direct indication of the values that are exchanged between parties, and are therefore not a direct measure of risk or financial exposure but are viewed as an indication of the scale of the different types of derivatives entered into by UBS AG.

On a notional value basis, approximately 54% of OTC interest rate contracts held as of 31 December 2019 (31 December 2018: 56%) mature within one year, 28% (31 December 2018: 28%) within one to five years and 18% (31 December 2018: 16%) after five years. Notional values of interest rate contracts cleared with a clearing house that qualify for IFRS balance sheet netting or are legally settled on a daily basis are presented under *Other notional values* and are categorized into maturity buckets on the basis of contractual maturities of the cleared underlying derivative contracts.

### Derivatives transacted for sales and trading purposes

Most of UBS AG's derivative transactions relate to sales and trading activities. Sales activities include the structuring and marketing of derivative products to customers to enable them to take, transfer, modify or reduce current or expected risks. Trading activities include market-making to directly support the facilitation and execution of client activity. Market-making involves quoting bid and offer prices to other market participants with the intention of generating revenues based on spread and volume.

### Credit derivatives

UBS AG is an active dealer in the fixed income market, including credit default swaps (CDS) and related products, with respect to a large number of issuers' securities. The primary objectives of these activities are ongoing hedging of trading book exposures and market-making, primarily on behalf of clients.



## Note 11 Derivative instruments (continued)

Market-making activity, which is undertaken within the Investment Bank, consists of buying and selling single-name CDS, index CDS, loan CDS and related referenced cash instruments to facilitate client trading activity. UBS AG also actively utilizes CDS to economically hedge specific counterparty credit risks in its accrual and traded loan portfolios (including off-balance sheet loan commitments) with the aim of reducing concentrations in individual names, sectors or specific portfolios.

In addition, UBS AG actively utilizes CDS to economically hedge specific counterparty credit risks in its OTC derivative portfolios, including financial instruments that are designated at fair value through profit or loss.

The tables below provide more information about credit protection bought and sold, including replacement and notional value information by instrument type and counterparty type. The value of protection bought and sold is not, in isolation, a measure of UBS AG's credit risk. Counterparty relationships are viewed in terms of the total outstanding credit risk, which relates to other instruments in addition to CDS, and in connection with collateral arrangements in place. On a notional value basis, approximately 27% of credit protection bought and sold as of 31 December 2019 matures within one year (31 December 2018: 14%), approximately 63% within one to five years (31 December 2018: 74%) and approximately 10% after five years (31 December 2018: 12%).

### Credit derivatives by type of instrument

USD billion	Protection bought			Protection sold		
	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Single-name credit default swaps	0.3	0.7	37.5	0.8	0.7	38.6
Multi-name index-linked credit default swaps	0.1	0.8	29.3	0.5	0.1	24.9
Multi-name other credit default swaps	0.0	0.0	0.4	0.0	0.0	0.3
Total rate of return swaps	0.2	0.6	3.7	0.1	0.2	1.6
Options and warrants	0.0	0.0	3.8	0.0	0.0	0.1
<b>Total 31 December 2019</b>	<b>0.7</b>	<b>2.1</b>	<b>74.6</b>	<b>1.3</b>	<b>0.9</b>	<b>65.4</b>
<i>of which: credit derivatives related to economic hedges</i>	<i>0.6</i>	<i>1.7</i>	<i>56.1</i>	<i>0.9</i>	<i>0.8</i>	<i>45.7</i>
<i>of which: credit derivatives related to market-making</i>	<i>0.1</i>	<i>0.4</i>	<i>18.6</i>	<i>0.5</i>	<i>0.1</i>	<i>19.7</i>

USD billion	Protection bought			Protection sold		
	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
Single-name credit default swaps	0.6	0.6	43.3	0.5	1.0	44.9
Multi-name index-linked credit default swaps	0.3	0.3	29.1	0.3	0.2	24.4
Multi-name other credit default swaps	0.0	0.0	0.1	0.0	0.0	0.1
Total rate of return swaps	0.2	0.7	4.7	0.0	0.0	2.0
Options and warrants	0.0	0.0	4.1	0.0	0.0	0.1
<b>Total 31 December 2018</b>	<b>1.1</b>	<b>1.6</b>	<b>81.3</b>	<b>0.8</b>	<b>1.2</b>	<b>71.4</b>
<i>of which: credit derivatives related to economic hedges</i>	<i>0.9</i>	<i>1.3</i>	<i>59.2</i>	<i>0.5</i>	<i>1.1</i>	<i>48.9</i>
<i>of which: credit derivatives related to market-making</i>	<i>0.2</i>	<i>0.4</i>	<i>22.1</i>	<i>0.3</i>	<i>0.2</i>	<i>22.6</i>

## Note 11 Derivative instruments (continued)

### Credit derivatives by counterparty

	Protection bought			Protection sold		
	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
<i>USD billion</i>						
Broker-dealers	0.1	0.2	10.5	0.2	0.1	9.4
Banks	0.2	0.4	23.6	0.4	0.3	21.5
Central clearing counterparties	0.1	0.9	34.7	0.7	0.2	31.6
Other	0.3	0.7	5.8	0.1	0.3	2.9
<b>Total 31 December 2019</b>	<b>0.7</b>	<b>2.1</b>	<b>74.6</b>	<b>1.3</b>	<b>0.9</b>	<b>65.4</b>

	Protection bought			Protection sold		
	Derivative financial assets	Derivative financial liabilities	Notional values	Derivative financial assets	Derivative financial liabilities	Notional values
<i>USD billion</i>						
Broker-dealers	0.2	0.1	13.0	0.1	0.2	11.5
Banks	0.4	0.4	29.2	0.3	0.5	25.6
Central clearing counterparties	0.2	0.4	31.9	0.4	0.3	30.8
Other	0.3	0.7	7.2	0.0	0.3	3.5
<b>Total 31 December 2018</b>	<b>1.1</b>	<b>1.6</b>	<b>81.3</b>	<b>0.8</b>	<b>1.2</b>	<b>71.4</b>

UBS AG's CDS trades are documented using industry standard forms of documentation or equivalent terms documented in a bespoke agreement. The agreements that govern CDS generally do not contain recourse provisions that would enable UBS AG to recover from third parties any amounts paid out by UBS AG.

The types of credit events that would require UBS AG to perform under a CDS contract are subject to agreement between the parties at the time of the transaction. However, nearly all transactions are traded with reference to credit events that are applicable under certain market conventions based on the type of reference entity to which the transaction relates. Applicable credit events according to market conventions include bankruptcy, failure to pay, restructuring, obligation acceleration and repudiation / moratorium.

### Contingent collateral features of derivative liabilities

Certain derivative instruments contain contingent collateral or termination features triggered upon a downgrade of the published credit ratings of UBS AG in the normal course of business. Based on UBS AG's credit ratings as of 31 December 2019, USD 0.0 billion, USD 0.3 billion and USD 0.8 billion would have been required for contractual obligations related to OTC derivatives in the event of a one-notch, two-notch and three-notch reduction in long-term credit ratings, respectively. In evaluating UBS AG's liquidity requirements, UBS AG considers additional collateral or termination payments that would be required in the event of a reduction in UBS AG's long-term credit ratings, and a corresponding reduction in UBS AG's short-term ratings.

## Note 12 Financial assets and liabilities at fair value held for trading

<i>USD million</i>	31.12.19	31.12.18
<b>Financial assets at fair value held for trading<sup>1</sup></b>		
Equity instruments	96,788	72,771
Government bills / bonds	11,464	11,161
Investment fund units	8,867	9,716
Corporate and municipal bonds	8,093	6,908
Loans	1,971	3,566
Asset-backed securities	512	392
<b>Total financial assets at fair value held for trading</b>	<b>127,695</b>	<b>104,513</b>
<b>Financial liabilities at fair value held for trading<sup>1</sup></b>		
Equity instruments	22,734	21,892
Corporate and municipal bonds	3,661	3,530
Government bills / bonds	3,466	2,839
Investment fund units	698	689
Other	32	0
<b>Total financial liabilities at fair value held for trading</b>	<b>30,591</b>	<b>28,949</b>

<sup>1</sup> Refer to Note 24c for more information on product type and fair value hierarchy categorization.

## Note 13 Financial assets at fair value not held for trading

<i>USD million</i>	31.12.19	31.12.18
<b>Financial assets at fair value not held for trading<sup>1</sup></b>		
Financial assets for unit-linked investment contracts	27,686	21,446
Corporate and municipal bonds	19,385	17,236
Government bills / bonds	15,790	22,493
Loans	11,438	8,132
Securities financing transactions	6,294	9,937
Auction rate securities	1,536	1,664
Investment fund units	432	407
Equity instruments	559	702
Other	515	369
<b>Total financial assets at fair value not held for trading</b>	<b>83,636</b>	<b>82,387</b>

<sup>1</sup> Refer to Note 24c for more information on product type and fair value hierarchy categorization.

## Note 14 Financial assets measured at fair value through other comprehensive income

<i>USD million</i>	31.12.19	31.12.18
<b>Financial assets measured at fair value through other comprehensive income<sup>1</sup></b>		
<b>Debt instruments</b>		
Government and government agencies	6,162	6,463
of which: USA	5,814	6,101
Banks	178	149
Corporates and other	4	54
<b>Total financial assets measured at fair value through other comprehensive income</b>	<b>6,345</b>	<b>6,667</b>
Unrealized gains – before tax	41	4
Unrealized (losses) – before tax	(25)	(146)
<b>Net unrealized gains / (losses) – before tax</b>	<b>16</b>	<b>(143)</b>
<b>Net unrealized gains / (losses) – after tax</b>	<b>15</b>	<b>(104)</b>

<sup>1</sup> Refer to Note 24c for more information on product type and fair value hierarchy categorization. Refer also to Note 10 and Note 23 for more information on expected credit loss measurement.

## Note 15 Property, equipment and software

### At historical cost less accumulated depreciation

<i>USD million</i>	Owned properties	Leased properties <sup>5</sup>	Leasehold improvements	IT hardware and communication equipment	Internally generated software	Purchased software	Other machines and equipment	Projects in progress	2019	2018
<b>Historical cost</b>										
Balance at the end of the previous year	7,031		3,042	1,002	4,879	303	769	1,076	18,102	17,705
Adjustment from adoption of IFRS 16	(20)	3,299		(15)			0		3,264	
Balance at the beginning of the year	7,012	3,299	3,042	987	4,879	303	769	1,076	21,365	17,705
Additions	14	337	18	85	96	9	22	1,158	1,740	1,484
Disposals / write-offs <sup>1</sup>	(9)	(21)	(312)	(108)	(28)	(10)	(66)	0	(554)	(726)
Reclassifications	(135)	0	158	(3)	863	2	39	(1,315)	(391) <sup>4</sup>	(195)
Foreign currency translation	106	15	10	2	7	(1)	4	25	169	(166)
Balance at the end of the year	6,988	3,630	2,917	963	5,817	302	768	943	22,329	18,102
<b>Accumulated depreciation</b>										
Balance at the end of the previous year	4,132		1,842	733	2,161	209	546		9,623	9,514
Adjustment from adoption of IFRS 16	(1)	16		(15)			0		0	
Balance at the beginning of the year	4,131	16	1,842	719	2,161	209	546	0	9,623	9,514
Depreciation	141	463	184	98	565	33	58	0	1,542	984
Impairment <sup>2</sup>	1	2	1	0	27	2	0	0	34	67
Disposals / write-offs <sup>1</sup>	(9)	(2)	(310)	(108)	(28)	(10)	(66)	0	(533)	(730)
Reclassifications	(256)	0	3	0	5	0	0	0	(248) <sup>4</sup>	(124)
Foreign currency translation	66	3	9	1	5	(1)	3	0	86	(88)
Balance at the end of the year	4,074	481	1,729	710	2,735	233	541	0	10,503	9,623
<b>Net book value</b>										
Net book value at the end of the previous year	2,900	0	1,200	269	2,718	93	223	1,076	8,479	8,191
Net book value at the beginning of the year	2,881	3,284	1,200	268	2,718	93	223	1,076	11,742	8,191
<b>Net book value at the end of the year</b>	<b>2,914</b>	<b>3,149</b>	<b>1,188</b>	<b>254</b>	<b>3,082</b>	<b>69</b>	<b>227</b>	<b>943<sup>3</sup></b>	<b>11,826</b>	<b>8,479</b>

<sup>1</sup> Includes write-offs of fully depreciated assets. <sup>2</sup> Impairment charges recorded in 2019 generally relate to assets that are no longer used for which the recoverable amount based on a fair value approach was determined to be zero. <sup>3</sup> Consists of USD 744 million related to Internally generated software, USD 101 million related to Owned properties and USD 98 million related to Leasehold improvements. <sup>4</sup> Reflects reclassifications to Properties held for sale. <sup>5</sup> Represents right-of-use assets recognized by UBS AG as lessee. Includes immaterial leased IT equipment. The total cash outflow for leases during the year was USD 614 million. Interest expense on lease liabilities is included within Interest expense from financial instruments measured at amortized cost and Lease liabilities are included within Other financial liabilities measured at amortized cost. Refer to Notes 3 and 22a, respectively. Also refer to Note 1 for more information about the nature of UBS's leasing activities.

## Note 16 Goodwill and intangible assets

### Introduction

UBS AG performs an impairment test on its goodwill assets on an annual basis or when indicators of impairment exist.

UBS AG considers Asset Management and the Investment Bank, as they are reported in Note 2a, as separate cash-generating units, as that is the level at which the performance of investments (and the related goodwill) is reviewed and assessed by management. The goodwill for Global Wealth Management is separately monitored, and therefore separately considered for impairment, at the level of the two former business divisions Wealth Management and Wealth Management Americas. These business divisions were integrated in 2018 and are referred to in this Note as Global Wealth Management Americas and Global Wealth Management ex Americas.

The impairment test is performed for each cash-generating unit to which goodwill is allocated by comparing the recoverable amount, based on its value-in-use, with the carrying amount of the respective cash-generating unit. An impairment charge is recognized if the carrying amount exceeds the recoverable amount.

As of 31 December 2019, total goodwill recognized on the balance sheet was USD 6.3 billion, of which USD 3.7 billion was carried by the Global Wealth Management Americas cash-generating unit, USD 1.2 billion was carried by the Global Wealth Management ex Americas cash-generating unit and USD 1.4 billion was carried by Asset Management. Based on the impairment testing methodology described below, UBS AG concluded that the goodwill balances as of 31 December 2019 allocated to these cash-generating units are not impaired.

### Impairment of the Investment Bank goodwill

UBS AG is continuing to realign its Investment Bank and execute on a number of strategic initiatives to drive profitable growth. As a consequence, IAS 36, *Impairment of Assets*, requires UBS AG to give consideration to the range of possible forecast cash flows and uncertainties in macroeconomic factors that currently exist when determining the recoverability of goodwill in the Investment Bank. Following this, UBS AG estimated a recoverable amount for the Investment Bank cash-generating unit of USD 11.7 billion. As this was lower than the carrying amount of the Investment Bank cash-generating unit of USD 12.1 billion (actual attributed equity as of 31 December 2019), UBS AG wrote down the goodwill previously recognized by the Investment Bank (USD 110 million) and recognized that charge in the income statement within *Amortization and impairment of goodwill and intangible assets*.

UBS AG also reviewed intangible assets, property, equipment and software assets, allocated to the Investment Bank. Overall, UBS AG confirmed that no further impairment charges were required, with the fair value of such assets (generally determined using a cost replacement approach) being equal to or higher than their respective carrying amounts.

### Methodology for goodwill impairment testing

The recoverable amounts are determined using a discounted cash flow model, which has been adapted to use inputs that consider features of the banking business and its regulatory environment. The recoverable amount of a cash-generating unit is the sum of the discounted earnings attributable to shareholders from the first three forecast years and the terminal value, adjusted for the effect of the capital assumed to be needed over the next three years and to support growth beyond this period. The terminal value, which covers all periods beyond the third year, is calculated on the basis of the forecast of third-year profit, the discount rate and the long-term growth rate, as well as the implied perpetual capital growth.

The carrying amount for each cash-generating unit is determined by reference to the Group's equity attribution framework. Within this framework, which is described in the "Capital management" section of this report, UBS attributes equity to the businesses on the basis of their risk-weighted assets and leverage ratio denominator, their goodwill and intangible assets as well as equity directly associated with activity that Corporate Center – Group Treasury manages centrally on behalf of the business divisions. The framework is primarily used for purposes of measuring the performance of the businesses and includes certain management assumptions. Attributed equity equals the capital that a cash-generating unit requires to conduct its business and is currently considered a reasonable approximation of the carrying amount of the cash-generating units. The attributed equity methodology is aligned with the business planning process, the inputs from which are used in calculating the recoverable amounts of the respective cash-generating unit.

→ Refer to the "Capital management" section of this report for more information about the equity attribution framework

### Assumptions

Valuation parameters used within UBS AG's impairment test model are linked to external market information, where applicable. The model used to determine the recoverable amount is most sensitive to changes in the forecast earnings available to shareholders in years one to three, to changes in the discount rates and to changes in the long-term growth rate. The applied long-term growth rate is based on long-term economic growth rates for different regions worldwide. Earnings available to shareholders are estimated on the basis of forecast results, which are part of the business plan approved by the Board of Directors.

The discount rates are determined by applying a capital asset pricing model-based approach, as well as considering quantitative and qualitative inputs from both internal and external analysts and the view of management.

## Note 16 Goodwill and intangible assets (continued)

In addition, they take into account regional differences in risk-free rates, at the level of individual cash-generating units. Consistently, long-term growth rates are determined based on nominal or real GDP growth rate forecasts, depending on the region.

Key assumptions used to determine the recoverable amounts of each cash-generating unit are tested for sensitivity by applying a reasonably possible change to those assumptions. Forecast earnings available to shareholders were changed by 20%, the discount rates were changed by 1.5 percentage points and the long-term growth rates were changed by 0.75 percentage points. Under all scenarios, reasonably possible changes in key assumptions did not result in an impairment of

goodwill or intangible balances reported by Global Wealth Management Americas, Global Wealth Management ex Americas and Asset Management.

If the estimated earnings and other assumptions in future periods deviate from the current outlook, the value of goodwill attributable to Global Wealth Management Americas, Global Wealth Management ex Americas and Asset Management may become impaired in the future, giving rise to losses in the income statement. Recognition of any impairment of goodwill would reduce IFRS equity and net profit. It would not affect cash flows and, as goodwill is required to be deducted from capital under the Basel III capital framework, no effect would be expected on UBS AG's capital ratios.

### Discount and growth rates

In %	Discount rates		Growth rates	
	31.12.19	31.12.18	31.12.19	31.12.18
Global Wealth Management Americas	9.5	9.5	4.2	3.2
Global Wealth Management ex Americas	8.5	8.5	3.4	3.0
Asset Management	9.0	9.0	3.0	2.7
Investment Bank	11.0	11.0	4.0	3.5

USD million	Goodwill		Intangible assets		Total	2019	2018
	Total	Infrastructure <sup>1</sup>	Customer relationships, contractual rights and other				
<b>Historical cost</b>							
Balance at the beginning of the year	6,392	760	865	1,625	8,018		7,888
Additions	0		11	11	11		270
Disposals	(1)		(10)	(10)	(11)		(45)
Write-offs	0		(75)	(75)	(75)		(7)
Foreign currency translation	(9)		(3)	(3)	(12)		(88)
Balance at the end of the year	6,382	760	788	1,548	7,930		8,018
<b>Accumulated amortization and impairment</b>							
Balance at the beginning of the year		691	679	1,371	1,371		1,325
Amortization		38	27	65	65		62
Impairment <sup>2</sup>	110		0	0	110		4
Disposals			(8)	(8)	(8)		(1)
Write-offs			(75)	(75)	(75)		(7)
Foreign currency translation			(2)	(2)	(2)		(12)
Balance at the end of the year	110	730	621	1,351	1,461		1,371
<b>Net book value at the end of the year</b>	6,272	30	167	197	6,469		6,647

<sup>1</sup> Consists of the branch network intangible asset recognized in connection with the acquisition of PaineWebber Group, Inc. <sup>2</sup> Impairment charges recorded in 2019 and 2018 relate to assets for which the recoverable amount was determined considering their value-in-use (recoverable amount of the impaired intangible assets in 2018 was USD 18 million, recoverable amount for the Investment Bank cash-generating unit in 2019 was USD 11.7 billion).

## Note 16 Goodwill and intangible assets (continued)

The table below presents goodwill and intangible assets by cash-generating unit for the year ended 31 December 2019.

<i>USD million</i>	Global Wealth Management Americas	Global Wealth Management ex Americas	Asset Management	Investment Bank	Corporate Center	Total
<b>Goodwill</b>						
Balance at the beginning of the year	3,721	1,206	1,354	112		6,392
Additions					0	0
Disposals		(1)				(1)
Impairment				(110)		(110)
Foreign currency translation	(2)	(6)	1	(2)	0	(9)
<b>Balance at the end of the year</b>	<b>3,719</b>	<b>1,198</b>	<b>1,354</b>	<b>0</b>	<b>0</b>	<b>6,272</b>
<b>Intangible assets</b>						
Balance at the beginning of the year	138	104	0	11	1	254
Additions / transfers	1			0	10	11
Disposals		(2)		0		(2)
Amortization	(45)	(12)		(5)	(4)	(65)
Impairment		0		0		0
Foreign currency translation	(1)	1	0	0	0	(1)
<b>Balance at the end of the year</b>	<b>92</b>	<b>92</b>	<b>0</b>	<b>5</b>	<b>7</b>	<b>197</b>

The table below presents estimated aggregated amortization expenses for intangible assets.

<i>USD million</i>	Intangible assets
<b>Estimated, aggregated amortization expenses for:</b>	
2020	53
2021	22
2022	18
2023	17
2024	13
Thereafter	70
Not amortized due to indefinite useful life	2
<b>Total</b>	<b>197</b>

## Note 17 Other assets

### a) Other financial assets measured at amortized cost

USD million	31.12.19	31.12.18
Debt securities	14,141	13,562
<i>of which: government bills / bonds</i>	8,492	8,778
Loans to financial advisors <sup>1</sup>	2,877	3,291
Fee- and commission-related receivables	1,520	1,644
Finance lease receivables <sup>2</sup>	1,444	1,091
Settlement and clearing accounts	587	1,039
Accrued interest income	742	700
Other	1,701	1,310
<b>Total other financial assets measured at amortized cost</b>	<b>23,012</b>	<b>22,637</b>

<sup>1</sup> Related to financial advisors in the US and Canada. <sup>2</sup> Upon adoption of IFRS 16 on 1 January 2019, Finance lease receivables increased by USD 176 million. Refer to Note 1 for more information.

### b) Other non-financial assets

USD million	31.12.19	31.12.18
Precious metals and other physical commodities	4,597	4,298
Bail deposit <sup>1</sup>	1,293	1,312
Prepaid expenses	687	731
VAT and other tax receivables	436	282
Properties and other non-current assets held for sale	199	82
Other	335	358
<b>Total other non-financial assets</b>	<b>7,547</b>	<b>7,062</b>

<sup>1</sup> Refer to item 1 in Note 21b for more information.

## Note 18 Amounts due to banks, customer deposits, and funding from UBS Group AG and its subsidiaries

### a) Amounts due to banks and customer deposits

USD million	31.12.19	31.12.18
Amounts due to banks	6,570	10,962
Customer deposits	450,591	421,986
<i>of which: demand deposits</i>	176,972	182,642
<i>of which: retail savings / deposits</i>	168,581	165,790
<i>of which: time deposits</i>	63,659	54,998
<i>of which: fiduciary deposits</i>	41,378	18,556
<b>Total amounts due to banks and customer deposits</b>	<b>457,161</b>	<b>432,948</b>

### b) Funding from UBS Group AG and its subsidiaries

USD million	31.12.19	31.12.18
Senior unsecured debt that contributes to total loss-absorbing capacity (TLAC)	30,105	29,988
Senior unsecured debt other than TLAC	3,389	1,031
High-trigger loss-absorbing additional tier 1 capital instruments	11,958	7,805
Low-trigger loss-absorbing additional tier 1 capital instruments	2,415	2,378
<b>Total<sup>1,2</sup></b>	<b>47,866</b>	<b>41,202</b>

<sup>1</sup> All balances in 2019 are against UBS Group AG as counterparty. Prior year balances were against UBS Group Funding (Switzerland) AG as counterparty. <sup>2</sup> UBS AG has also recognized funding from UBS Group AG and its subsidiaries that is designated at fair value. Refer to Note 22b for more information.



## Note 19 Debt issued designated at fair value

USD million	31.12.19	31.12.18
<b>Issued debt instruments</b>		
Equity-linked <sup>1</sup>	41,722	34,392
Rates-linked	16,318	12,073
Credit-linked	1,916	3,282
Fixed-rate	4,636	5,099
Commodity-linked	1,567	1,785
Other	432	401
<b>Total debt issued designated at fair value</b>	<b>66,592</b>	<b>57,031</b>
<i>of which: issued by UBS AG with original maturity greater than one year<sup>2</sup></i>	<i>51,031</i>	<i>40,289</i>
<i>of which: life-to-date own credit (gain) / loss</i>	<i>82</i>	<i>(270)</i>

<sup>1</sup> Includes investment fund unit-linked instruments issued. <sup>2</sup> Issued by the legal entity UBS AG. Based on original contractual maturity without considering any early redemption features. More than 99% of the balance as of 31 December 2019 was unsecured (31 December 2018: more than 99% of the balance was unsecured).

As of 31 December 2019 and 31 December 2018, the contractual redemption amount at maturity of debt issued designated at fair value through profit or loss was not materially different from the carrying amount.

The table below shows the residual contractual maturity of the carrying amount of debt issued designated at fair value, split between fixed-rate and floating-rate instruments based on the contractual terms, and does not consider any early redemption features. Interest rate ranges for future interest payments related

to debt issued designated at fair value have not been included in the table below as a majority of the debt instruments issued are structured products, and therefore the future interest payments are highly dependent upon the embedded derivative and prevailing market conditions at the point in time that each interest payment is made.

→ **Refer to Note 27 for maturity information on an undiscounted cash flow basis**

### Contractual maturity of carrying amount

USD million	2020	2021	2022	2023	2024	2025–2029	Thereafter	Total 31.12.19	Total 31.12.18
<b>UBS AG<sup>1</sup></b>									
Non-subordinated debt									
Fixed-rate	3,648	1,778	755	288	334	386	3,178	10,368	11,807
Floating-rate	21,547	10,748	3,435	2,608	3,290	8,109	5,562	55,299	43,562
Subtotal	25,195	12,526	4,190	2,897	3,624	8,495	8,740	65,668	55,370
<b>Other subsidiaries<sup>2</sup></b>									
Non-subordinated debt									
Fixed-rate	48	92	6	0	0	345	29	520	1,230
Floating-rate	102	43	197	27	0	0	35	404	431
Subtotal	150	134	203	27	0	345	64	924	1,662
<b>Total</b>	<b>25,345</b>	<b>12,661</b>	<b>4,394</b>	<b>2,924</b>	<b>3,624</b>	<b>8,840</b>	<b>8,804</b>	<b>66,592</b>	<b>57,031</b>

<sup>1</sup> Comprises instruments issued by the legal entity UBS AG. <sup>2</sup> Comprises instruments issued by subsidiaries of UBS AG.

## Note 20 Debt issued measured at amortized cost

USD million	31.12.19	31.12.18
Certificates of deposit	5,190	7,980
Commercial paper	14,413	27,514
Other short-term debt	2,235	3,531
<b>Short-term debt<sup>1</sup></b>	<b>21,837</b>	<b>39,025</b>
Senior unsecured debt	22,356	32,135
<i>of which: issued by UBS AG with original maturity greater than one year<sup>2</sup></i>	<i>22,349</i>	<i>32,133</i>
Covered bonds	2,633	3,947
Subordinated debt	7,431	7,511
<i>of which: low-trigger loss-absorbing tier 2 capital instruments</i>	<i>6,892</i>	<i>6,808</i>
<i>of which: non-Basel III-compliant tier 2 capital instruments</i>	<i>540</i>	<i>703</i>
Debt issued through the Swiss central mortgage institutions	8,574	8,569
Other long-term debt	4	58
<i>of which: issued by UBS AG with original maturity greater than one year<sup>2</sup></i>	<i>0</i>	<i>52</i>
<b>Long-term debt<sup>3</sup></b>	<b>40,998</b>	<b>52,220</b>
<b>Total debt issued measured at amortized cost<sup>4</sup></b>	<b>62,835</b>	<b>91,245</b>

<sup>1</sup> Debt with an original contractual maturity of less than one year. <sup>2</sup> Issued by the legal entity UBS AG. Based on original contractual maturity without considering any early redemption features. As of 31 December 2019, 100% of the balance was unsecured (31 December 2018: 100% of the balance was unsecured). <sup>3</sup> Debt with an original maturity greater than or equal to one year. The classification of debt issued into short-term and long-term does not consider any early redemption features. <sup>4</sup> Net of bifurcated embedded derivatives, the fair value of which was not material for the periods presented.

UBS AG uses interest rate and foreign exchange derivatives to manage the risks inherent in certain debt instruments held at amortized cost. In certain cases, UBS AG applies hedge accounting for interest rate risk as discussed in Note 1a item 3j and Note 28. As a result of applying hedge accounting, the life-

to-date adjustment to the carrying amount of debt issued was an increase of USD 574 million as of 31 December 2019 and an increase of USD 282 million as of 31 December 2018, reflecting changes in fair value due to interest rate movements.

## Note 20 Debt issued measured at amortized cost (continued)

Subordinated debt consists of unsecured debt obligations that are contractually subordinated in right of payment to all other present and future non-subordinated obligations of the respective issuing entity. All of the subordinated debt instruments outstanding as of 31 December 2019 pay a fixed rate of interest.

The table below shows the residual contractual maturity of the carrying amount of debt issued, split between fixed-rate and floating-rate based on the contractual terms, and does not consider any early redemption features. The effects from interest rate swaps, which are used to hedge various fixed-rate debt issuances by changing the repricing characteristics into those similar to floating-rate debt, are also not considered in the table below.

→ Refer to Note 27 for maturity information on an undiscounted cash flow basis

### Contractual maturity of carrying amount

USD million	2020	2021	2022	2023	2024	2025–2029	Thereafter	Total 31.12.19	Total 31.12.18
<b>UBS AG<sup>1</sup></b>									
Non-subordinated debt									
Fixed-rate	24,334	3,978	2,618	1,621	0	0	1,145	33,696	40,108
Floating-rate	10,819	1,932	0	368	0	0	0	13,119	35,035
Subordinated debt									
Fixed-rate	0	0	2,007	0	2,597	2,827	0	7,431	7,511
Subtotal	35,153	5,910	4,626	1,989	2,597	2,827	1,145	54,247	82,654
<b>Other subsidiaries<sup>2</sup></b>									
Non-subordinated debt									
Fixed-rate	758	1,029	851	951	1,013	3,327	660	8,588	8,590
Floating-rate	0	0	0	0	0	0	0	0	0
Subtotal	758	1,029	851	951	1,013	3,327	660	8,588	8,591
<b>Total</b>	<b>35,911</b>	<b>6,939</b>	<b>5,477</b>	<b>2,940</b>	<b>3,610</b>	<b>6,154</b>	<b>1,805</b>	<b>62,835</b>	<b>91,245</b>

<sup>1</sup> Comprises debt issued by the legal entity UBS AG. <sup>2</sup> Comprises debt issued by subsidiaries of UBS AG.

## Note 21 Provisions and contingent liabilities

### a) Provisions

The table below presents an overview of total provisions.

<i>USD million</i>	31.12.19	31.12.18
Provisions other than provisions for expected credit losses	2,825	3,341
Provisions for expected credit losses	114	116
<b>Total provisions</b>	<b>2,938</b>	<b>3,457</b>

The following table presents additional information for provisions other than provisions for expected credit losses.

<i>USD million</i>	Operational risks <sup>2</sup>	Litigation, regulatory and similar matters <sup>3</sup>	Restructuring	Real estate	Employee benefits <sup>6</sup>	Other	Total 2019	Total 2018
<b>Balance at the end of the previous year</b>	45	2,827	215	122	55	77	<b>3,341</b>	3,130
Adjustment from adoption of IFRS 16 <sup>1</sup>	0	0	(103)	(28)	0	0	<b>(131)</b>	0
<b>Balance at the beginning of the year</b>	45	2,827	112	94	55	77	<b>3,209</b>	3,130
Additions from acquired companies	0	0	0	0	0	0	<b>0</b>	2
Increase in provisions recognized in the income statement	13	258	87	4	6	8	<b>376</b>	1,117
Release of provisions recognized in the income statement	0	(81)	(19)	0	(7)	(12)	<b>(119)</b>	(301)
Provisions used in conformity with designated purpose	(15)	(518)	(83)	(7)	0	(9)	<b>(632)</b>	(587)
Reclassifications	0	0	0	0	0	(1)	<b>(1)</b>	0
Foreign currency translation / unwind of discount	(1)	(12)	1	1	0	1	<b>(8)</b>	(20)
<b>Balance at the end of the year</b>	<b>41</b>	<b>2,475</b>	<b>99<sup>4</sup></b>	<b>92<sup>5</sup></b>	<b>54</b>	<b>64</b>	<b>2,825</b>	3,341

<sup>1</sup> Refer to Note 1 for more information. <sup>2</sup> Comprises provisions for losses resulting from security risks and transaction processing risks. <sup>3</sup> Comprises provisions for losses resulting from legal, liability and compliance risks. <sup>4</sup> Primarily consists of personnel-related restructuring provisions of USD 33 million as of 31 December 2019 (31 December 2018: USD 40 million) and provisions for onerous contracts of USD 61 million as of 31 December 2019 (31 December 2018: USD 170 million). <sup>5</sup> Consists of reinstatement costs for leasehold improvements of USD 82 million as of 31 December 2019 (31 December 2018: USD 83 million) and provisions for onerous contracts of USD 10 million as of 31 December 2019 (31 December 2018: USD 40 million). <sup>6</sup> Includes provisions for sabbatical and anniversary awards.

Restructuring provisions primarily relate to onerous contracts and severance payments. Onerous contracts for property are recognized when UBS AG is committed to pay for non-lease components, such as utilities, when a property is vacated or not fully recovered from sub-tenants. Severance-related provisions are used within a short time period, usually within six months, but potential changes in amount may be triggered when natural

staff attrition reduces the number of people affected by a restructuring event and therefore the estimated costs.

Information about provisions and contingent liabilities in respect of litigation, regulatory and similar matters, as a class, is included in Note 21b. There are no material contingent liabilities associated with the other classes of provisions.

## Note 21 Provisions and contingent liabilities (continued)

### b) Litigation, regulatory and similar matters

UBS operates in a legal and regulatory environment that exposes it to significant litigation and similar risks arising from disputes and regulatory proceedings. As a result, UBS (which for purposes of this Note may refer to UBS AG and/or one or more of its subsidiaries, as applicable) is involved in various disputes and legal proceedings, including litigation, arbitration, and regulatory and criminal investigations.

Such matters are subject to many uncertainties, and the outcome and the timing of resolution are often difficult to predict, particularly in the earlier stages of a case. There are also situations where UBS may enter into a settlement agreement. This may occur in order to avoid the expense, management distraction or reputational implications of continuing to contest liability, even for those matters for which UBS believes it should be exonerated. The uncertainties inherent in all such matters affect the amount and timing of any potential outflows for both matters with respect to which provisions have been established and other contingent liabilities. UBS makes provisions for such matters brought against it when, in the opinion of management after seeking legal advice, it is more likely than not that UBS has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required, and the amount can be reliably estimated. Where these factors are otherwise satisfied, a provision may be established for claims that have not yet been asserted against

UBS, but are nevertheless expected to be, based on UBS's experience with similar asserted claims. If any of those conditions is not met, such matters result in contingent liabilities. If the amount of an obligation cannot be reliably estimated, a liability exists that is not recognized even if an outflow of resources is probable. Accordingly, no provision is established even if the potential outflow of resources with respect to such matters could be significant. Developments relating to a matter that occur after the relevant reporting period, but prior to the issuance of financial statements, which affect management's assessment of the provision for such matter (because, for example, the developments provide evidence of conditions that existed at the end of the reporting period), are adjusting events after the reporting period under IAS 10 and must be recognized in the financial statements for the reporting period.

Specific litigation, regulatory and other matters are described below, including all such matters that management considers to be material and others that management believes to be of significance due to potential financial, reputational and other effects. The amount of damages claimed, the size of a transaction or other information is provided where available and appropriate in order to assist users in considering the magnitude of potential exposures.

## Note 21 Provisions and contingent liabilities (continued)

In the case of certain matters below, we state that we have established a provision, and for the other matters, we make no such statement. When we make this statement and we expect disclosure of the amount of a provision to prejudice seriously our position with other parties in the matter because it would reveal what UBS believes to be the probable and reliably estimable outflow, we do not disclose that amount. In some cases we are subject to confidentiality obligations that preclude such disclosure. With respect to the matters for which we do not state whether we have established a provision, either (a) we have not established a provision, in which case the matter is treated as a contingent liability under the applicable accounting standard; or (b) we have established a provision but expect disclosure of that fact to prejudice seriously our position with other parties in the matter because it would reveal the fact that UBS believes an outflow of resources to be probable and reliably estimable.

With respect to certain litigation, regulatory and similar matters for which we have established provisions, we are able to estimate the expected timing of outflows. However, the aggregate amount of the expected outflows for those matters for which we are able to estimate expected timing is immaterial relative to our current and expected levels of liquidity over the relevant time periods.

The aggregate amount provisioned for litigation, regulatory and similar matters as a class is disclosed in the "Provisions" table in Note 21a above. It is not practicable to provide an aggregate estimate of liability for our litigation, regulatory and similar matters as a class of contingent liabilities. Doing so would require us to provide speculative legal assessments as to claims and proceedings that involve unique fact patterns or novel legal theories, that have not yet been initiated or are at early stages of adjudication, or as to which alleged damages have not been quantified by the claimants. Although we therefore cannot

provide a numerical estimate of the future losses that could arise from litigation, regulatory and similar matters, we believe that the aggregate amount of possible future losses from this class that are more than remote substantially exceeds the level of current provisions.

Litigation, regulatory and similar matters may also result in non-monetary penalties and consequences. For example, the non-prosecution agreement described in item 5 of this Note, which we entered into with the US Department of Justice (DOJ), Criminal Division, Fraud Section in connection with our submissions of benchmark interest rates, including, among others, the British Bankers' Association London Interbank Offered Rate (LIBOR), was terminated by the DOJ based on its determination that we had committed a US crime in relation to foreign exchange matters. As a consequence, UBS AG pleaded guilty to one count of wire fraud for conduct in the LIBOR matter, paid a fine and was subject to probation, which ended in early January 2020.

A guilty plea to, or conviction of, a crime could have material consequences for UBS. Resolution of regulatory proceedings may require us to obtain waivers of regulatory disqualifications to maintain certain operations, may entitle regulatory authorities to limit, suspend or terminate licenses and regulatory authorizations, and may permit financial market utilities to limit, suspend or terminate our participation in such utilities. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorizations or participations, could have material consequences for UBS.

The risk of loss associated with litigation, regulatory and similar matters is a component of operational risk for purposes of determining our capital requirements. Information concerning our capital requirements and the calculation of operational risk for this purpose is included in the "Capital management" section of this report.

### Provisions for litigation, regulatory and similar matters by business division and in Corporate Center<sup>1</sup>

<i>USD million</i>	Global Wealth Manage- ment	Personal & Corporate Banking	Asset Manage- ment	Investment Bank	Corporate Center	Total 2019	Total 2018
<b>Balance at the beginning of the year</b>	1,003	117	0	269	1,438	<b>2,827</b>	2,508
Increase in provisions recognized in the income statement	188	1	0	60	10	<b>258</b>	905
Release of provisions recognized in the income statement	(49)	0	0	(6)	(27)	<b>(81)</b>	(220)
Provisions used in conformity with designated purpose	(350)	(4)	0	(66)	(97)	<b>(518)</b>	(350)
Foreign currency translation / unwind of discount	(10)	(1)	0	(2)	0	<b>(12)</b>	(16)
<b>Balance at the end of the year</b>	<b>782</b>	<b>113</b>	<b>0</b>	<b>255</b>	<b>1,325</b>	<b>2,475</b>	2,827

<sup>1</sup> Provisions, if any, for the matters described in this Note are recorded in Global Wealth Management (items 3, item 4 and item 7) and Corporate Center (item 2). Provisions, if any, for the matters described in items 1 and 6 of this disclosure are allocated between Global Wealth Management and Personal & Corporate Banking, and provisions, if any, for the matters described in item 5 are allocated between the Investment Bank and Corporate Center.

## Note 21 Provisions and contingent liabilities (continued)

### 1. Inquiries regarding cross-border wealth management businesses

Tax and regulatory authorities in a number of countries have made inquiries, served requests for information or examined employees located in their respective jurisdictions relating to the cross-border wealth management services provided by UBS and other financial institutions. It is possible that the implementation of automatic tax information exchange and other measures relating to cross-border provision of financial services could give rise to further inquiries in the future. UBS has received disclosure orders from the Swiss Federal Tax Administration (FTA) to transfer information based on requests for international administrative assistance in tax matters. The requests concern a number of UBS account numbers pertaining to current and former clients and are based on data from 2006 and 2008. UBS has taken steps to inform affected clients about the administrative assistance proceedings and their procedural rights, including the right to appeal. The requests are based on data received from the German authorities, who seized certain data related to UBS clients booked in Switzerland during their investigations and have apparently shared this data with other European countries. UBS expects additional countries to file similar requests.

The Swiss Federal Administrative Court ruled in 2016 that, in the administrative assistance proceedings related to a French bulk request, UBS has the right to appeal all final FTA client data disclosure orders. On 30 July 2018, the Swiss Federal Administrative Court granted UBS's appeal by holding the French administrative assistance request inadmissible. The FTA filed a final appeal with the Swiss Federal Supreme Court. On 26 July 2019, the Supreme Court reversed the decision of the Federal Administrative Court. In December 2019, the court released its written decision. The decision requires the FTA to obtain confirmation from the French authorities that transmitted data will be used only for the purposes stated in their request before transmitting any data. The stated purpose of the original request was to obtain information relating to taxes owed by account holders. Accordingly, any information transferred to the French authorities must not be passed to criminal authorities or used in connection with the ongoing case against UBS discussed in this item.

Since 2013, UBS (France) S.A., UBS AG and certain former employees have been under investigation in France for alleged complicity in unlawful solicitation of clients on French territory, regarding the laundering of proceeds of tax fraud, and banking and financial solicitation by unauthorized persons. In connection with this investigation, the investigating judges ordered UBS AG to provide bail ("caution") of EUR 1.1 billion and UBS (France) S.A. to post bail of EUR 40 million, which was reduced on appeal to EUR 10 million.

A trial in the court of first instance took place from 8 October 2018 until 15 November 2018. On 20 February 2019, the court announced a verdict finding UBS AG guilty of unlawful

solicitation of clients on French territory and aggravated laundering of the proceeds of tax fraud, and UBS (France) S.A. guilty of aiding and abetting unlawful solicitation and laundering the proceeds of tax fraud. The court imposed fines aggregating EUR 3.7 billion on UBS AG and UBS (France) S.A. and awarded EUR 800 million of civil damages to the French state. UBS has appealed the decision. Under French law, the judgment is suspended while the appeal is pending. The trial in the Court of Appeal is scheduled for June 2020. The Court of Appeal will retry the case de novo as to both the law and the facts, and the fines and penalties can be greater than or less than those imposed by the court of first instance. A subsequent appeal to the Cour de Cassation, France's highest court, is possible with respect to questions of law.

UBS believes that based on both the law and the facts the judgment of the court of first instance should be reversed. UBS believes it followed its obligations under Swiss and French law as well as the European Savings Tax Directive. Even assuming liability, which it contests, UBS believes the penalties and damage amounts awarded greatly exceed the amounts that could be supported by the law and the facts. In particular, UBS believes the court incorrectly based the penalty on the total regularized assets rather than on any unpaid taxes on those assets for which a fraud has been characterized and further incorrectly awarded damages based on costs that were not proven by the civil party. Notwithstanding that UBS believes it should be acquitted, our balance sheet at 31 December 2019 reflected provisions with respect to this matter in an amount of EUR 450 million (USD 505 million at 31 December 2019). The wide range of possible outcomes in this case contributes to a high degree of estimation uncertainty. The provision reflected on our balance sheet at 31 December 2019 reflects our best estimate of possible financial implications, although it is reasonably possible that actual penalties and civil damages could exceed the provision amount.

In 2016, UBS was notified by the Belgian investigating judge that it is under formal investigation ("inculpé") regarding the laundering of proceeds of tax fraud, of banking and financial solicitation by unauthorized persons, and of serious tax fraud. In 2018, tax authorities and a prosecutor's office in Italy asserted that UBS is potentially liable for taxes and penalties as a result of its activities in Italy from 2012 to 2017. In June 2019, UBS entered into a settlement agreement with the Italian tax authorities under which it paid EUR 101 million to resolve the claims asserted by the authority related to UBS AG's potential permanent establishment in Italy. In October 2019, the Judge of Preliminary Investigations of the Milan Court approved an agreement with the Milan prosecutor under Article 63 of Italian Administrative Law 231 under which UBS AG, UBS Switzerland AG and UBS Monaco have paid an aggregate of EUR 10.3 million to resolve claims premised on the alleged inadequacy of historical internal controls. No admission of wrongdoing was required in connection with this resolution.

## Note 21 Provisions and contingent liabilities (continued)

Our balance sheet at 31 December 2019 reflected provisions with respect to matters described in this item 1 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

### 2. Claims related to sales of residential mortgage-backed securities and mortgages

From 2002 through 2007, prior to the crisis in the US residential loan market, UBS was a substantial issuer and underwriter of US residential mortgage-backed securities (RMBS) and was a purchaser and seller of US residential mortgages. A subsidiary of UBS, UBS Real Estate Securities Inc. (UBS RESI), acquired pools of residential mortgage loans from originators and (through an affiliate) deposited them into securitization trusts. In this manner, from 2004 through 2007, UBS RESI sponsored approximately USD 80 billion in RMBS, based on the original principal balances of the securities issued.

UBS RESI also sold pools of loans acquired from originators to third-party purchasers. These whole loan sales during the period 2004 through 2007 totaled approximately USD 19 billion in original principal balance.

UBS was not a significant originator of US residential loans. A branch of UBS originated approximately USD 1.5 billion in US residential mortgage loans during the period in which it was active from 2006 to 2008 and securitized less than half of these loans.

*Lawsuits related to contractual representations and warranties concerning mortgages and RMBS:* When UBS acted as an RMBS sponsor or mortgage seller, it generally made certain representations relating to the characteristics of the underlying loans. In the event of a material breach of these representations, UBS was in certain circumstances contractually obligated to repurchase the loans to which the representations related or to indemnify certain parties against losses. In 2012, certain RMBS trusts filed an action in the US District Court for the Southern District of New York seeking to enforce UBS RESI's obligation to repurchase loans in the collateral pools for three RMBS securitizations issued and underwritten by UBS with an original principal balance of approximately USD 2 billion. In July 2018, UBS and the trustee entered into an agreement under which UBS will pay USD 850 million to resolve this matter. A significant portion of this amount will be borne by other parties that indemnified UBS. In January 2020, the settlement was approved by the court. Proceedings to determine how the settlement funds will be distributed to RMBS holders are

ongoing. After giving effect to this settlement, UBS considers claims relating to substantially all loan repurchase demands to be resolved and believes that new demands to repurchase US residential mortgage loans are time-barred under a decision rendered by the New York Court of Appeals.

*Mortgage-related regulatory matters:* Since 2014, the US Attorney's Office for the Eastern District of New York has sought information from UBS pursuant to the Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA), related to UBS's RMBS business from 2005 through 2007. On 8 November 2018, the DOJ filed a civil complaint in the District Court for the Eastern District of New York. The complaint seeks unspecified civil monetary penalties under FIRREA related to UBS's issuance, underwriting and sale of 40 RMBS transactions in 2006 and 2007. UBS moved to dismiss the civil complaint on 6 February 2019. On 10 December 2019, the district court denied UBS's motion to dismiss.

Our balance sheet at 31 December 2019 reflected a provision with respect to matters described in this item 2 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of this matter cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

### 3. Madoff

In relation to the Bernard L. Madoff Investment Securities LLC (BMIS) investment fraud, UBS AG, UBS (Luxembourg) S.A. (now UBS Europe SE, Luxembourg branch) and certain other UBS subsidiaries have been subject to inquiries by a number of regulators, including the Swiss Financial Market Supervisory Authority (FINMA) and the Luxembourg Commission de Surveillance du Secteur Financier. Those inquiries concerned two third-party funds established under Luxembourg law, substantially all assets of which were with BMIS, as well as certain funds established in offshore jurisdictions with either direct or indirect exposure to BMIS. These funds faced severe losses, and the Luxembourg funds are in liquidation. The documentation establishing both funds identifies UBS entities in various roles, including custodian, administrator, manager, distributor and promoter, and indicates that UBS employees serve as board members.

In 2009 and 2010, the liquidators of the two Luxembourg funds filed claims against UBS entities, non-UBS entities and certain individuals, including current and former UBS employees, seeking amounts totaling approximately EUR 2.1 billion, which includes amounts that the funds may be held liable to pay the trustee for the liquidation of BMIS (BMIS Trustee).



## Note 21 Provisions and contingent liabilities (continued)

A large number of alleged beneficiaries have filed claims against UBS entities (and non-UBS entities) for purported losses relating to the Madoff fraud. The majority of these cases have been filed in Luxembourg, where decisions that the claims in eight test cases were inadmissible have been affirmed by the Luxembourg Court of Appeal, and the Luxembourg Supreme Court has dismissed a further appeal in one of the test cases.

In the US, the BMIS Trustee filed claims against UBS entities, among others, in relation to the two Luxembourg funds and one of the offshore funds. The total amount claimed against all defendants in these actions was not less than USD 2 billion. In 2014, the US Supreme Court rejected the BMIS Trustee's motion for leave to appeal decisions dismissing all claims except those for the recovery of approximately USD 125 million of payments alleged to be fraudulent conveyances and preference payments. In 2016, the bankruptcy court dismissed these claims against the UBS entities. In February 2019, the Court of Appeals reversed the dismissal of the BMIS Trustee's remaining claims. In August 2019, the defendants, including UBS, filed a petition to the US Supreme Court requesting that it review the Court of Appeals' decision. The bankruptcy proceedings have been stayed pending a decision with respect to the defendants' petition.

### 4. Puerto Rico

Declines since 2013 in the market prices of Puerto Rico municipal bonds and of closed-end funds (funds) that are sole-managed and co-managed by UBS Trust Company of Puerto Rico and distributed by UBS Financial Services Incorporated of Puerto Rico (UBS PR) have led to multiple regulatory inquiries, as well as customer complaints and arbitrations with aggregate claimed damages of USD 3.4 billion, of which claims with aggregate claimed damages of USD 2.4 billion have been resolved through settlements, arbitration or withdrawal of the claim. The claims have been filed by clients in Puerto Rico who own the funds or Puerto Rico municipal bonds and/or who used their UBS account assets as collateral for UBS non-purpose loans; customer complaint and arbitration allegations include fraud, misrepresentation and unsuitability of the funds and of the loans.

A shareholder derivative action was filed in 2014 against various UBS entities and current and certain former directors of the funds, alleging hundreds of millions of US dollars in losses in the funds. In 2015, defendants' motion to dismiss was denied and a request for permission to appeal that ruling was denied by the Puerto Rico Supreme Court. In 2014, a federal class action complaint also was filed against various UBS entities, certain members of UBS PR senior management and the co-manager of certain of the funds, seeking damages for investor losses in the funds during the period from May 2008 through May 2014. Following denial of the plaintiffs' motion for class certification, the case was dismissed in October 2018.

In 2014 and 2015, UBS entered into settlements with the Office of the Commissioner of Financial Institutions for the Commonwealth of Puerto Rico, the US Securities and Exchange Commission (SEC) and the Financial Industry Regulatory Authority in relation to their examinations of UBS's operations.

In 2011, a purported derivative action was filed on behalf of the Employee Retirement System of the Commonwealth of Puerto Rico (System) against over 40 defendants, including UBS PR, which was named in connection with its underwriting and consulting services. Plaintiffs alleged that defendants violated their purported fiduciary duties and contractual obligations in connection with the issuance and underwriting of USD 3 billion of bonds by the System in 2008 and sought damages of over USD 800 million. In 2016, the court granted the System's request to join the action as a plaintiff, but ordered that plaintiffs must file an amended complaint. In 2017, the court denied defendants' motion to dismiss the amended complaint.

Beginning in 2015, and continuing through 2017, certain agencies and public corporations of the Commonwealth of Puerto Rico (Commonwealth) defaulted on certain interest payments on Puerto Rico bonds. In 2016, US federal legislation created an oversight board with power to oversee Puerto Rico's finances and to restructure its debt. The oversight board has imposed a stay on the exercise of certain creditors' rights. In 2017, the oversight board placed certain of the bonds into a bankruptcy-like proceeding under the supervision of a Federal District Judge. These events, further defaults or any further legislative action to create a legal means of restructuring Commonwealth obligations or to impose additional oversight on the Commonwealth's finances, or any restructuring of the Commonwealth's obligations, may increase the number of claims against UBS concerning Puerto Rico securities, as well as potential damages sought.

In May 2019, the oversight board filed complaints in Puerto Rico federal district court bringing claims against financial, legal and accounting firms that had participated in Puerto Rico municipal bond offerings, including UBS, seeking a return of underwriting and swap fees paid in connection with those offerings. UBS estimates that it received approximately USD 125 million in fees in the relevant offerings.

In August 2019 and February 2020, three US insurance companies that insured issues of Puerto Rico municipal bonds sued UBS and seven other underwriters of Puerto Rico municipal bonds. The two actions seek recovery of an aggregate of USD 955 million in damages from the defendants. The plaintiffs in these cases claim that defendants failed to reasonably investigate financial statements in the offering materials for the insured Puerto Rico bonds issued between 2002 and 2007, which plaintiffs argue they relied upon in agreeing to insure the bonds notwithstanding that they had no contractual relationship with the underwriters.

## Note 21 Provisions and contingent liabilities (continued)

Our balance sheet at 31 December 2019 reflected provisions with respect to matters described in this item 4 in amounts that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provisions that we have recognized.

### 5. Foreign exchange, LIBOR and benchmark rates, and other trading practices

*Foreign exchange-related regulatory matters:* Beginning in 2013, numerous authorities commenced investigations concerning possible manipulation of foreign exchange markets and precious metals prices. In 2014 and 2015, UBS reached settlements with the UK Financial Conduct Authority (FCA) and the US Commodity Futures Trading Commission (CFTC) in connection with their foreign exchange investigations, FINMA issued an order concluding its formal proceedings relating to UBS's foreign exchange and precious metals businesses, and the Board of Governors of the Federal Reserve System (Federal Reserve Board) and the Connecticut Department of Banking issued a Cease and Desist Order and assessed monetary penalties against UBS AG. In 2015, the DOJ's Criminal Division terminated the 2012 non-prosecution agreement with UBS AG related to UBS's submissions of benchmark interest rates, and UBS AG pleaded guilty to one count of wire fraud, paid a fine and was subject to probation, which ended in early January 2020. In 2019 the European Commission announced two decisions with respect to foreign exchange trading. UBS was granted immunity by the European Commission in these matters and therefore was not fined. UBS has ongoing obligations to cooperate with these authorities and to undertake certain remediation measures. UBS has also been granted conditional immunity by the Antitrust Division of the DOJ and by authorities in other jurisdictions in connection with potential competition law violations relating to foreign exchange and precious metals businesses. Investigations relating to foreign exchange matters by certain authorities remain ongoing notwithstanding these resolutions.

*Foreign exchange-related civil litigation:* Putative class actions have been filed since 2013 in US federal courts and in other jurisdictions against UBS and other banks on behalf of putative classes of persons who engaged in foreign currency transactions with any of the defendant banks. UBS has resolved US federal court class actions relating to foreign currency transactions with the defendant banks and persons who transacted in foreign exchange futures contracts and options on such futures under a

settlement agreement that provides for UBS to pay an aggregate of USD 141 million and provide cooperation to the settlement classes. Certain class members have excluded themselves from that settlement and have filed individual actions in US and English courts against UBS and other banks, alleging violations of US and European competition laws and unjust enrichment.

In 2015, a putative class action was filed in federal court against UBS and numerous other banks on behalf of persons and businesses in the US who directly purchased foreign currency from the defendants and alleged co-conspirators for their own end use. In March 2017, the court granted UBS's (and the other banks') motions to dismiss the complaint. The plaintiffs filed an amended complaint in August 2017. In March 2018, the court denied the defendants' motions to dismiss the amended complaint.

In 2017, two putative class actions were filed in federal court in New York against UBS and numerous other banks on behalf of persons and entities who had indirectly purchased foreign exchange instruments from a defendant or co-conspirator in the US, and a consolidated complaint was filed in June 2017. In March 2018, the court dismissed the consolidated complaint. In October 2018, the court granted plaintiffs' motion seeking leave to file an amended complaint. In January 2020, UBS and 11 other banks agreed in principle with the plaintiffs to settle the class action for a total of USD 10 million. The settlement is subject to final documentation and court approval.

*LIBOR and other benchmark-related regulatory matters:* Numerous government agencies, including the SEC, the CFTC, the DOJ, the FCA, the UK Serious Fraud Office, the Monetary Authority of Singapore, the Hong Kong Monetary Authority, FINMA, various state attorneys general in the US and competition authorities in various jurisdictions, have conducted investigations regarding potential improper attempts by UBS, among others, to manipulate LIBOR and other benchmark rates at certain times. UBS reached settlements or otherwise concluded investigations relating to benchmark interest rates with the investigating authorities. UBS has ongoing obligations to cooperate with the authorities with whom we have reached resolutions and to undertake certain remediation measures with respect to benchmark interest rate submissions. UBS has been granted conditional leniency or conditional immunity from authorities in certain jurisdictions, including the Antitrust Division of the DOJ and the Swiss Competition Commission (WEKO), in connection with potential antitrust or competition law violations related to certain rates. However, UBS has not reached a final settlement with WEKO, as the Secretariat of WEKO has asserted that UBS does not qualify for full immunity.

## Note 21 Provisions and contingent liabilities (continued)

*LIBOR and other benchmark-related civil litigation:* A number of putative class actions and other actions are pending in the federal courts in New York against UBS and numerous other banks on behalf of parties who transacted in certain interest rate benchmark-based derivatives. Also pending in the US and in other jurisdictions are a number of other actions asserting losses related to various products whose interest rates were linked to LIBOR and other benchmarks, including adjustable rate mortgages, preferred and debt securities, bonds pledged as collateral, loans, depository accounts, investments and other interest-bearing instruments. The complaints allege manipulation, through various means, of certain benchmark interest rates, including USD LIBOR, Euroyen TIBOR, Yen LIBOR, EURIBOR, CHF LIBOR, GBP LIBOR, SGD SIBOR and SOR and Australian BBSW, and seek unspecified compensatory and other damages under varying legal theories.

*USD LIBOR class and individual actions in the US:* In 2013 and 2015, the district court in the USD LIBOR actions dismissed, in whole or in part, certain plaintiffs' antitrust claims, federal racketeering claims, CEA claims, and state common law claims. Although the Second Circuit vacated the district court's judgment dismissing antitrust claims, the district court again dismissed antitrust claims against UBS in 2016. Certain plaintiffs have appealed that decision to the Second Circuit. Separately, in 2018, the Second Circuit reversed in part the district court's 2015 decision dismissing certain individual plaintiffs' claims and certain of these actions are now proceeding. UBS entered into an agreement in 2016 with representatives of a class of bondholders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In 2018, the district court denied plaintiffs' motions for class certification in the USD class actions for claims pending against UBS, and plaintiffs sought permission to appeal that ruling to the Second Circuit. In July 2018, the Second Circuit denied the petition to appeal of the class of USD lenders and in November 2018 denied the petition of the USD exchange class. In December 2019, UBS entered into an agreement with representatives of the class of USD lenders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In January 2019, a putative class action was filed in the District Court for the Southern District of New York against UBS and numerous other banks on behalf of US residents who, since 1 February 2014, directly transacted with a defendant bank in USD LIBOR instruments. The complaint asserts antitrust claims. The defendants moved to dismiss the complaint in August 2019.

*Other benchmark class actions in the US:* In 2014, the court in one of the Euroyen TIBOR lawsuits dismissed certain of the plaintiffs' claims, including a federal antitrust claim, for lack of standing. In 2015, this court dismissed the plaintiffs' federal

racketeering claims on the same basis and affirmed its previous dismissal of the plaintiffs' antitrust claims against UBS. In 2017, this court also dismissed the other Yen LIBOR / Euroyen TIBOR action in its entirety on standing grounds, as did the court in the CHF LIBOR action. Also in 2017, the court in the EURIBOR lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Plaintiffs in the other Yen LIBOR, Euroyen TIBOR and the EURIBOR actions have appealed the dismissals. In October 2018, the court in the SIBOR / SOR action dismissed all but one of plaintiffs' claims against UBS. Plaintiffs in the CHF LIBOR and SIBOR / SOR actions filed amended complaints following the dismissals, and the courts granted renewed motions to dismiss in July 2019 (SIBOR / SOR) and in September 2019 (CHF LIBOR). Plaintiffs in both actions have appealed. In November 2018, the court in the BBSW lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Following that dismissal, plaintiffs in the BBSW action filed an amended complaint in April 2019, which UBS and other defendants named in the amended complaint have moved to dismiss. In February 2020, the court in the BBSW action granted in part and denied in part defendants' motions to dismiss the amended complaint. The court dismissed the GBP LIBOR action in August 2019, and plaintiffs appealed the dismissal in September 2019.

*Government bonds:* Putative class actions have been filed since 2015 in US federal courts against UBS and other banks on behalf of persons who participated in markets for US Treasury securities since 2007. A consolidated complaint was filed in 2017 in the US District Court for the Southern District of New York alleging that the banks colluded with respect to, and manipulated prices of, US Treasury securities sold at auction and in the secondary market and asserting claims under the antitrust laws and for unjust enrichment. Defendants' motions to dismiss the consolidated complaint are pending. Similar class actions have been filed concerning European government bonds and other government bonds.

UBS and reportedly other banks are responding to investigations and requests for information from various authorities regarding government bond trading practices. As a result of its review to date, UBS has taken appropriate action.

*Government sponsored entities (GSE) bonds:* Starting in February 2019, class action complaints were filed in the US District Court for the Southern District of New York against UBS and other banks on behalf of plaintiffs who traded GSE bonds. A consolidated complaint was filed alleging collusion in GSE bond trading between 1 January 2009 and 1 January 2016. In December 2019, UBS and eleven other defendants agreed to settle the class action for a total of USD 250 million. The settlement is subject to court approval.

## Note 21 Provisions and contingent liabilities (continued)

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With respect to additional matters and jurisdictions not encompassed by the settlements and orders referred to above, our balance sheet at 31 December 2019 reflected a provision in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

### 6. Swiss retrocessions

The Federal Supreme Court of Switzerland ruled in 2012, in a test case against UBS, that distribution fees paid to a firm for distributing third-party and intra-group investment funds and structured products must be disclosed and surrendered to clients who have entered into a discretionary mandate agreement with the firm, absent a valid waiver.

FINMA has issued a supervisory note to all Swiss banks in response to the Supreme Court decision. UBS has met the FINMA requirements and has notified all potentially affected clients.

The Supreme Court decision has resulted, and may continue to result, in a number of client requests for UBS to disclose and potentially surrender retrocessions. Client requests are assessed on a case-by-case basis. Considerations taken into account when assessing these cases include, among other things, the existence of a discretionary mandate and whether or not the client documentation contained a valid waiver with respect to distribution fees.

Our balance sheet at 31 December 2019 reflected a provision with respect to matters described in this item 6 in an amount that UBS believes to be appropriate under the applicable accounting standard. The ultimate exposure will depend on client requests and the resolution thereof, factors that are difficult to predict and assess. Hence, as in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

### 7. Securities transaction pricing and disclosure

UBS identified and reported to the relevant authorities instances in which some Global Wealth Management clients booked in Hong Kong and Singapore may have been charged inappropriate spreads on debt securities transactions between 2008 and 2015. In November 2019, UBS AG entered into a settlement with the Hong Kong Securities and Futures Commission (SFC) under which it was reprimanded and fined HKD 400 million (USD 51 million) and a settlement with the Monetary Authority of Singapore (MAS) under which it was fined SGD 11 million (USD 8.3 million). In addition, UBS has commenced reimbursing affected customers an aggregate amount equivalent to USD 47 million, including interest.

Our balance sheet at 31 December 2019 reflected a provision with respect to the matter described in this item 7 in an amount that UBS believes to be appropriate under the applicable accounting standard.

## Note 22 Other liabilities

### a) Other financial liabilities measured at amortized cost

USD million	31.12.19	31.12.18
Other accrued expenses	1,697	1,911
Accrued interest expenses	1,596	1,501
Settlement and clearing accounts	1,368	1,477
Lease liabilities <sup>1</sup>	3,858	
Other	1,854	2,688
<b>Total other financial liabilities measured at amortized cost</b>	<b>10,373</b>	<b>7,576</b>

<sup>1</sup> Relates to the adoption of IFRS 16 on 1 January 2019. Refer to Note 1 for more information.

### b) Other financial liabilities designated at fair value

USD million	31.12.19	31.12.18
Financial liabilities related to unit-linked investment contracts	28,145	21,679
Securities financing transactions	5,742	9,461
Over-the-counter debt instruments	2,022	2,450
of which: life-to-date own credit (gain) / loss	(4)	(51)
Funding from UBS Group AG and its subsidiaries	217	
Other	31	5
<b>Total other financial liabilities designated at fair value<sup>1</sup></b>	<b>36,157</b>	<b>33,594</b>

<sup>1</sup> As of 31 December 2019 and 31 December 2018, the contractual redemption amount at maturity of other financial liabilities designated at fair value through profit or loss was not materially different from the carrying amount.

### c) Other non-financial liabilities

USD million	31.12.19	31.12.18
Compensation-related liabilities	4,296	4,645
of which: financial advisor compensation plans	1,459	1,454
of which: other compensation plans	1,750	1,929
of which: net defined benefit pension and post-employment liabilities	629	773
of which: other compensation-related liabilities <sup>1</sup>	458	490
Current and deferred tax liabilities	1,091	915
VAT and other tax payables	445	403
Deferred income	134	215
Other	202	98
<b>Total other non-financial liabilities</b>	<b>6,168</b>	<b>6,275</b>

<sup>1</sup> Includes liabilities for payroll taxes and untaken vacation.

## Additional information

### Note 23 Expected credit loss measurement

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#### a) Expected credit losses in the period

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Total net credit loss expenses were USD 78 million in 2019, reflecting net credit loss expenses of USD 100 million related to credit-impaired (stage 3) positions, partly offset by USD 22 million of net releases in expected credit loss expense allowances from stage 1 and 2 positions.

In the Investment Bank, increased stage 1 and 2 ECL allowances and provisions recognized over the year primarily related to loans and credit facilities originated during 2019 and to changes in credit quality of existing assets, partly offset by a change in the applied credit risk models. In Personal & Corporate

Banking and Global Wealth Management, ECL allowances and provisions slightly decreased over the year, primarily attributable to a minor improvement in book quality following continued positive developments of selected economic input data.

Stage 3 net losses of USD 100 million were recognized across a number of defaulted positions, mainly in Personal & Corporate Banking (USD 44 million) and, to a lesser extent, in the Investment Bank (USD 26 million) and Global Wealth Management (USD 23 million).

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## Note 23 Expected credit loss measurement (continued)

### b) Changes to ECL models, scenarios, scenario weights and key inputs

Refer to Note 1a for information about the principles governing ECL models, scenarios, scenario weights and key inputs applied. In addition to the quarterly updates of market and behavioral data, which are relevant input factors to the credit rating methodology and the estimation of the probability of default (PD) and the loss given default (LGD), one significant change was applied to the models used to calculate ECLs for large corporate clients in the Investment Bank. During 2019, the data set was refreshed and aligned with the process applied to regulatory stress testing in the US, which resulted in a net release in expected credit loss expense allowances and provisions from stage 1 and 2 positions of USD 20 million. For portfolios where internal default data is insufficient for modeling purposes, UBS AG relies on external data providers.

Four scenarios and the related macroeconomic factors were reviewed in the fourth quarter of 2019 in light of the economic and political conditions prevailing at year-end. The selection of the three hypothetical scenarios remained essentially unchanged, although the narrative of the severe downside scenario was updated to include additional risks. The key aspects of the narrative for the scenarios are summarized below.

- The baseline scenario assumes continued growth in all key markets, albeit at a slower rate than in 2019. As a consequence, unemployment rates are not expected to fall noticeably, except in the US. Interest rates remain at low levels in line with the central bank policies pursued in the eurozone, Switzerland and in the US.
- The upside scenario assumes continued accommodative central bank policies in developed economies and a gradual decline of geopolitical and economic uncertainty. Underlying macroeconomic conditions improve, and asset values increase substantially.
- The mild downside scenario is based on a monetary policy tightening assumption, implemented by major central banks to deflate a potential asset price bubble, thus causing a mild recession.
- The narrative for the severe downside scenario, which during 2019 focused primarily on developments in the eurozone, has been broadened to cover a severe recessionary phase affecting all major economies. A wide-ranging slowdown is mainly caused by global trade tensions and debt sustainability concerns in Europe. Trade and business confidence are affected, being particularly felt in the key export markets for Swiss industry.

In each quarter the bases to which scenario-specific forecasts are applied, and the baseline forecast itself, were updated using the most recently available information (key macroeconomic data and relevant market indicators). The key forward-looking macroeconomic variables applied to the four scenarios as of

31 December 2019 are summarized in the table on the following page.

The determination of scenario weights is subject to the process and governance outlined in Note 1a item 3g. An econometric model is used to provide input into the scenario weight assessment process. The model output gives a first estimate of the probability that the GDP assumptions used for each scenario materialize, according to the historically observed deviations of GDP growth from trend growth. Since the probability estimates produced by the model do not include an assessment of the underlying economic or political causes, management positions the model output into the context of current conditions and future expectations, and applies judgment in determining the final scenario weights. The reviews during 2019 reflected the increasing probability of a weakening economy in key markets, after a long spell of substantial expansion, and the uncertainties about the influence that several political developments with unforeseeable outcomes may have on future growth. At year-end 2019, management reflected these developments by giving more weight to the severe downside scenario compared with 31 December 2018.

Non-linearity of credit losses in relation to macroeconomic factors is usually most pronounced in portfolios that are most sensitive to interest rates, especially in the areas of mortgage loans to private clients and real estate financing. The mild downside scenario therefore reflects a significant rise in interest rates as a key component and is also particularly relevant for credit risk management purposes.

As noted above, scenario weights are a reflection of risks identified during management's assessment of economic and geopolitical risks and not a specific expectation that a particular narrative with its defined macroeconomic factors (e.g., interest rates) will materialize. Other scenarios for a mild downside with less focus on interest rates would, however, not have been representative of the potential asymmetry of loan losses in a downturn. A more severe recession can be triggered by political factors that cannot be modeled based on observed history; given this consideration, the weight assigned to the severe downside case was also based on management's assessment of the geopolitical risks that might affect all of our key markets and portfolios.

ECL scenario	Assigned weights in %	
	31.12.19	31.12.18
Upside	7.5	10.0
Baseline	42.5	45.0
Mild downside	35.0	35.0
Severe downside	15.0	10.0



## Note 23 Expected credit loss measurement (continued)

Key parameters	One year				Three years cumulative			
	Upside	Baseline	Mild downside	Severe downside	Upside	Baseline	Mild downside	Severe downside
<b>Real GDP growth (% change)</b>								
United States	4.3	1.9	(0.5)	(6.4)	10.9	6.4	0.0	(4.3)
Eurozone	3.6	1.0	(0.3)	(9.1)	9.5	2.8	0.7	(10.8)
Switzerland	4.2	1.5	(0.8)	(7.0)	10.4	4.8	(0.1)	(6.2)
<b>Consumer price index (% change)</b>								
United States	3.1	1.8	4.9	(1.2)	8.6	6.2	11.1	0.4
Eurozone	2.1	1.3	2.8	(1.3)	6.7	4.3	6.2	(1.7)
Switzerland	1.5	0.8	1.8	(1.8)	5.5	2.7	4.2	(1.6)
<b>Unemployment rate (change, percentage points)</b>								
United States	(0.9)	(0.4)	0.3	5.7	(0.9)	(0.5)	0.7	5.6
Eurozone	(1.4)	(0.1)	0.6	5.6	(1.9)	(0.2)	1.0	7.9
Switzerland	(0.3)	0.1	0.5	2.6	(0.8)	0.3	1.2	3.6
<b>Fixed income: 10-year government bonds (change in yields, basis points)</b>								
USD	61.0	0.2	187.5	(100.0)	274.1	10.1	262.5	(75.0)
EUR	65.0	8.4	112.5	(30.0)	221.7	28.2	225.0	(20.0)
CHF	73.0	9.5	187.5	(70.0)	283.0	30.0	262.5	(35.0)
<b>Equity indices (% change)</b>								
S&P 500	14.8	3.5	(20.3)	(53.0)	42.7	9.5	(23.5)	(42.9)
EuroStoxx 50	17.0	0.5	(15.5)	(60.0)	44.3	4.4	(14.7)	(52.9)
SPI	13.9	1.4	(19.0)	(56.2)	42.2	5.3	(24.0)	(46.8)
<b>Swiss real estate (% change)</b>								
Single-Family Homes	4.5	0.1	(7.3)	(15.2)	14.1	2.3	(15.8)	(27.0)
<b>Other real estate (% change)</b>								
United States (S&P/Case-Shiller)	6.2	4.0	(4.0)	(13.3)	17.7	16.7	(11.9)	(23.4)
Eurozone (House Price Index)	4.9	1.2	(1.2)	(23.0)	15.4	2.2	(6.8)	(33.2)

### c) Development of ECL allowances and provisions

The ECL allowances and provisions recognized in the period are impacted by a variety of factors, such as:

- origination of new instruments during the period;
- effect of passage of time as the ECLs on an instrument for the remaining lifetime reduces (all other factors remaining the same);
- discount unwind within ECLs as it is measured on a present value basis;
- derecognition of instruments in the period;
- change in individual asset quality of instruments;
- portfolio effect of updating forward-looking scenarios and the respective weights;
- movements from a “maximum 12-month ECL” to the recognition of “lifetime ECLs” (and vice versa) following transfers between stages 1 and 2;
- movements from stages 1 and 2 to stage 3 (credit-impaired status) when default has become certain and probability of default (PD) increases to 100% (or vice versa);
- changes in credit risk and/or economic forecasting models or updates to model parameters; and
- foreign exchange translations for assets denominated in foreign currencies and other movements.



## Note 23 Expected credit loss measurement (continued)

The following table explains the changes in the ECL allowances and provisions for on- and off-balance sheet financial instruments and other credit lines in scope of ECL requirements between the beginning and the end of the period due to the factors listed on the previous page.

USD million	Development of ECL allowances and provisions			
	Total	Stage 1	Stage 2	Stage 3
Balance as of 31 December 2018	(1,054)	(176)	(183)	(695)
ECL movements due to stage transfer <sup>1</sup>	0	(96)	103	(8)
Net movement from new and derecognized transactions <sup>2</sup>	(53)	(66)	10	3
of which: Private clients with mortgages	(1)	(4)	3	0
of which: Real estate financing	(3)	(5)	2	0
of which: Large corporate clients	(6)	(14)	8	0
of which: SME clients	(16)	(14)	(2)	0
Book quality movements	(52)	141	(97)	(96)
Remeasurements due to stage transfers <sup>3</sup>	(125)	110	(138)	(97)
of which: Private clients with mortgages	(5)	70	(74)	(1)
of which: Real estate financing	5	21	(16)	0
of which: Large corporate clients	(45)	1	(11)	(35)
of which: SME clients	(64)	6	(17)	(53)
Remeasurements without stage transfers <sup>4</sup>	73	31	41	1
of which: Private clients with mortgages	22	2	30	(9)
of which: Real estate financing	1	0	0	1
of which: Large corporate clients	(24)	(10)	0	(14)
of which: SME clients	35	9	10	17
Model and methodology changes <sup>5</sup>	26	17	9	0
Total ECL movements with profit or loss impact <sup>6</sup>	(78)	(4)	25	(100)
Other allowance and provision movements	105	(1)	(2)	108
Write-offs / recoveries <sup>7</sup>	130	0	0	130
Reclassifications <sup>8</sup>	0	0	0	0
Foreign exchange movements <sup>9</sup>	(8)	(1)	(2)	(4)
Other	(19)	0	0	(18)
Balance as of 31 December 2019	(1,029)	(181)	(160)	(688)

<sup>1</sup> Represents ECL allowances and provisions prior to ECL remeasurement due to stage transfer. <sup>2</sup> Represents the increase and decrease in allowances and provisions resulting from financial instruments (including guarantees and facilities) that were newly originated, purchased or renewed and from the final derecognition of loans or facilities on their maturity date or earlier. <sup>3</sup> Represents the remeasurement between 12-month and lifetime ECL due to stage transfers. <sup>4</sup> Represents the change in allowances and provisions related to changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions, changes in the exposure profile, PD and LGD changes, and unwinding of the time value. <sup>5</sup> Represents the change in the allowances and provisions related to changes in models and methodologies. Refer to Note 23b for more information. <sup>6</sup> Includes ECL movements due to stage transfers, ECL movements from new and derecognized transactions, book quality changes and model and methodology changes. <sup>7</sup> Represents the decrease in allowances and provisions resulting from write-offs of the ECL allowance against the gross carrying amount when all or part of a financial asset is deemed uncollectible or forgiven. <sup>8</sup> Represents reclassifications to Other assets measured at amortized cost. <sup>9</sup> Represents the change in allowances and provisions related to movements in foreign exchange rates.

## Note 23 Expected credit loss measurement (continued)

The following table explains the changes in the ECL allowances and provisions for *Loans and advances to customers*, *Loans to financial advisors* and off-balance sheet financial instruments and other credit lines between the beginning and the end of the period.

USD million	Development of ECL allowances and provisions			
	Total	Stage 1	Stage 2	Stage 3
<b>Balance as of 1 January 2018</b>	<b>(1,117)</b>	<b>(141)</b>	<b>(193)</b>	<b>(783)</b>
<b>ECL movements due to stage transfer<sup>1</sup></b>	<b>0</b>	<b>(97)</b>	<b>95</b>	<b>2</b>
<b>Net movement from new and derecognized transactions<sup>2</sup></b>	<b>(10)</b>	<b>(44)</b>	<b>15</b>	<b>19</b>
of which: Private clients with mortgages	(3)	(6)	4	0
of which: Real estate financing	(3)	(8)	5	0
of which: Large corporate clients	2	(6)	1	8
of which: SME clients	(10)	(14)	4	0
<b>Book quality movements</b>	<b>(89)</b>	<b>112</b>	<b>(87)</b>	<b>(114)</b>
<b>Remeasurements due to stage transfers<sup>3</sup></b>	<b>(16)</b>	<b>95</b>	<b>(103)</b>	<b>(7)</b>
of which: Private clients with mortgages	(11)	54	(63)	(1)
of which: Real estate financing	5	24	(19)	0
of which: Large corporate clients	(1)	0	(3)	1
of which: SME clients	1	7	(7)	0
<b>Remeasurements without stage transfers<sup>4</sup></b>	<b>(73)</b>	<b>17</b>	<b>16</b>	<b>(106)</b>
of which: Private clients with mortgages	(9)	2	(3)	(7)
of which: Real estate financing	8	4	12	(8)
of which: Large corporate clients	(56)	(2)	(6)	(48)
of which: SME clients	(55)	9	6	(70)
<b>Model and methodology changes<sup>5</sup></b>	<b>(13)</b>	<b>(2)</b>	<b>(11)</b>	<b>0</b>
<b>Subtotal ECL movements with profit or loss impact<sup>6</sup></b>	<b>(104)</b>	<b>(30)</b>	<b>11</b>	<b>(86)</b>
<b>Other allowance and provision movements</b>	<b>227</b>	<b>10</b>	<b>1</b>	<b>216</b>
Write-offs / recoveries <sup>7</sup>	200	1	0	199
Reclassifications <sup>8</sup>	25	7	3	15
Foreign exchange movements <sup>9</sup>	8	0	0	8
Other	(6)	2	(1)	(6)
<b>Balance as of 31 December 2018</b>	<b>(1,002)</b>	<b>(162)</b>	<b>(180)</b>	<b>(661)</b>

<sup>1</sup> Represents ECL allowances and provisions prior to ECL remeasurement due to stage transfer. <sup>2</sup> Represents the increase and decrease in allowances and provisions resulting from financial instruments (including guarantees and facilities) that were newly originated, purchased or renewed and from the final derecognition of loans or facilities on their maturity date or earlier. <sup>3</sup> Represents the remeasurement between 12-month and lifetime ECL due to stage transfers. <sup>4</sup> Represents the change in allowances and provisions related to changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions, changes in the exposure profile, PD and LGD changes, and unwinding of the time value. <sup>5</sup> Represents the change in the allowances and provisions related to changes in models and methodologies. <sup>6</sup> UBS has restated ECL movements with profit or loss (P&L) impact to include ECL movements due to stage transfer. This aligns with a change in approach adopted in 2019 to allow for the total ECL P&L impacts by stage to be disclosed, including ECL movements due to stage transfers, ECL movements from new and derecognized transactions, book quality changes, model and methodology changes and foreign exchange rates. <sup>7</sup> Represents the decrease in allowances and provisions resulting from write-offs of the ECL allowance against the gross carrying amount when all or part of a financial asset is deemed uncollectible or forgiven. <sup>8</sup> Represents reclassifications to Other assets measured at amortized cost. <sup>9</sup> Represents the change in allowances and provisions related to movements in foreign exchange rates.

## Note 23 Expected credit loss measurement (continued)

### d) Maximum exposure to credit risk

The tables on the following pages provide UBS AG's maximum exposure to credit risk for financial instruments subject to ECL requirements and the respective collateral and other credit enhancements mitigating credit risk for these classes of financial instruments.

The maximum exposure to credit risk includes the carrying amounts of financial instruments recognized on the balance sheet subject to credit risk and the notional amounts for off-balance sheet arrangements. Where information is available,

collateral is presented at fair value. For other collateral, such as real estate, a reasonable alternative value is used. Credit enhancements, such as credit derivative contracts and guarantees, are included at their notional amounts. Both are capped at the maximum exposure to credit risk for which they serve as security. The "Risk management and control" section of this report describes management's view of credit risk and the related exposures, which can differ in certain respects from the requirements of IFRS.

#### Maximum exposure to credit risk

	31.12.19								
	Maximum exposure to credit risk	Collateral			Other collateral <sup>1</sup>	Credit enhancements			Exposure to credit risk after collateral and credit enhancements
		Cash collateral received	Collateralized by securities	Secured by real estate		Netting	Credit derivative contracts	Guarantees	
<i>USD billion</i>									
<b>Financial assets measured at amortized cost on the balance sheet</b>									
Cash and balances at central banks	107.1								107.1
Loans and advances to banks <sup>2</sup>	12.4		0.0						12.3
Receivables from securities financing transactions	84.2		77.6		5.8				0.8
Cash collateral receivables on derivative instruments <sup>3,4</sup>	23.3					14.4			8.9
Loans and advances to customers <sup>5</sup>	328.0	19.4	101.4	174.7	17.1			1.1	14.3
Other financial assets measured at amortized cost	23.0	0.1	0.4	0.0	1.3				21.2
<b>Total financial assets measured at amortized cost</b>	<b>578.0</b>	<b>19.5</b>	<b>179.4</b>	<b>174.7</b>	<b>24.3</b>	<b>14.4</b>	<b>0.0</b>	<b>1.1</b>	<b>164.6</b>
<b>Financial assets measured at fair value through other comprehensive income – debt</b>	<b>6.3</b>								<b>6.3</b>
<b>Total maximum exposure to credit risk reflected on the balance sheet in scope of ECL</b>	<b>584.3</b>	<b>19.5</b>	<b>179.4</b>	<b>174.7</b>	<b>24.3</b>	<b>14.4</b>	<b>0.0</b>	<b>1.1</b>	<b>171.0</b>
Guarantees <sup>6</sup>	18.1	1.0	3.0	0.1	1.7			2.5	9.8
Loan commitments <sup>6</sup>	27.5	0.2	1.9	1.3	5.8		0.2	0.2	18.0
Forward starting transactions, reverse repurchase and securities borrowing agreements	1.7		1.7						0.0
Committed unconditionally revocable credit lines	36.9	0.3	8.3	4.9	3.6			0.0	19.8
<b>Total maximum exposure to credit risk not reflected on the balance sheet, in scope of ECL</b>	<b>84.2</b>	<b>1.5</b>	<b>14.9</b>	<b>6.3</b>	<b>11.0</b>	<b>0.0</b>	<b>0.2</b>	<b>2.8</b>	<b>47.6</b>

## Note 23 Expected credit loss measurement (continued)

### Maximum exposure to credit risk (continued)

	31.12.18								
		Collateral				Credit enhancements			Exposure to credit risk after collateral and credit enhancements
	Maximum exposure to credit risk	Cash collateral received	Collateralized by securities	Secured by real estate	Other collateral <sup>1</sup>	Netting	Credit derivative contracts	Guarantees	
<i>USD billion</i>									
<b>Financial assets measured at amortized cost on the balance sheet</b>									
Cash and balances at central banks	108.4								108.4
Loans and advances to banks <sup>2</sup>	16.6		0.1						16.6
Receivables from securities financing transactions	95.3		92.5		2.5				0.3
Cash collateral receivables on derivative instruments <sup>3,4</sup>	23.6					14.5			9.1
Loans and advances to customers <sup>5</sup>	321.5	17.7	104.4	167.1	16.2		0.0	1.2	14.8
Other financial assets measured at amortized cost	22.6	0.1	0.4	0.0	1.1				21.0
<b>Total financial assets measured at amortized cost</b>	<b>588.1</b>	<b>17.8</b>	<b>197.4</b>	<b>167.2</b>	<b>19.9</b>	<b>14.5</b>	<b>0.0</b>	<b>1.2</b>	<b>170.2</b>
<b>Financial assets measured at fair value through other comprehensive income – debt</b>	<b>6.7</b>								<b>6.7</b>
<b>Total maximum exposure to credit risk reflected on the balance sheet in scope of ECL</b>	<b>594.8</b>	<b>17.8</b>	<b>197.4</b>	<b>167.2</b>	<b>19.9</b>	<b>14.5</b>	<b>0.0</b>	<b>1.2</b>	<b>176.9</b>
Guarantees <sup>6</sup>	18.1	1.3	2.5	0.1	1.2			2.7	10.2
Loan commitments <sup>6</sup>	31.2	0.4	2.8	1.5	5.7		0.2	0.7	19.8
Forward starting transactions, reverse repurchase and securities borrowing agreements	0.9		0.9						0.0
Committed unconditionally revocable credit lines	38.8	1.1	6.5	4.2	3.9				23.2
<b>Total maximum exposure to credit risk not reflected on the balance sheet, in scope of ECL</b>	<b>89.0</b>	<b>2.8</b>	<b>12.7</b>	<b>5.8</b>	<b>10.8</b>	<b>0.0</b>	<b>0.2</b>	<b>3.4</b>	<b>53.2</b>

<sup>1</sup> Includes but is not limited to life insurance contracts, inventory, mortgage loans, gold and other commodities. <sup>2</sup> Loans and advances to banks include amounts held with third-party banks on behalf of clients. The credit risk associated with these balances may be borne by those clients. <sup>3</sup> Included within Cash collateral receivables on derivative instruments are margin balances due from exchanges or clearing houses. Some of these margin balances reflect amounts transferred on behalf of clients who retain the associated credit risk. <sup>4</sup> The amount shown in the "Netting" column represents the netting potential not recognized on the balance sheet. Refer to Note 25 for more information. <sup>5</sup> Collateral arrangements generally incorporate a range of collateral, including cash, securities, property and other collateral. <sup>6</sup> The amount shown in the "Guarantees" column largely relates to sub-participations. Refer to Note 34 for more information.

## Note 23 Expected credit loss measurement (continued)

### e) Financial assets subject to credit risk by rating category

The table below shows the credit quality and the maximum exposure to credit risk based on the UBS AG's internal credit rating system and year-end stage classification. With the transition to IFRS 9, the credit risk rating reflects UBS AG's assessment of the probability of default of individual counterparties, prior to substitutions. The amounts presented are gross of impairment allowances.

→ Refer to the "Risk management and control" section of this report for more details regarding UBS AG's internal grading system

#### Financial assets subject to credit risk by rating category

USD million						31.12.19			
Rating category <sup>1</sup>	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total gross carrying amount	ECL allowances	Net carrying amount (maximum exposure to credit risk)
<b>Financial assets measured at amortized cost</b>									
Cash and balances at central banks	105,195	1,873	0	0	0	0	107,068	0	107,068
of which: stage 1	105,195	1,873	0	0	0	0	107,068	0	107,068
Loans and advances to banks	309	9,764	1,326	687	298	1	12,386	(6)	12,379
of which: stage 1	309	9,764	1,326	677	228	0	12,303	(4)	12,299
of which: stage 2	0	0	0	10	71	0	81	(1)	80
of which: stage 3	0	0	0	0	0	1	1	(1)	0
Receivables from securities financing transactions	21,089	16,889	14,366	28,815	3,088	0	84,246	(2)	84,245
of which: stage 1	21,089	16,889	14,366	28,815	3,088	0	84,246	(2)	84,245
Cash collateral receivables on derivative instruments	4,899	10,553	5,033	2,765	39	0	23,289	0	23,289
of which: stage 1	4,899	10,553	5,033	2,765	39	0	23,289	0	23,289
Loans and advances to customers	1,744	176,189	59,240	70,528	18,748	2,308	328,756	(764)	327,992
of which: stage 1	1,744	175,534	56,957	62,435	14,117	0	310,787	(82)	310,705
of which: stage 2	0	655	2,283	8,093	4,631	0	15,661	(123)	15,538
of which: stage 3	0	0	0	0	0	2,308	2,308	(559)	1,749
Other financial assets measured at amortized cost	13,030	1,592	390	7,158	312	672	23,154	(143)	23,012
of which: stage 1	13,030	1,581	381	6,747	280	0	22,019	(35)	21,985
of which: stage 2	0	11	9	412	32	0	463	(13)	451
of which: stage 3	0	0	0	0	0	672	672	(95)	576
<b>Total financial assets measured at amortized cost</b>	<b>146,267</b>	<b>216,860</b>	<b>80,354</b>	<b>109,952</b>	<b>22,485</b>	<b>2,981</b>	<b>578,899</b>	<b>(915)</b>	<b>577,985</b>
<b>On-balance sheet financial instruments</b>									
Financial assets measured at FVOCI – debt instruments	5,854	450	0	41	0	0	6,345	0	6,345
<b>Total on balance sheet financial instruments</b>	<b>152,120</b>	<b>217,309</b>	<b>80,354</b>	<b>109,994</b>	<b>22,485</b>	<b>2,981</b>	<b>585,245</b>	<b>(915)</b>	<b>584,329</b>

<sup>1</sup> Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

## Note 23 Expected credit loss measurement (continued)

### Off-balance sheet positions subject to expected credit loss by rating category

USD million	31.12.19						Total carrying amount (maximum exposure to credit risk)	ECL provision
Rating category <sup>1</sup>	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)		
<b>Off-balance sheet financial instruments</b>								
<b>Guarantees</b>	<b>857</b>	<b>4,932</b>	<b>6,060</b>	<b>5,450</b>	<b>761</b>	<b>82</b>	<b>18,142</b>	<b>(42)</b>
of which: stage 1	857	4,931	6,048	5,218	704	0	17,757	(8)
of which: stage 2	0	1	12	233	57	0	304	(1)
of which: stage 3	0	0	0	0	0	82	82	(33)
<b>Irrevocable loan commitments</b>	<b>2,548</b>	<b>10,068</b>	<b>4,862</b>	<b>5,859</b>	<b>4,160</b>	<b>50</b>	<b>27,547</b>	<b>(35)</b>
of which: stage 1	2,548	10,068	4,862	5,722	3,878	0	27,078	(30)
of which: stage 2	0	0	0	137	282	0	419	(5)
of which: stage 3	0	0	0	0	0	50	50	0
<b>Forward starting reverse repurchase and securities borrowing agreements</b>	<b>0</b>	<b>672</b>	<b>50</b>	<b>936</b>	<b>0</b>	<b>0</b>	<b>1,657</b>	<b>0</b>
<b>Total off balance sheet financial instruments</b>	<b>3,405</b>	<b>15,672</b>	<b>10,972</b>	<b>12,245</b>	<b>4,922</b>	<b>132</b>	<b>47,347</b>	<b>(77)</b>
<b>Other credit lines</b>								
<b>Committed unconditionally revocable credit lines</b>	<b>632</b>	<b>14,346</b>	<b>6,231</b>	<b>7,169</b>	<b>8,554</b>	<b>46</b>	<b>36,979</b>	<b>(34)</b>
of which: stage 1	632	14,309	6,120	6,789	7,889	0	35,740	(17)
of which: stage 2	0	37	111	380	665	0	1,193	(17)
of which: stage 3	0	0	0	0	0	46	46	0
<b>Irrevocable committed prolongation of existing loans</b>	<b>25</b>	<b>1,399</b>	<b>870</b>	<b>633</b>	<b>359</b>	<b>4</b>	<b>3,289</b>	<b>(3)</b>
of which: stage 1	25	1,399	870	633	359	0	3,285	(3)
of which: stage 2	0	0	0	0	0	0	0	0
of which: stage 3	0	0	0	0	0	4	4	0
<b>Total other credit lines</b>	<b>657</b>	<b>15,745</b>	<b>7,101</b>	<b>7,801</b>	<b>8,913</b>	<b>50</b>	<b>40,268</b>	<b>(37)</b>

<sup>1</sup> Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

## Note 23 Expected credit loss measurement (continued)

### Financial assets subject to credit risk by rating category

USD million

31.12.18

Rating category <sup>1</sup>	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)	Total gross carrying amount	ECL allowances	Net carrying amount (maximum exposure to credit risk)
<b>Financial assets measured at amortized cost</b>									
<b>Cash and balances at central banks</b>	<b>103,635</b>	<b>4,735</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>108,370</b>	<b>0</b>	<b>108,370</b>
of which: stage 1	103,635	4,735	0	0	0	0	108,370	0	108,370
<b>Loans and advances to banks</b>	<b>829</b>	<b>13,286</b>	<b>1,302</b>	<b>922</b>	<b>307</b>	<b>3</b>	<b>16,649</b>	<b>(8)</b>	<b>16,641</b>
of which: stage 1	829	13,286	1,302	758	268	0	16,443	(4)	16,439
of which: stage 2	0	0	0	164	39	0	203	(1)	202
of which: stage 3	0	0	0	0	0	3	3	(3)	0
<b>Receivables from securities financing transactions</b>	<b>29,065</b>	<b>24,653</b>	<b>13,602</b>	<b>26,866</b>	<b>1,165</b>	<b>0</b>	<b>95,351</b>	<b>(2)</b>	<b>95,349</b>
of which: stage 1	29,065	24,653	13,602	26,866	1,165	0	95,351	(2)	95,349
<b>Cash collateral receivables on derivative instruments</b>	<b>5,136</b>	<b>10,044</b>	<b>5,282</b>	<b>3,040</b>	<b>101</b>	<b>0</b>	<b>23,603</b>	<b>0</b>	<b>23,603</b>
of which: stage 1	5,136	10,044	5,282	3,040	101	0	23,603	0	23,603
<b>Loans and advances to customers</b>	<b>3,641</b>	<b>173,454</b>	<b>52,806</b>	<b>74,042</b>	<b>16,014</b>	<b>2,297</b>	<b>322,255</b>	<b>(772)</b>	<b>321,482</b>
of which: stage 1	3,621	172,714	49,517	62,484	11,111	0	299,448	(69)	299,379
of which: stage 2	20	740	3,289	11,558	4,903	0	20,510	(155)	20,355
of which: stage 3	0	0	0	0	0	2,297	2,297	(549)	1,748
<b>Other financial assets measured at amortized cost</b>	<b>13,409</b>	<b>682</b>	<b>316</b>	<b>7,525</b>	<b>274</b>	<b>586</b>	<b>22,792</b>	<b>(156)</b>	<b>22,636</b>
of which: stage 1	13,409	682	316	7,300	272	0	21,979	(43)	21,936
of which: stage 2	0	0	0	225	2	0	227	(4)	223
of which: stage 3	0	0	0	0	0	586	586	(109)	477
<b>Total financial assets measured at amortized cost</b>	<b>155,715</b>	<b>226,854</b>	<b>73,308</b>	<b>112,395</b>	<b>17,861</b>	<b>2,886</b>	<b>589,020</b>	<b>(937)</b>	<b>588,081</b>
<b>On-balance sheet financial instruments</b>									
<b>Financial assets measured at FVOCI – debt instruments</b>	<b>3,889</b>	<b>2,702</b>	<b>0</b>	<b>76</b>	<b>0</b>	<b>0</b>	<b>6,667</b>	<b>0</b>	<b>6,667</b>
<b>Total on balance sheet financial instruments</b>	<b>159,604</b>	<b>229,556</b>	<b>73,308</b>	<b>112,471</b>	<b>17,861</b>	<b>2,886</b>	<b>595,687</b>	<b>(937)</b>	<b>594,748</b>

<sup>1</sup> Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.

## Note 23 Expected credit loss measurement (continued)

### Off-balance sheet positions subject to expected credit loss by rating category

USD million	31.12.18						Total carrying amount (maximum exposure to credit risk)	ECL provision
Rating category <sup>1</sup>	0–1	2–3	4–5	6–8	9–13	Credit-impaired (defaulted)		
<b>Off-balance sheet financial instruments</b>								
<b>Guarantees</b>	<b>978</b>	<b>6,673</b>	<b>3,859</b>	<b>5,415</b>	<b>1,006</b>	<b>215</b>	<b>18,146</b>	<b>(43)</b>
of which: stage 1	978	6,670	3,849	5,013	811		17,321	(7)
of which: stage 2		3	10	402	195	0	610	(2)
of which: stage 3	0	0	0	0		215	215	(34)
<b>Irrevocable loan commitments</b>	<b>2,088</b>	<b>11,667</b>	<b>6,519</b>	<b>6,480</b>	<b>4,405</b>	<b>53</b>	<b>31,212</b>	<b>(37)</b>
of which: stage 1	2,088	11,667	6,519	6,297	4,020	0	30,591	(32)
of which: stage 2	0	0	0	183	385	0	568	(5)
of which: stage 3	0	0	0	0		53	53	0
<b>Forward starting reverse repurchase and securities borrowing agreements</b>	<b>25</b>	<b>510</b>	<b>150</b>	<b>254</b>	<b>0</b>	<b>0</b>	<b>939</b>	<b>0</b>
<b>Total off balance sheet financial instruments</b>	<b>3,091</b>	<b>18,850</b>	<b>10,528</b>	<b>12,148</b>	<b>5,411</b>	<b>268</b>	<b>50,296</b>	<b>(80)</b>
<b>Other credit lines</b>								
<b>Committed unconditionally revocable credit lines</b>	<b>776</b>	<b>12,426</b>	<b>5,332</b>	<b>12,140</b>	<b>8,084</b>	<b>93</b>	<b>38,851</b>	<b>(35)</b>
of which: stage 1	768	12,398	5,202	11,367	7,603		37,338	(19)
of which: stage 2	8	28	130	773	481	0	1,420	(16)
of which: stage 3	0				0	93	93	
<b>Irrevocable committed prolongation of existing loans</b>	<b>27</b>	<b>1,346</b>	<b>889</b>	<b>901</b>	<b>154</b>	<b>22</b>	<b>3,339</b>	<b>(1)</b>
of which: stage 1	27	1,315	680	701	137	0	2,860	(1)
of which: stage 2	0	31	209	200	17	0	457	0
of which: stage 3	0	0	0			22	22	0
<b>Total other credit lines</b>	<b>803</b>	<b>13,772</b>	<b>6,221</b>	<b>13,041</b>	<b>8,238</b>	<b>115</b>	<b>42,190</b>	<b>(36)</b>

<sup>1</sup> Refer to the "Internal UBS rating scale and mapping of external ratings" table in the "Risk management and control" section of this report for more information on rating categories.



## Note 23 Expected credit loss measurement (continued)

### f) Credit-impaired financial instruments at amortized cost

The credit risk in UBS AG's portfolio is actively managed by taking collateral against exposures and by utilizing credit hedging. Collateral held against credit-impaired loan exposures (stage 3) mainly consisted of real estate and securities. It is UBS AG's policy to dispose of foreclosed real estate as soon as practicable. The carrying amount of foreclosed property recorded in our balance sheet at the end of 2019 and 2018

amounted to USD 86 million and USD 60 million, respectively. The firm seeks to liquidate collateral held in the form of financial assets expeditiously and at prices considered fair. This may require us to purchase assets for our own account, where permitted by law, pending orderly liquidation. Financial assets that are credit-impaired and related collateral held in order to mitigate potential losses are shown in the table below.

USD million	31.12.19			
	Gross carrying amount	Allowance for expected credit losses	Net carrying amount	Collateral / credit enhancements
Loans and advances to banks	1	(1)	0	0
Loans and advances to customers	2,308	(559)	1,749	1,698
of which: Private clients with mortgages	1,000	(41)	959	959
of which: Real estate financing	21	(4)	17	13
of which: Large corporate clients	192	(98)	94	77
of which: SME clients	791	(271)	521	461
of which: Lombard	116	(18)	98	89
Other financial assets measured at amortized cost	672	(95)	576	22
<b>Total credit-impaired financial assets measured at amortized cost</b>	<b>2,981<sup>1</sup></b>	<b>(655)<sup>1</sup></b>	<b>2,326</b>	<b>1,720</b>
Guarantees	82	(33)		10
of which: Large corporate clients	24	(9)		8
of which: SME clients	58	(23)		2
Loan commitments	50	0		12
Committed unconditionally revocable credit lines	46	0		5
Irrevocable committed prolongation of existing loans	4	0		0
<b>Total off-balance sheet financial instruments and other credit lines</b>	<b>182<sup>1</sup></b>	<b>(33)<sup>1</sup></b>		<b>27</b>

<sup>1</sup> Under IFRS 9, adopted on 1 January 2018, an instrument is classified as credit-impaired if the counterparty is defaulted, and/or the instrument is purchased or originated credit-impaired and includes credit-impaired exposures for which no loss has occurred or no allowance has been recognized (e.g., because they are expected to be fully recoverable through the collateral held).

USD million	31.12.18			
	Gross carrying amount	Allowance for expected credit losses	Net carrying amount	Collateral / credit enhancements
Loans and advances to banks	3	(3)	0	0
Loans and advances to customers	2,297	(549)	1,748	1,654
of which: Private clients with mortgages	836	(39)	796	796
of which: Real estate financing	54	(16)	38	30
of which: Large corporate clients	170	(82)	88	79
of which: SME clients	888	(256)	632	561
of which: Lombard	31	(17)	14	14
Other financial assets measured at amortized cost	586	(109)	478	12
<b>Total credit-impaired financial assets measured at amortized cost</b>	<b>2,886<sup>1</sup></b>	<b>(660)<sup>1</sup></b>	<b>2,226</b>	<b>1,666</b>
Guarantees	215	(34)		84
of which: Large corporate clients	127	(6)		79
of which: SME clients	77	(25)		5
Loan commitments	53	0		8
Committed unconditionally revocable credit lines	93	0		9
Irrevocable committed prolongation of existing loans	22	0		0
<b>Total off-balance sheet financial instruments and other credit lines</b>	<b>383<sup>1</sup></b>	<b>(34)<sup>1</sup></b>		<b>102</b>

<sup>1</sup> Under IFRS 9, adopted on 1 January 2018, an instrument is classified as credit-impaired if the counterparty is defaulted, and/or the instrument is purchased or originated credit-impaired and includes credit-impaired exposures for which no loss has occurred or no allowance has been recognized (e.g., because they are expected to be fully recoverable through the collateral held).

## Note 23 Expected credit loss measurement (continued)

### g) Sensitivity information

As outlined in Note 1a, ECL estimates involve significant uncertainties at the time they are made.

#### ECL model

The models applied to determine point in time probability of default (PD) and loss given default (LGD) rely on market and statistical data, which have been found to correlate well with historically observed defaults in sufficiently homogeneous segments. The risk sensitivities for each of the IFRS 9 reporting segments to such factors have been summarized in Note 10.

Emerging new systematic risk factors may not be sufficiently taken into account by existing models and may affect the responsiveness thereof to a changing environment. This risk is deemed to be immaterial and is monitored through regular model review processes. It is deemed to be of less importance in particular for the large books of mortgage loans, where risk drivers tend to be stable.

Statistically derived models, which perform well on a reasonably sized and homogeneous portfolio, may show weakness in smaller-sized sub-portfolios, for which other or differently weighted factors may be more relevant criteria. Where risk experts conclude that the output of a general model is not in line with what they would have expected for a specific portfolio segment, and that this would be material for ECL, the use of overlays would be recommended, based on management judgment.

ECL estimations for segments where the PD is homogeneous, but the credit exposure is not, may prove to be inaccurate – even though all parameters have been accurately predicted – as

the actual amount of loss depends on the exposure of the position that defaulted. This observation is less relevant for retail-type portfolios with smaller individual exposures from mortgage loans or financing of small and medium-sized corporate clients (SME), but may become important for the large corporate client portfolios in the Investment Bank and Personal & Corporate Banking.

#### Forward-looking scenarios

Depending on the scenario selection and related macro-economic assumptions for the risk factors, the components of the relevant weighted average ECL change. This is particularly relevant for interest rates, which can take both directions under a given growth assumption (for example, low growth with high interest rates in a stagflation scenario, versus low growth and falling interest rates in a recession). Management will look for scenario narratives that reflect the key risk drivers of a credit portfolio.

As forecasting models are complex, due to the combination of multiple factors, simple what-if analyses involving a change of individual parameters do not necessarily provide realistic information on the exposure of segments to changes in the macroeconomy. Portfolio-specific analyses based on their key risk factors would also not be meaningful, as potential compensatory effects in other segments would be ignored. The table below indicates some sensitivities to ECLs if a key macroeconomic variable for the forecasting period is amended across all scenarios with all other factors remaining unchanged.

#### Potential effect on stage 1 and stage 2 positions from changing key parameters as at 31 December 2019

USD million	Baseline	Upside	Mild downside	Severe downside	Weighted average
<b>Change in key parameters</b>					
<b>Fixed income: 10-year government bonds (absolute change)</b>					
–1.00%	0.34	(0.52)	(25.25)	(0.21)	(7.69)
–0.25%	0.06	(0.31)	(7.72)	(0.11)	(2.31)
+0.25%	(0.02)	0.47	7.75	0.12	2.18
+1.00%	3.34	4.03	36.65	0.11	13.35
<b>Unemployment rate (absolute change)</b>					
–1.00%	(6.72)	(4.79)	(26.41)	(54.97)	(18.02)
–0.25%	(2.00)	(1.45)	(7.79)	(16.20)	(5.43)
+0.25%	2.26	1.65	8.74	17.31	5.99
+1.00%	8.56	5.93	36.27	73.04	24.36
<b>Real GDP growth (relative change)</b>					
–1.00%	2.50	2.42	2.42	1.01	2.19
+1.00%	(2.79)	(1.47)	(2.47)	(1.01)	(2.37)
<b>House Price Index (relative change)</b>					
–5.00%	1.00	0.59	4.67	9.50	3.06
–1.00%	0.21	0.13	0.85	1.89	0.56
+1.00%	(0.16)	(0.09)	(0.90)	(2.16)	(0.54)
+5.00%	(0.25)	(0.42)	(4.66)	(8.51)	(2.52)

## Note 23 Expected credit loss measurement (continued)

Sensitivities at the UBS AG level can be more meaningfully assessed in the context of coherent scenarios with consistently developed macroeconomic factors. The table on the previous page outlines favorable and unfavorable effects based on reasonably possible alternative changes to the economic conditions on ECL for stage 1 and stage 2 positions by disclosing for each scenario (see item b in this Note) and material portfolio the corresponding ECL output. The effect of applying scenarios is not linear across the portfolio, with a significant impact observed in the mortgage loan books, as the potential effect of rising interest rates manifests itself in the mild downside scenario, while high unemployment rates combined with a marked correction of house prices contribute to high expected losses in the severe downside scenario.

The forecasting horizon is limited to three years, with a model-based mean reversion of PD and LGD assumed thereafter. Changes to these timelines may have an effect on ECLs: depending on the cycle, a longer or shorter forecasting horizon will lead to different annualized lifetime PD and average LGD estimations. This is currently not deemed to be material for UBS AG, as a large proportion of loans, including mortgages in Switzerland, have maturities that are within the forecasting horizon.

### Scenario weights

ECL is sensitive to changing scenario weights, in particular if narratives and parameters are selected that are not close to the baseline scenario, highlighting the non-linearity of credit losses.

As shown in the table on the bottom of this page, the ECL for stage 1 and stage 2 positions would have been USD 234 million (31 December 2018: USD 237 million) instead of USD 341 million (31 December 2018: USD 359 million) if ECL had been determined solely on the baseline scenario. The weighted average ECL therefore amounts to 149% (31 December 2018: 152%) of the baseline value.

### Stage allocation and SICR

The determination of what constitutes a significant increase in credit risk (SICR) is based on management judgment as explained in Note 1a. Changing the SICR trigger will have a direct effect on ECLs, as more or fewer positions would be subject to lifetime ECLs under any scenario.

The relevance of the SICR trigger on overall ECL is demonstrated in the table below with the indication that the ECL for stage 1 and stage 2 positions would have been USD 713 million if all non-impaired positions across the portfolio had been measured for lifetime ECLs irrespective of their actual SICR status.

### Maturity profile

The maturity profile of the assets is an important driver for changes in ECL due to transfers to stage 2. The current maturity profile of most lending books is relatively short; hence a movement to stage 2 may have a limited effect on ECLs. A significant portion of our lending to SMEs is documented under frame credit agreements, which allow for various forms of utilization but are unconditionally cancelable by UBS AG at any time. The relevant maturity for drawings under such agreements with a fixed maturity is the respective term, or a maximum of 12 months in stage 1. For unused credit lines and all drawings that have no fixed maturity (e.g., current accounts), UBS AG generally applies a 12-month maturity from the reporting date, given the credit review policies, which require either continuous monitoring of key indicators and behavioral patterns for smaller positions or an annual formal review for any other limit. The ECLs for these products is sensitive to shortening or extending the maturity assumption.

### Potential effect on stage 1 and stage 2 positions from changing scenario weights or moving to a lifetime ECL calculation as at 31 December 2019

Scenarios	Actual ECL allowances and provisions (as per Note 10)		Pro forma ECL allowances and provisions, assuming application of 100% weighting								Pro forma ECL allowances and provisions, assuming all positions being subject to lifetime ECL	
	Weighted average		Baseline		Upside		Mild downside		Severe downside		Weighted average	
	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline	ECL	in % of baseline
<b>Segmentation</b>												
Private clients with mortgages	73	248	32	100	27	84	107	336	179	562	191	646
Real estate financing	55	169	35	100	28	81	61	175	128	368	82	251
Large corporate clients	48	151	32	100	28	87	39	120	106	329	95	296
SME clients	51	112	45	100	42	93	55	121	67	147	93	205
Other segments	113	127	90	100	78	87	126	140	166	185	252	283
<b>Total</b>	<b>341</b>	<b>149</b>	<b>234</b>	<b>100</b>	<b>203</b>	<b>87</b>	<b>387</b>	<b>166</b>	<b>646</b>	<b>276</b>	<b>713</b>	<b>312</b>

## Note 24 Fair value measurement

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This Note provides fair value measurement information for both financial and non-financial instruments and is structured as follows:

- a) Valuation principles
- b) Valuation governance
- c) Fair value hierarchy
- d) Valuation adjustments
- e) Transfers between Level 1 and Level 2
- f) Level 3 instruments: valuation techniques and inputs
- g) Level 3 instruments: sensitivity to changes in unobservable input assumptions
- h) Level 3 instruments: movements during the period
- i) Maximum exposure to credit risk for financial instruments measured at fair value
- j) Financial instruments not measured at fair value

### a) Valuation principles

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Fair value is defined as the price that would be received for the sale of an asset or paid to transfer a liability in an orderly transaction between market participants in the principal market (or most advantageous market, in the absence of a principal market) as of the measurement date. In measuring fair value, UBS uses various valuation approaches and applies a hierarchy for prices and inputs that maximizes the use of observable market data, if available.

All financial and non-financial assets and liabilities measured or disclosed at fair value are categorized into one of three fair value hierarchy levels in accordance with IFRS. The fair value hierarchy is based on the transparency of inputs to the valuation of an asset or liability as of the measurement. In certain cases,

the inputs used to measure fair value may fall within different levels of the fair value hierarchy. For disclosure purposes, the level in the hierarchy within which the instrument is classified in its entirety is based on the lowest level input that is significant to the position's fair value measurement:

- Level 1 – quoted prices (unadjusted) in active markets for identical assets and liabilities;
- Level 2 – valuation techniques for which all significant inputs are, or are based on, observable market data; or
- Level 3 – valuation techniques for which significant inputs are not based on observable market data.

## Note 24 Fair value measurement (continued)

Fair values are determined using quoted prices in active markets for identical assets or liabilities, where available. An active market is one in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing data on an ongoing basis. Assets and liabilities that are quoted and traded in an active market are valued at the currently quoted price multiplied by the number of units of the instrument held.

Where the market for a financial instrument or non-financial asset or liability is not active, fair value is established using a valuation technique, including pricing models. Valuation techniques involve the use of estimates, the extent of which depends on the complexity of the instrument and the availability of market-based data. Valuation adjustments may be made to allow for additional factors, including model, liquidity, credit and funding risks, which are not explicitly captured within the valuation technique, but which would nevertheless be considered by market participants when establishing a price. The limitations inherent in a particular valuation technique are considered in the determination of an asset or liability's classification within the fair value hierarchy.

Many cash instruments and over-the-counter (OTC) derivative contracts have bid and offer prices that can be observed in the marketplace. Bid prices reflect the highest price that a party is

willing to pay for an asset. Offer prices represent the lowest price that a party is willing to accept for an asset. In general, long positions are measured at a bid price and short positions at an offer price, reflecting the prices at which the instruments could be transferred under normal market conditions. Offsetting positions in the same financial instrument are marked at the mid-price within the bid-offer spread.

Generally, the unit of account for a financial instrument is the individual instrument, and UBS applies valuation adjustments at an individual instrument level, consistent with that unit of account. However, if certain conditions are met, UBS may estimate the fair value of a portfolio of financial assets and liabilities with substantially similar and offsetting risk exposures on the basis of the net open risks.

For transactions where the valuation technique used to measure fair value requires significant inputs that are not based on observable market data, the financial instrument is initially recognized at the transaction price. This initial recognition amount may differ from the fair value obtained using the valuation technique. Any such difference is deferred and not recognized in the income statement and referred to as deferred day-1 profit or loss.

→ **Refer to Note 24d for more information**

### b) Valuation governance

UBS's fair value measurement and model governance framework includes numerous controls and other procedural safeguards that are intended to maximize the quality of fair value measurements reported in the financial statements. New products and valuation techniques must be reviewed and approved by key stakeholders from risk and finance control functions. Responsibility for the ongoing measurement of financial and non-financial instruments at fair value resides with the business divisions. In carrying out their valuation responsibilities, the businesses are required to consider the availability and quality of external market data and to provide justification and rationale for their fair value estimates.

Fair value estimates are validated by risk and finance control functions, which are independent of the business divisions. Independent price verification is performed by Finance through benchmarking the business divisions' fair value estimates with observable market prices and other independent sources. Controls and a governance framework are in place and are intended to ensure the quality of third-party pricing sources where used. For instruments where valuation models are used to determine fair value, independent valuation and model control groups within Finance and Risk Control evaluate UBS's models on a regular basis, including valuation and model input parameters as well as pricing. As a result of the valuation controls employed, valuation adjustments may be made to the business divisions' estimates of fair value to align with independent market data and the relevant accounting standard.

→ **Refer to Note 24d for more information**

## Note 24 Fair value measurement (continued)

### c) Fair value hierarchy

The table below provides the fair value hierarchy classification of financial and non-financial assets and liabilities measured at fair value. The narrative that follows describes the different product types, valuation techniques used in measuring their fair value, including significant valuation inputs and assumptions used, and the factors determining their classification within the fair value hierarchy.

#### Determination of fair values from quoted market prices or valuation techniques<sup>1</sup>

USD million	31.12.19				31.12.18			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>Financial assets measured at fair value on a recurring basis</b>								
Financial assets at fair value held for trading	113,635	12,248	1,812	127,695	88,455	14,096	1,962	104,513
of which:								
Equity instruments	96,162	400	226	96,788	72,270	455	46	72,771
Government bills / bonds	9,630	1,770	64	11,464	9,554	1,607	0	11,161
Investment fund units	7,088	1,729	50	8,867	6,074	3,200	442	9,716
Corporate and municipal bonds	755	6,796	542	8,093	558	5,699	651	6,908
Loans	0	1,180	791	1,971	0	2,886	680	3,566
Asset-backed securities	0	372	140	512	0	248	144	392
Derivative financial instruments	356	120,224	1,264	121,843	753	124,035	1,424	126,212
of which:								
Foreign exchange contracts	240	52,228	8	52,476	311	53,151	30	53,492
Interest rate contracts	6	42,288	263	42,558	0	36,658	418	37,076
Equity / index contracts	7	22,220	597	22,825	3	30,905	496	31,404
Credit derivative contracts	0	1,612	394	2,007	0	1,444	476	1,920
Commodity contracts	0	1,820	0	1,821	0	1,768	2	1,769
Brokerage receivables	0	18,007	0	18,007	0	16,840	0	16,840
Financial assets at fair value not held for trading	40,608	39,065	3,962	83,636	40,204	37,770	4,413	82,387
of which:								
Financial assets for unit-linked investment contracts <sup>2</sup>	27,568	118	0	27,686	21,440	5	0	21,446
Corporate and municipal bonds	653	18,732	0	19,385	781	16,455	0	17,236
Government bills / bonds	12,089	3,700	0	15,790	17,687	4,806	0	22,493
Loans	0	10,206	1,231	11,438	0	6,380	1,752	8,132
Securities financing transactions	0	6,148	147	6,294	0	9,899	39	9,937
Auction rate securities	0	0	1,536	1,536	0	0	1,664	1,664
Investment fund units	194	140	98	432	173	125	109	407
Equity instruments	103	4	451	559	123	62	517	702
Other	0	16	499	515	0	38	331	369
<b>Financial assets measured at fair value through other comprehensive income on a recurring basis</b>								
Financial assets measured at fair value through other comprehensive income	1,906	4,439	0	6,345	2,319	4,347	0	6,667
of which:								
Asset-backed securities	0	3,955	0	3,955	0	3,931	0	3,931
Government bills / bonds	1,859	16	0	1,875	2,171	69	0	2,239
Corporate and municipal bonds	47	468	0	515	149	348	0	497
<b>Non-financial assets measured at fair value on a recurring basis</b>								
Precious metals and other physical commodities	4,597	0	0	4,597	4,298	0	0	4,298
<b>Non-financial assets measured at fair value on a non-recurring basis</b>								
Other non-financial assets <sup>3</sup>	0	0	199	199	0	82	0	82
<b>Total assets measured at fair value</b>	<b>161,102</b>	<b>193,983</b>	<b>7,237</b>	<b>362,322</b>	<b>136,029</b>	<b>197,170</b>	<b>7,800</b>	<b>340,999</b>

## Note 24 Fair value measurement (continued)

### Determination of fair values from quoted market prices or valuation techniques (continued)<sup>1</sup>

USD million	31.12.19				31.12.18			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>Financial liabilities measured at fair value on a recurring basis</b>								
Financial liabilities at fair value held for trading	25,791	4,726	75	30,591	24,413	4,468	69	28,949
of which:								
Equity instruments	22,526	149	59	22,734	21,313	537	42	21,892
Corporate and municipal bonds	40	3,606	16	3,661	126	3,377	27	3,530
Government bills / bonds	2,820	646	0	3,466	2,423	416	0	2,839
Investment fund units	404	294	0	698	551	137	0	689
Derivative financial instruments	385	118,498	1,996	120,880	580	122,933	2,210	125,723
of which:								
Foreign exchange contracts	248	53,705	60	54,013	322	52,964	86	53,372
Interest rate contracts	7	36,434	130	36,571	7	32,511	226	32,743
Equity / index contracts	3	24,171	1,293	25,468	1	33,669	1,371	35,041
Credit derivative contracts	0	2,448	512	2,960	0	2,203	519	2,722
Commodity contracts	0	1,707	0	1,707	0	1,487	0	1,487
<b>Financial liabilities designated at fair value on a recurring basis</b>								
Brokerage payables designated at fair value	0	37,233	0	37,233	0	38,420	0	38,420
Debt issued designated at fair value	0	56,943	9,649	66,592	0	46,074	10,957	57,031
Other financial liabilities designated at fair value	0	35,119	1,039	36,157	0	32,569	1,025	33,594
of which:								
Financial liabilities related to unit-linked investment contracts	0	28,145	0	28,145	0	21,679	0	21,679
Securities financing transactions	0	5,742	0	5,742	0	9,461	0	9,461
Over-the-counter debt instruments	0	1,231	791	2,022	0	1,427	1,023	2,450
<b>Total liabilities measured at fair value</b>	<b>26,176</b>	<b>252,518</b>	<b>12,759</b>	<b>291,452</b>	<b>24,992</b>	<b>244,465</b>	<b>14,260</b>	<b>283,717</b>

<sup>1</sup> Bifurcated embedded derivatives are presented on the same balance sheet lines as their host contracts and are not included in this table. The fair value of these derivatives was not material for the periods presented. <sup>2</sup> Fair value hierarchy information for Financial assets for unit-linked investment contracts in the comparative period has been restated, resulting in an increase in Level 1 assets of USD 4,746 million as of 31 December 2018, with a corresponding decrease in Level 2 assets. <sup>3</sup> Other non-financial assets primarily consist of properties and other non-current assets held for sale, which are measured at the lower of their net carrying amount or fair value less costs to sell.



## Note 24 Fair value measurement (continued)

### Valuation techniques

Valuation techniques are used to value positions for which a market price is not available from active market sources. This includes certain less liquid debt and equity instruments, certain exchange-traded derivatives and all derivatives transacted in the OTC market. UBS uses widely recognized valuation techniques for determining the fair value of financial and non-financial instruments that are not actively traded and quoted. The most frequently applied valuation techniques include discounted value of expected cash flows, relative value and option pricing methodologies.

Discounted value of expected cash flows is a valuation technique that measures fair value using estimated expected future cash flows from assets or liabilities and then discounts these cash flows using a discount rate or discount margin that reflects the credit and/or funding spreads required by the market for instruments with similar risk and liquidity profiles to produce a present value. When using such valuation techniques, expected future cash flows are estimated using an observed or implied market price for the future cash flows or by using industry standard cash flow projection models. The discount factors within the calculation are generated using industry standard yield curve modeling techniques and models.

Relative value models measure fair value based on the market prices of equivalent or comparable assets or liabilities, making adjustments for differences between the characteristics of the observed instrument and the instrument being valued.

Option pricing models incorporate assumptions regarding the behavior of future price movements of an underlying referenced asset or assets to generate a probability-weighted future expected payoff for the option. The resulting probability-weighted expected payoff is then discounted using discount factors generated from industry standard yield curve modeling techniques and models. The option pricing model may be implemented using a closed-form analytical formula or other mathematical techniques (e.g., binomial tree or Monte Carlo simulation).

Where available, valuation techniques use market-observable assumptions and inputs. If such data is not available, inputs may be derived by reference to similar assets in active markets, from recent prices for comparable transactions or from other observable market data. In such cases, the inputs selected are based on historical experience and practice for similar or analogous instruments, derivation of input levels based on similar products with observable price levels and knowledge of current market conditions and valuation approaches.

For more complex instruments, fair values may be estimated using a combination of observed transaction prices, consensus pricing services and relevant quotes. Consideration is given to the nature of the quotes (e.g., indicative or firm) and the relationship of recently evidenced market activity to the prices provided by consensus pricing services. UBS also uses internally developed

models, which are typically based on valuation methods and techniques recognized as standard within the industry.

Assumptions and inputs used in valuation techniques include benchmark interest rate curves, credit and funding spreads used in estimating discount rates, bond and equity prices, equity index prices, foreign exchange rates, levels of market volatility and correlation. Refer to Note 24f for more information. The discount curves used by UBS incorporate the funding and credit characteristics of the instruments to which they are applied.

### Financial instruments excluding derivatives: product description, valuation and classification in the fair value hierarchy

#### Government bills and bonds

Product description: government bills and bonds include fixed-rate, floating-rate and inflation-linked bills and bonds issued by sovereign governments.

Valuation: these instruments are generally valued using prices obtained directly from the market. Instruments that cannot be priced directly using active-market data are valued using discounted cash flow valuation techniques that incorporate market data for similar government instruments.

Fair value hierarchy: government bills and bonds are generally traded in active markets with prices that can be obtained directly from these markets, resulting in classification as Level 1, while the remaining positions are classified as Level 2 and Level 3.

#### Corporate and municipal bonds

Product description: corporate bonds include senior, junior and subordinated debt issued by corporate entities. Municipal bonds are issued by state and local governments. While most instruments are standard fixed- or floating-rate securities, some may have more complex coupon or embedded option features.

Valuation: corporate and municipal bonds are generally valued using prices obtained directly from the market for the security, or similar securities, adjusted for seniority, maturity and liquidity. When prices are not available, instruments are valued using discounted cash flow valuation techniques incorporating the credit spread of the issuer or similar issuers. For convertible bonds where no directly comparable price is available, issuances may be priced using a convertible bond model.

Fair value hierarchy: corporate and municipal bonds are generally classified as Level 1 or Level 2 depending on the depth of trading activity behind price sources. Level 3 instruments have no suitable pricing information available and also cannot be referenced to other securities issued by the same issuer. Therefore, such instruments are measured based on price levels for similar issuers adjusted for relative tenor and issuer quality.

#### Traded loans and loans designated at fair value

Product description: these instruments include fixed-rate loans, corporate loans, recently originated commercial real estate loans and contingent lending transactions.



## Note 24 Fair value measurement (continued)

Valuation: loans are valued directly using market prices that reflect recent transactions or quoted dealer prices, where available. Where no market price data is available, loans are valued by relative value benchmarking using pricing derived from debt instruments in comparable entities or different products in the same entity, or by using a credit default swap valuation technique, which requires inputs for credit spreads, credit recovery rates and interest rates. Recently originated commercial real estate loans are measured using a securitization approach based on rating agency guidelines. The valuation of the contingent lending transactions is dependent on actuarial mortality levels and actuarial life insurance policy lapse rates. Mortality and lapse rate assumptions are based on external actuarial estimations for large homogeneous pools, and contingencies are derived from a range relative to the actuarially expected amount.

Fair value hierarchy: instruments with suitably deep and liquid pricing information are classified as Level 2, while any positions requiring the use of valuation techniques, or for which the price sources have insufficient trading depth, are classified as Level 3.

### Investment fund units

Product description: investment fund units are pools of assets, generally equity instruments and bonds, broken down to redeemable units.

Valuation: investment fund units are predominantly exchange-traded, with readily available quoted prices in liquid markets. Where market prices are not available, fair value may be measured using net asset values (NAVs), taking into account any restrictions imposed upon redemption.

Fair value hierarchy: listed units are classified as Level 1, provided there is sufficient trading activity to justify active-market classification, while other positions are classified as Level 2. Positions for which NAVs are not available or that are not redeemable at the measurement date or shortly thereafter are classified as Level 3.

### Asset-backed securities

Product description: asset-backed securities (ABS) include residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS), collateralized debt obligations (CDO) and other ABS and are instruments generally issued through the process of securitization of underlying interest-bearing assets.

Valuation: for liquid securities, the valuation process will use trade and price data, updated for movements in market levels between the time of trading and the time of valuation. Less liquid instruments are measured using discounted expected cash flows incorporating price data for instruments or indices with similar risk profiles. Inputs to discounted expected cash flow techniques include asset prepayment rates, discount margin or discount yields and asset default and recovery rates.

Fair value hierarchy: RMBS, CMBS and other ABS are generally classified as Level 2. However, if significant inputs are unobservable, or if market or fundamental data is not available, they are classified as Level 3.

### Auction rate securities

Product description: auction rate securities (ARS) are debt or preferred equity securities that have interest rates that are reset through a periodic auction and, in the event of a failed auction, to a maximum rate as defined by each deal's prospectus. ARS are generally structured as bonds with long-term maturities (20–30 years) or preferred shares (issued by closed-end funds).

Valuation: ARS are valued using market prices that reflect recent transactions after applying an adjustment for trade size or quoted dealer prices, where available.

Fair value hierarchy: suitably deep and liquid pricing information is generally not available for ARS. As a result, these securities are classified as Level 3.

### Equity instruments

Product description: equity instruments include stocks and shares, private equity positions and units held in hedge funds.

Valuation: listed equity instruments are generally valued using prices obtained directly from the market. Unlisted equity holdings, including private equity positions, are initially marked at their transaction price and are revalued when reliable evidence of price movement becomes available or when the position is deemed to be impaired. Fair value for units held in hedge funds is measured based on their published NAVs, taking into account any restrictions imposed upon redemption.

Fair value hierarchy: the majority of equity securities are actively traded on public stock exchanges where quoted prices are readily and regularly available, resulting in Level 1 classification. Units held in hedge funds are classified as Level 2, except for positions for which published NAVs are not available or that are not redeemable at the measurement date or shortly thereafter, in which case such positions are classified as Level 3.

### Financial assets for unit-linked investment contracts

Product description: unit-linked investment contracts allow investors to invest in a pool of assets through issued investment units.

Valuation: the majority of assets are listed on exchanges and fair values are determined using quoted prices.

Fair value hierarchy: most assets are classified as Level 1 if actively traded, or Level 2 if trading is not active. However, instruments for which prices are not readily available are classified as Level 3.

## Note 24 Fair value measurement (continued)

### Securities financing transactions

Product description: securities financing transactions include (reverse) repurchase agreements (securities purchased under resale agreements and securities sold under repurchase agreements) that are managed on a fair value basis.

Valuation: these instruments are valued using discounted expected cash flow techniques. The discount rate applied is based on funding curves that are relevant to the collateral eligibility terms for the contract in question.

Fair value hierarchy: collateral funding curves for these instruments are generally observable and, as a result, these positions are classified as Level 2. Where the collateral terms are non-standard, the funding curve may be considered unobservable and these positions are classified as Level 3.

### Brokerage receivables and payables

Product description: brokerage receivables and payables include callable, on-demand balances, including long cash credits, short cash debits, margin debit balances and short sale proceeds.

Valuation: fair value is determined based on the value of the underlying balances.

Fair value hierarchy: due to their on-demand nature, these receivables and payables are designated as Level 2.

### Financial liabilities designated at fair value

Product description: debt instruments, primarily comprised of equity-, rates- and credit-linked issued notes, which are held at fair value under the fair value option. These instruments are tailored specifically to the holder's risk or investment appetite with structured coupons or payoffs.

Valuation: the risk management and the valuation approaches for these instruments are closely aligned with the equivalent derivatives business and the underlying risk, and the valuation techniques used for this component are the same as the relevant valuation techniques described below. For example, equity-linked notes should be referenced to equity / index contracts and credit-linked notes should be referenced to credit derivative contracts.

Fair value hierarchy: observability is closely aligned with the equivalent derivatives business and the underlying risk.

- **Refer to Notes 19 and 22 for information about debt issued designated at fair value and other financial liabilities designated at fair value**
- **Refer to Note 24d for more information about own credit adjustments related to financial liabilities designated at fair value**

### Amounts due under unit-linked investment contracts

Product description: the financial liability represents the amounts due to unit holders.

Valuation: the fair values of investment contract liabilities are determined by reference to the fair value of the corresponding assets.

Fair value hierarchy: the liabilities themselves are not actively traded, but are mainly referenced to instruments that are actively traded and are therefore classified as Level 2.

### Derivative instruments: product description, valuation and classification in the fair value hierarchy

The curves used for discounting expected cash flows in the valuation of collateralized derivatives reflect the funding terms associated with the relevant collateral arrangement for the instrument being valued. These collateral arrangements differ across counterparties with respect to the eligible currency and interest terms of the collateral. The majority of collateralized derivatives are measured using a discount curve that is based on funding rates derived from overnight interest in the cheapest eligible currency for the respective counterparty collateral agreement.

Uncollateralized and partially collateralized derivatives are discounted using the LIBOR (or equivalent) curve for the currency of the instrument. As described in Note 24d, the fair value of uncollateralized and partially collateralized derivatives is then adjusted by CVA, DVA and FVA as applicable, to reflect an estimation of the effect of counterparty credit risk, UBS's own credit risk and funding costs and benefits.

### Interest rate contracts

Product description: interest rate swap contracts include interest rate swaps, basis swaps, cross-currency swaps, inflation swaps and interest rate forwards, often referred to as forward rate agreements (FRA). Interest rate option contracts include caps and floors, swaptions, swaps with complex payoff profiles and other more complex interest rate options.

Valuation: interest rate swap contracts are valued by estimating future interest cash flows and discounting those cash flows using a rate that reflects the appropriate funding rate for the position being measured. The yield curves used to estimate future index levels and discount rates are generated using market standard yield curve models using interest rates associated with current market activity. The key inputs to the models are interest rate swap rates, FRA rates, short-term interest rate futures prices, basis swap spreads and inflation swap rates. Interest rate option contracts are valued using various market standard option models, using inputs that include interest rate yield curves, inflation curves, volatilities and correlations. The volatility and correlation inputs within the models are implied from market data based on market-observed prices for standard option instruments trading within the market. Option models used to value more exotic products have a number of model parameter inputs that require calibration to enable the exotic model to price standard option instruments to the price levels observed in the market. When the maturity of the interest rate swap or option contract exceeds the term for which standard market quotes are observable for a significant input parameter, the contracts are valued by extrapolation from the last observable point using standard assumptions or by reference to another observable comparable input parameter to represent a suitable proxy for that portion of the term.

## Note 24 Fair value measurement (continued)

Fair value hierarchy: the majority of interest rate swaps are classified as Level 2 as the standard market contracts that form the inputs for yield curve models are generally traded in active and observable markets. Options are generally treated as Level 2 as the calibration process enables the model output to be validated to active-market levels. Models calibrated in this way are then used to revalue the portfolio of both standard options and more exotic products. In most cases, there are active and observable markets for the standard market instruments that form the inputs for yield curve models as well as the financial instruments from which volatility and correlation inputs are derived. Exotic options for which appropriate volatility or correlation input levels cannot be implied from observable market data are classified as Level 3. Interest rate swap or option contracts are classified as Level 3 when the term exceeds standard market-observable quotes.

### Credit derivative contracts

Product description: a credit derivative is a financial instrument that transfers credit risk related to a single underlying entity, a portfolio of underlying entities or a pool of securitized referenced assets. Credit derivative products include credit default swaps (CDSs) on single names, indices and securitized products, plus first to default swaps and certain total return swaps.

Valuation: credit derivative contracts are valued using industry standard models based primarily on market credit spreads, upfront pricing points and implied recovery rates. Where a derivative credit spread is not directly available, it may be derived from the price of the reference cash bond. Asset-backed credit derivatives are valued using a valuation technique similar to that of the underlying security with an adjustment to reflect the funding differences between cash and synthetic form. Inputs include prepayment rates, default rates, loss severity, discount margin / rate.

Fair value hierarchy classification: single-entity and portfolio credit derivative contracts are classified as Level 2 when credit spreads and recovery rates are determined from actively traded observable market data. Where the underlying reference name(s) are not actively traded and the correlation cannot be directly mapped to actively traded tranche instruments, these contracts are classified as Level 3. Asset-backed credit derivatives follow the characteristics of the underlying security and are therefore distributed across Level 2 and Level 3.

### Foreign exchange contracts

Product description: this includes open spot and forward foreign exchange (FX) contracts and OTC FX option contracts. OTC FX option contracts include standard call and put options, options with multiple exercise dates, path-dependent options, options with averaging features, options with discontinuous payoff characteristics, options on a number of underlying FX rates and multi-dimensional FX option contracts, which have a dependency on multiple FX pairs.

Valuation: open spot FX contracts are valued using the FX spot rate observed in the market. Forward FX contracts are valued using the FX spot rate adjusted for forward pricing points observed from standard market-based sources. OTC FX option contracts are valued using market standard option valuation models. The models used for shorter-dated options (i.e., maturities of five years or less) tend to be different than those used for longer-dated options because the models needed for longer-dated OTC FX contracts require additional consideration of interest rate and FX rate interdependency. Inputs to the option valuation models include spot FX rates, FX forward points, FX volatilities, interest rate yield curves, interest rate volatilities and correlations. The inputs for volatility and correlation are implied through the calibration of observed prices for standard option contracts trading within the market. The valuation for multi-dimensional FX options uses a multi-local volatility model, which is calibrated to the observed FX volatilities for all relevant FX pairs.

Fair value hierarchy: the markets for both FX spot and FX forward pricing points are both actively traded and observable and therefore such FX contracts are generally classified as Level 2. A significant proportion of OTC FX option contracts are classified as Level 2 as inputs are derived mostly from standard market contracts traded in active and observable markets. OTC FX option contracts classified as Level 3 include multi-dimensional FX options and long-dated FX exotic option contracts where there is no active market from which to derive volatility or correlation inputs.

### Equity / index contracts

Product description: equity / index contracts are equity forward contracts and equity option contracts. Equity option contracts include market standard single or basket stock or index call and put options as well as equity option contracts with more complex features.

## Note 24 Fair value measurement (continued)

Valuation: equity forward contracts have a single stock or index underlying and are valued using market standard models. The key inputs to the models are stock prices, estimated dividend rates and equity funding rates (which are implied from prices of forward contracts observed in the market). Estimated cash flows are then discounted using market standard discounted cash flow models using a rate that reflects the appropriate funding rate for that portion of the portfolio. When no market data is available for the instrument maturity, they are valued by extrapolation of available data, use of historical dividend data, or use of data for a related equity. Equity option contracts are valued using market standard models that estimate the equity forward level as described for equity forward contracts and incorporate inputs for stock volatility and for correlation between stocks within a basket. The probability-weighted expected option payoff generated is then discounted using market standard discounted cash flow models applying a rate that reflects the appropriate funding rate for that portion of the portfolio. When volatility, forward or correlation inputs are not available, they are valued using extrapolation of available data, historical dividend, correlation or volatility data, or the equivalent data for a related equity.

Fair value hierarchy: as inputs are derived mostly from standard market contracts traded in active and observable markets, a significant proportion of equity forward contracts are

classified as Level 2. Equity option positions for which inputs are derived from standard market contracts traded in active and observable markets are also classified as Level 2. Level 3 positions are those for which volatility, forward or correlation inputs are not observable.

### Commodity contracts

Product description: commodity derivative contracts include forward, swap and option contracts on individual commodities and on commodity indices.

Valuation: commodity forward and swap contracts are measured using market standard models that use market forward levels on standard instruments. Commodity option contracts are measured using market standard option models that estimate the commodity forward level as described for commodity forward and swap contracts, incorporating inputs for the volatility of the underlying index or commodity. For commodity options on baskets of commodities or bespoke commodity indices, the valuation technique also incorporates inputs for the correlation between different commodities or commodity indices.

Fair value hierarchy: individual commodity contracts are typically classified as Level 2 because active forward and volatility market data is available.

→ Refer to Note 11 for more information about derivative instruments

## d) Valuation adjustments

The output of a valuation technique is always an estimate of a fair value that cannot be measured with complete certainty. As a result, valuations are adjusted, where appropriate and when such factors would be considered by market participants in estimating fair value, to reflect close-out costs, credit exposure, model-driven valuation uncertainty, funding costs and benefits, trading restrictions and other factors. Valuation adjustments are an important component of fair value for assets and liabilities that are measured using valuation techniques. Such adjustments are applied to reflect uncertainties within the fair value measurement process, to adjust for an identified model simplification or to incorporate an aspect of fair value that requires an overall portfolio assessment rather than an evaluation based on an individual instrument level characteristic.

### Deferred day-1 profit or loss reserves

For new transactions where the valuation technique used to measure fair value requires significant inputs that are not based on observable market data, the financial instrument is initially recognized at the transaction price. The transaction price may differ from the fair value obtained using a valuation technique, where any such difference is deferred and not initially recognized in the income statement. These day-1 profit or loss reserves are reflected, where appropriate, as valuation adjustments.

Deferred day-1 profit or loss is generally released into *Other net income from financial instruments measured at fair value through profit or loss* when pricing of equivalent products or the underlying parameters become observable or when the transaction is closed out.

The table on the next page summarizes the changes in deferred day-1 profit or loss reserves during the respective period.

## Note 24 Fair value measurement (continued)

### Deferred day-1 profit or loss reserves

USD million	2019	2018	2017
Reserve balance at the beginning of the year	255	338	365
Profit / (loss) deferred on new transactions	171	341	247
(Profit) / loss recognized in the income statement	(278)	(417)	(279)
Foreign currency translation	(2)	(6)	6
Reserve balance at the end of the year	146	255	338

### Own credit

The valuation of financial liabilities designated at fair value requires consideration of the own credit component of fair value. Own credit risk is reflected in the valuation of UBS's fair value option liabilities where this component is considered relevant for valuation purposes by UBS's counterparties and other market participants. However, own credit risk is not reflected in the valuation of UBS's liabilities that are fully collateralized or for other obligations for which it is established market practice not to include an own credit component.

Changes in the fair value of financial liabilities designated at fair value through profit or loss related to own credit are recognized in *Other comprehensive income* directly within *Retained earnings*. As UBS does not hedge changes in own credit arising on financial liabilities designated at fair value, presenting own credit within *Other comprehensive income* does not create or increase an accounting mismatch in the income statement. The unrealized and any realized own credit recognized in *Other comprehensive income* will not be reclassified to the income statement in future periods.

Own credit is estimated using an Own Credit Adjustment (OCA) curve, which incorporates observable market data, including market-observed secondary prices for UBS senior debt, UBS credit default swap (CDS) spreads and senior debt curves of peers. The table below summarizes the effects of own credit adjustments related to financial liabilities designated at fair value. The change in unrealized own credit consists of changes in fair value that are attributable to the change in UBS's credit spreads, as well as the effect of changes in fair values attributable to factors other than credit spreads, such as redemptions, effects from time decay and changes in interest and other market rates. Realized own credit is recognized when an instrument with an associated unrealized own credit adjustment is repurchased prior to the contractual maturity date. Life-to-date amounts reflect the cumulative unrealized change since initial recognition.

→ Refer to Note 19 for more information about debt issued designated at fair value

### Own credit adjustments on financial liabilities designated at fair value

	For the year ended		
	Included in		
	Other comprehensive income		
USD million	31.12.19	31.12.18	31.12.17
Recognized during the year:			
Realized gain / (loss)	8	(3)	22
Unrealized gain / (loss)	(408)	519	(337)
Total gain / (loss), before tax	(400)	517	(315)
	As of		
USD million	31.12.19	31.12.18	31.12.17
Recognized on the balance sheet as of the end of the year:			
Unrealized life-to-date gain / (loss)	(88)	320	(200)

## Note 24 Fair value measurement (continued)

### Credit valuation adjustments

In order to measure the fair value of OTC derivative instruments, including funded derivative instruments that are classified as *Financial assets at fair value not held for trading*, credit valuation adjustments (CVAs) are necessary to reflect the credit risk of the counterparty inherent in these instruments. This amount represents the estimated fair value of protection required to hedge the counterparty credit risk of such instruments. A CVA is determined for each counterparty, considering all exposures to that counterparty, and is dependent on the expected future value of exposures, default probabilities and recovery rates, applicable collateral or netting arrangements, break clauses, funding spreads and other contractual factors.

### Funding valuation adjustments

Funding valuation adjustments (FVAs) reflect the costs and benefits of funding associated with uncollateralized and partially collateralized derivative receivables and payables and are calculated as the valuation effect from moving the discounting of the uncollateralized derivative cash flows from LIBOR to OCA using the CVA framework, including the probability of counterparty default. An FVA is also applied to collateralized derivative assets in cases where the collateral cannot be sold or repledged.

### Debit valuation adjustments

A debit valuation adjustment (DVA) is estimated to incorporate own credit in the valuation of derivatives, effectively consistent with the CVA framework. A DVA is determined for each

counterparty, considering all exposures with that counterparty and taking into account collateral netting agreements, expected future mark-to-market movements and UBS's credit default spreads.

### Other valuation adjustments

Instruments that are measured as part of a portfolio of combined long and short positions are valued at mid-market levels to ensure consistent valuation of the long- and short-component risks. A liquidity valuation adjustment is then made to the overall net long or short exposure to move the fair value to bid or offer as appropriate, reflecting current levels of market liquidity. The bid-offer spreads used in the calculation of this valuation adjustment are obtained from market transactions and other relevant sources and are updated periodically.

Uncertainties associated with the use of model-based valuations are incorporated into the measurement of fair value through the use of model reserves. These reserves reflect the amounts that UBS estimates should be deducted from valuations produced directly by models to incorporate uncertainties in the relevant modeling assumptions, in the model and market inputs used, or in the calibration of the model output to adjust for known model deficiencies. In arriving at these estimates, UBS considers a range of market practices, including how it believes market participants would assess these uncertainties. Model reserves are reassessed periodically in light of data from market transactions, consensus pricing services and other relevant sources.

### Valuation adjustments on financial instruments

	As of	
<i>Life-to-date gain / (loss), USD million</i>	<b>31.12.19</b>	31.12.18
<b>Credit valuation adjustments<sup>1</sup></b>	<b>(48)</b>	(90)
<b>Funding valuation adjustments</b>	<b>(50)</b>	(85)
<b>Debit valuation adjustments</b>	<b>1</b>	1
<b>Other valuation adjustments</b>	<b>(566)</b>	(716)
<i>of which: liquidity</i>	<i>(300)</i>	<i>(388)</i>
<i>of which: model uncertainty</i>	<i>(266)</i>	<i>(327)</i>

<sup>1</sup> Amounts do not include reserves against defaulted counterparties.

### e) Transfers between Level 1 and Level 2

The amounts disclosed in this section reflect transfers between Level 1 and Level 2 for instruments that were held for the entire reporting period.

Assets and liabilities transferred from Level 2 to Level 1 during 2019 were not material. Assets and liabilities transferred from Level 1 to Level 2 during 2019 were also not material.



## Note 24 Fair value measurement (continued)

### f) Level 3 instruments: valuation techniques and inputs

The table below presents material Level 3 assets and liabilities together with the valuation techniques used to measure fair value, the significant inputs used in a given valuation technique that are considered unobservable and a range of values for those unobservable inputs. Several inputs disclosed in prior periods are not disclosed in the table below because they are not considered significant to the respective valuation technique as of 31 December 2019.

The range of values represents the highest- and lowest-level input used in the valuation techniques. Therefore, the range

does not reflect the level of uncertainty regarding a particular input or an assessment of the reasonableness of UBS's estimates and assumptions, but rather the different underlying characteristics of the relevant assets and liabilities held by UBS. The ranges will therefore vary from period to period and parameter to parameter based on characteristics of the instruments held at each balance sheet date. Furthermore, the ranges of unobservable inputs may differ across other financial institutions, reflecting the diversity of the products in each firm's inventory.

#### Valuation techniques and inputs used in the fair value measurement of Level 3 assets and liabilities

USD billion	Fair value				Valuation technique(s)	Significant unobservable input(s) <sup>1</sup>	Range of inputs						unit <sup>1</sup>
	Assets		Liabilities				31.12.19			31.12.18			
	31.12.19	31.12.18	31.12.19	31.12.18			low	high	weighted average <sup>2</sup>	low	high	weighted average <sup>2</sup>	
Financial assets and liabilities at fair value held for trading and Financial assets at fair value not held for trading													
Corporate and municipal bonds	0.5	0.7	0.0	0.0	Relative value to market comparable	Bond price equivalent	0	143	101	0	134	89	points
Traded loans, loans designated at fair value, loan commitments and guarantees	2.4	2.7	0.0	0.0	Relative value to market comparable	Loan price equivalent	0	101	99	0	100	99	points
					Discounted expected cash flows	Credit spread	225	530		301	513		basis points
					Market comparable and securitization model	Discount margin	0	14	2	1	14	2	%
Auction rate securities	1.5	1.7			Relative value to market comparable	Bond price equivalent	79	98	88	79	99	89	points
Investment fund units <sup>3</sup>	0.1	0.6	0.0	0.0	Relative value to market comparable	Net asset value							
Equity instruments <sup>3</sup>	0.7	0.6	0.1	0.0	Relative value to market comparable	Price							
Debt issued designated at fair value <sup>4</sup>			9.6	11.0									
Other financial liabilities designated at fair value <sup>4</sup>			1.0	1.0									
Derivative financial instruments													
Interest rate contracts	0.3	0.4	0.1	0.2	Option model	Volatility of interest rates	15	63		50	81		basis points
Credit derivative contracts	0.4	0.5	0.5	0.5	Discounted expected cash flows	Credit spreads	1	700		4	545		basis points
						Bond price equivalent	0	100		3	99		points
Equity / index contracts	0.6	0.5	1.3	1.4	Option model	Equity dividend yields	0	14		0	12		%
						Volatility of equity stocks, equity and other indices	4	105		4	93		%
						Equity-to-FX correlation	(45)	71		(39)	67		%
						Equity-to-equity correlation	(17)	98		(50)	97		%

<sup>1</sup> The ranges of significant unobservable inputs are represented in points, percentages and basis points. Points are a percentage of par (e.g., 100 points would be 100% of par). <sup>2</sup> Weighted averages are provided for non-derivative financial instruments and were calculated by weighting inputs based on the fair values of the respective instruments. Weighted averages are not provided for inputs related to derivative contracts as this would not be meaningful. <sup>3</sup> The range of inputs is not disclosed as there is a dispersion of values given the diverse nature of the investments. <sup>4</sup> Valuation techniques, significant unobservable inputs and the respective input ranges for Debt issued designated at fair value and Other financial liabilities designated at fair value, which are primarily comprised of over-the-counter debt instruments, are the same as the equivalent derivative or structured financing instruments presented elsewhere in this table.

## Note 24 Fair value measurement (continued)

### Significant unobservable inputs in Level 3 positions

This section discusses the significant unobservable inputs used in the valuation of Level 3 instruments and assesses the potential effect that a change in each unobservable input in isolation may have on a fair value measurement, including information to facilitate an understanding of factors that give rise to the input ranges shown. Relationships between observable and unobservable inputs have not been included in the summary below.

#### Bond price equivalent

Where market prices are not available for a bond, fair value is measured by comparison with observable pricing data from similar instruments. Factors considered when selecting comparable instruments include credit quality, maturity and industry of the issuer. Fair value may be measured either by a direct price comparison or by conversion of an instrument price into a yield (either as an outright yield or as a spread to LIBOR). Bond prices are expressed as points of the nominal, where 100 represents a fair value equal to the nominal value (i.e., par).

For corporate and municipal bonds, the range represents the range of prices from reference issuances used in determining fair value. Bonds priced at 0 are distressed to the point that no recovery is expected, while prices significantly in excess of 100 or par relate to inflation-linked or structured issuances that pay a coupon in excess of the market benchmark as of the measurement date.

For credit derivatives, the bond price range represents the range of prices used for reference instruments, which are typically converted to an equivalent yield or credit spread as part of the valuation process.

#### Loan price equivalent

Where market prices are not available for a traded loan, fair value is measured by comparison with observable pricing data for similar instruments. Factors considered when selecting comparable instruments include industry segment, collateral quality, maturity and issuer-specific covenants. Fair value may be measured either by a direct price comparison or by conversion of an instrument price into a yield. The range represents the range of prices derived from reference issuances of a similar credit quality used in measuring fair value for loans classified as Level 3. Loans priced at 0 are distressed to the point that no recovery is expected, while a current price of 100 represents a loan that is expected to be repaid in full.

#### Credit spread

Valuation models for many credit derivatives require an input for the credit spread, which is a reflection of the credit quality of the associated referenced underlying. The credit spread of a particular security is quoted in relation to the yield on a benchmark security or reference rate, typically either US Treasury or LIBOR, and is generally expressed in terms of basis points. An increase / (decrease) in credit spread will increase / (decrease) the value of credit protection offered by CDS and other credit derivative products. The income statement effect from such changes depends on the nature and direction of the positions held. Credit spreads may be negative where the asset is more creditworthy than the benchmark against which the spread is calculated. A wider credit spread represents decreasing creditworthiness. The range represents a diverse set of underlyings, with the lower end of the range representing credits of the highest quality (e.g., approximating the risk of LIBOR) and the upper end of the range representing greater levels of credit risk.

#### Discount margin (DM)

The DM spread represents the discount rates used to present value cash flows of an asset to reflect the market return required for uncertainty in the estimated cash flows. DM spreads are a rate or rates applied on top of a floating index (e.g., LIBOR) to discount expected cash flows. Generally, a decrease / (increase) in the DM in isolation would result in a higher / (lower) fair value.

The high end of the range relates to securities that are priced low within the market relative to the expected cash flow schedule. This indicates that the market is pricing an increased risk of credit loss into the security that is greater than what is being captured by the expected cash flow generation process. The low ends of the ranges are typical of funding rates on better-quality instruments.

#### Funding spread

Structured financing transactions are valued using synthetic funding curves that best represent the assets that are pledged as collateral for the transactions. They are not representative of where UBS can fund itself on an unsecured basis, but provide an estimate of where UBS can source and deploy secured funding with counterparties for a given type of collateral. The funding spreads are expressed in terms of basis points over or under LIBOR, and if funding spreads widen, this increases the effect of discounting.

A small proportion of structured debt instruments and non-structured fixed-rate bonds within financial liabilities designated at fair value had an exposure to funding spreads that was longer in duration than the actively traded market.



## Note 24 Fair value measurement (continued)

### Volatility

Volatility measures the variability of future prices for a particular instrument and is generally expressed as a percentage, where a higher number reflects a more volatile instrument, for which future price movements are more likely to occur. The minimum level of volatility is 0% and there is no theoretical maximum. Volatility is a key input into option models, where it is used to derive a probability-based distribution of future prices for the underlying instrument. The effect of volatility on individual positions within the portfolio is driven primarily by whether the option contract is a long or short position. In most cases, the fair value of an option increases as a result of an increase in volatility and is reduced by a decrease in volatility. Generally, volatility used in the measurement of fair value is derived from active-market option prices (referred to as implied volatility). A key feature of implied volatility is the volatility "smile" or "skew," which represents the effect of pricing options of different option strikes at different implied volatility levels.

The volatility of interest rates reflects the range of unobservable volatilities across different currencies and related underlying interest rate levels. Volatilities of low interest rates tend to be much higher than volatilities of high interest rates. In addition, different currencies may have significantly different implied volatilities. The volatility of equity stocks, equity and other indices reflects the range of underlying stock volatilities.

### Correlation

Correlation measures the interrelationship between the movements of two variables. It is expressed as a percentage between -100% and +100%, where +100% represents

perfectly correlated variables (meaning a movement of one variable is associated with a movement of the other variable in the same direction) and -100% implies that the variables are inversely correlated (meaning a movement of one variable is associated with a movement of the other variable in the opposite direction). The effect of correlation on the measurement of fair value depends on the specific terms of the instruments being valued, reflecting the range of different payoff features within such instruments.

Equity-to-FX correlation is important for equity options based on a currency different than the currency of the underlying stock. Equity-to-equity correlation is particularly important for complex options that incorporate, in some manner, different equities in the projected payoff.

### Equity dividend yields

The derivation of a forward price for an individual stock or index is important for measuring fair value for forward or swap contracts and for measuring fair value using option pricing models. The relationship between the current stock price and the forward price is based on a combination of expected future dividend levels and payment timings, and, to a lesser extent, the relevant funding rates applicable to the stock in question. Dividend yields are generally expressed as an annualized percentage of the share price with the lowest limit of 0% representing a stock that is not expected to pay any dividend. The dividend yield and timing represents the most significant parameter in determining fair value for instruments that are sensitive to an equity forward price.

## Note 24 Fair value measurement (continued)

### g) Level 3 instruments: sensitivity to changes in unobservable input assumptions

The table below summarizes those financial assets and liabilities classified as Level 3 for which a change in one or more of the unobservable inputs to reflect reasonably possible alternative assumptions would change fair value significantly, and the estimated effect thereof.

The table shown presents the favorable and unfavorable effects for each class of financial assets and liabilities for which the potential change in fair value is considered significant. The sensitivity data shown below presents an estimation of valuation uncertainty based on reasonably possible alternative values for Level 3 inputs at the balance sheet date and does not represent the estimated effect of stress scenarios. Typically, these financial assets and liabilities are sensitive to a combination of inputs from Levels 1–3. Although well-defined interdependencies may exist between Levels 1–2 and Level 3 parameters (e.g., between interest rates, which are generally Level 1 or Level 2, and prepayments, which are generally Level 3), these have not been incorporated in the table. Furthermore, direct interrelationships between the Level 3 parameters discussed below are not a significant element of the valuation uncertainty.

Sensitivity data is estimated using a number of techniques, including the estimation of price dispersion among different market participants, variation in modeling approaches and

reasonably possible changes to assumptions used within the fair value measurement process. The sensitivity ranges are not always symmetrical around the fair values as the inputs used in valuations are not always precisely in the middle of the favorable and unfavorable range.

Sensitivity data is determined at a product or parameter level and then aggregated assuming no diversification benefit. The calculated sensitivity is applied to both the outright position and any related Level 3 hedge. The main interdependencies between sensitivities of different Level 3 products to a single unobservable input parameter have been included in the basis of netting exposures within the calculation. Aggregation without allowing for diversification involves the simple summation of individual results with the total sensitivity, therefore representing the effect of all unobservable inputs that, if moved to a reasonably possible favorable or unfavorable level at the same time, would result in a significant change in the valuation. Diversification would incorporate estimated correlations across different sensitivity results and, as such, would result in an overall sensitivity that would be less than the sum of the individual component sensitivities. UBS believes that, while there are diversification benefits within the portfolios representing these sensitivity numbers, they are not significant to this analysis.

#### Sensitivity of fair value measurements to changes in unobservable input assumptions

	31.12.19		31.12.18	
	Favorable changes	Unfavorable changes	Favorable changes	Unfavorable changes
<i>USD million</i>				
Traded loans, loans designated at fair value, loan commitments and guarantees	46	(21)	99	(44)
Securities financing transactions	11	(11)	17	(11)
Auction rate securities	87	(87)	81	(81)
Asset-backed securities	35	(40)	27	(23)
Equity instruments	140	(80)	155	(94)
Interest rate derivative contracts, net	8	(17)	8	(39)
Credit derivative contracts, net	31	(35)	33	(37)
Foreign exchange derivative contracts, net	12	(8)	10	(5)
Equity / index derivative contracts, net	183	(197)	213	(225)
Other	47	(51)	19	(19)
<b>Total</b>	<b>600</b>	<b>(547)</b>	<b>661</b>	<b>(578)</b>

## Note 24 Fair value measurement (continued)

### h) Level 3 instruments: movements during the period

The table on the following pages presents additional information about material Level 3 assets and liabilities measured at fair value on a recurring basis. Level 3 assets and liabilities may be hedged with instruments classified as Level 1 or Level 2 in the fair value hierarchy and, as a result, realized and unrealized gains and losses included in the table may not include the effect of related hedging activity. Furthermore, the realized and unrealized gains and losses presented within the table are not limited solely to those arising from Level 3 inputs, as valuations are generally derived from both observable and unobservable parameters.

Assets and liabilities transferred into or out of Level 3 are presented as if those assets or liabilities had been transferred at the beginning of the year.

Upon adoption of IFRS 9 on 1 January 2018, certain financial assets and liabilities were newly classified at fair value through profit or loss and were designated as Level 3 in the fair value

hierarchy. Certain assets were also reclassified from *Financial assets measured at fair value through other comprehensive income* to *Financial assets at fair value not held for trading*.

Assets transferred into and out of Level 3 totaled USD 1.1 billion and USD 1.9 billion, respectively. Transfers into Level 3 mainly consisted of loans, investment fund units and equity / index contracts, reflecting decreased observability of the relevant valuation inputs. Transfers out of Level 3 mainly consisted of loans, reflecting increased observability of the relevant valuation inputs.

Liabilities transferred into and out of Level 3 totaled USD 1.4 billion and USD 3.4 billion, respectively. Transfers into and out of Level 3 mainly consisted of debt issued designated at fair value, primarily equity-linked issued debt instruments, due to decreased or increased observability, respectively, of the embedded derivative inputs.

## Note 24 Fair value measurement (continued)

### Movements of Level 3 instruments

USD billion	Balance as of 31 December 2017	Reclassifi- cations and remeasure- ments upon adoption of IFRS 9	Balance as of 1 January 2018	Total gains / losses included in comprehensive income		Net gains / losses included in income <sup>1</sup>	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation
				of which: related to Level 3 instruments held at the end of the reporting period									
Financial assets at fair value held for trading	2.0	0.4	2.4	(0.2)	(0.2)	2.1	(7.1)	4.2	0.0	0.7	(0.2)	0.0	
of which:													
Investment fund units	0.6		0.6	(0.1)	(0.1)	0.2	(0.3)	0.0	0.0	0.1	(0.1)	0.0	
Corporate and municipal bonds	0.6		0.6	0.0	0.0	0.6	(0.9)	0.0	0.0	0.5	0.0	0.0	
Loans	0.5	0.4	0.9	0.1	0.0	0.9	(5.6)	4.2	0.0	0.1	0.0	0.0	
Other	0.4		0.4	(0.1)	(0.1)	0.4	(0.4)	0.0	0.0	0.0	0.0	0.0	
Derivative financial instruments – assets	1.6		1.6	0.0	0.0	0.0	0.0	1.0	(1.5)	0.5	(0.1)	0.0	
of which:													
Interest rate contracts	0.1		0.1	0.1	0.1	0.0	0.0	0.0	(0.1)	0.3	0.0	0.0	
Equity / index contracts	0.7		0.7	0.0	0.0	0.0	0.0	0.8	(1.0)	0.1	(0.1)	0.0	
Credit derivative contracts	0.6		0.6	0.0	0.0	0.0	0.0	0.3	(0.4)	0.0	0.0	0.0	
Other	0.2		0.2	(0.1)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Financial assets at fair value not held for trading	1.5	3.0	4.4	0.0	0.0	1.7	(1.9)	0.0	0.0	0.1	(0.1)	0.1	
of which:													
Loans	0.8	0.6	1.4	(0.2)	(0.2)	1.5	(1.0)	0.0	0.0	0.1	0.0	0.0	
Auction rate securities		1.9	1.9	0.1	0.1	0.0	(0.4)	0.0	0.0	0.0	0.0	0.1	
Equity instruments		0.4	0.4	0.1	0.1	0.2	(0.2)	0.0	0.0	0.0	0.0	0.0	
Other	0.7	0.1	0.8	0.0	0.0	0.0	(0.4)	0.0	0.0	0.0	(0.1)	0.0	
Financial assets measured at fair value through other comprehensive income	0.5	(0.5)											
Derivative financial instruments – liabilities	2.9	0.0	2.9	(0.3)	(0.2)	0.0	0.0	1.3	(1.5)	0.3	(0.5)	0.0	
of which:													
Equity / index contracts	2.0		2.0	(0.3)	(0.2)	0.0	0.0	1.2	(1.2)	0.3	(0.5)	0.0	
Credit derivative contracts	0.6		0.6	0.0	0.0	0.0	0.0	0.1	(0.2)	0.1	0.0	0.0	
Other	0.3	0.0	0.3	0.0	0.1	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	
Debt issued designated at fair value	11.2		11.2	0.5	0.0	0.0	0.0	5.8	(4.3)	2.2	(4.3)	(0.2)	
Other financial liabilities designated at fair value	2.0		2.0	0.0	0.0	0.0	0.0	1.1	(2.0)	0.0	0.0	0.0	

<sup>1</sup> Net gains / losses included in comprehensive income are comprised of Net interest income, Other net income from financial instruments measured at fair value through profit or loss and Other income. <sup>2</sup> Total Level 3 assets as of 31 December 2019 were USD 7.2 billion (31 December 2018: USD 7.8 billion). Total Level 3 liabilities as of 31 December 2019 were USD 12.8 billion (31 December 2018: USD 14.3 billion).

## Note 24 Fair value measurement (continued)

Balance as of 31 December 2018 <sup>2</sup>	Net gains / losses included in income <sup>1</sup>	Total gains / losses included in comprehensive income <i>of which: related to Level 3 instruments held at the end of the reporting period</i>	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation	Balance as of 31 December 2019 <sup>2</sup>
2.0	(0.2)	0.0	1.2	(5.7)	4.4	0.0	0.6	(0.4)	0.0	1.8
0.4	0.0	0.0	0.0	(0.4)	0.0	0.0	0.2	(0.2)	0.0	0.0
0.7	0.0	0.0	0.6	(0.6)	0.0	0.0	0.1	(0.2)	0.0	0.5
0.7	(0.1)	0.0	0.2	(4.4)	4.4	0.0	0.1	0.0	0.0	0.8
0.2	0.0	(0.1)	0.3	(0.3)	0.0	0.0	0.2	0.0	0.0	0.4
1.4	(0.3)	0.0	0.0	0.0	1.0	(0.8)	0.2	(0.3)	0.0	1.3
0.4	(0.1)	0.0	0.0	0.0	0.1	0.0	0.0	(0.2)	0.0	0.3
0.5	(0.1)	0.1	0.0	0.0	0.6	(0.5)	0.1	(0.1)	0.0	0.6
0.5	(0.1)	(0.1)	0.0	0.0	0.2	(0.2)	0.1	(0.1)	0.0	0.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4.4	0.0	0.0	1.2	(0.8)	0.0	0.0	0.3	(1.2)	0.0	4.0
1.8	0.0	0.0	0.7	(0.2)	0.0	0.0	0.3	(1.2)	0.0	1.2
1.7	0.0	0.0	0.0	(0.1)	0.0	0.0	0.0	0.0	0.0	1.5
0.5	0.0	0.0	0.1	(0.2)	0.0	0.0	0.0	0.0	0.0	0.5
0.5	0.0	0.0	0.5	(0.2)	0.0	0.0	0.0	0.0	0.0	0.7
2.2	0.0	0.0	0.0	0.0	0.8	(1.0)	0.3	(0.3)	0.0	2.0
1.4	0.3	0.2	0.0	0.0	0.6	(0.9)	0.2	(0.2)	0.0	1.3
0.5	(0.1)	(0.1)	0.0	0.0	0.2	(0.1)	0.1	(0.1)	0.0	0.5
0.3	(0.1)	0.0	0.0	0.0	0.1	0.0	0.0	(0.1)	0.0	0.2
11.0	1.1	0.7	0.0	0.0	6.9	(7.3)	1.0	(3.1)	0.0	9.6
1.0	0.2	0.1	0.0	0.0	0.6	(0.8)	0.1	0.0	0.0	1.0

## Note 24 Fair value measurement (continued)

### i) Maximum exposure to credit risk for financial instruments measured at fair value

The tables below provide UBS AG's maximum exposure to credit risk for financial instruments measured at fair value and the respective collateral and other credit enhancements mitigating credit risk for these classes of financial instruments.

The maximum exposure to credit risk includes the carrying amounts of financial instruments recognized on the balance sheet subject to credit risk and the notional amounts for off-balance sheet arrangements. Where information is available, collateral is presented at fair value. For other collateral, such as

real estate, a reasonable alternative value is used. Credit enhancements, such as credit derivative contracts and guarantees, are included at their notional amounts. Both are capped at the maximum exposure to credit risk for which they serve as security. The "Risk management and control" section of this report describes management's view of credit risk and the related exposures, which can differ in certain respects from the requirements of IFRS.

#### Maximum exposure to credit risk

	31.12.19								
	Maximum exposure to credit risk	Collateral			Other collateral <sup>1</sup>	Credit enhancements			Exposure to credit risk after collateral and credit enhancements
		Cash collateral received	Collateralized by securities	Secured by real estate		Netting	Credit derivative contracts	Guarantees	
<i>USD billion</i>									
<b>Financial assets measured at fair value on the balance sheet</b>									
Financial assets at fair value held for trading – debt instruments <sup>2,3</sup>	22.0								22.0
Derivative financial instruments <sup>4</sup>	121.8		3.3			107.4			11.1
Brokerage receivables	18.0	0.0	17.8						0.2
Financial assets at fair value not held for trading – debt instruments <sup>5</sup>	55.0	0.1	16.3		0.1				38.6
<b>Total financial assets measured at fair value</b>	<b>216.8</b>	<b>0.1</b>	<b>37.4</b>	<b>0.0</b>	<b>0.1</b>	<b>107.4</b>	<b>0.0</b>	<b>0.0</b>	<b>71.9</b>
Guarantees <sup>6</sup>	1.0							0.3	0.7
Loan commitments <sup>6</sup>	6.3				3.0		0.1	0.9	2.3
Forward starting transactions, reverse repurchase and securities borrowing agreements	20.3		20.3						0.0
<b>Total maximum exposure to credit risk not reflected on the balance sheet</b>	<b>27.6</b>	<b>0.0</b>	<b>20.3</b>	<b>0.0</b>	<b>3.0</b>	<b>0.0</b>	<b>0.1</b>	<b>1.2</b>	<b>3.0</b>

	31.12.18								
	Maximum exposure to credit risk	Collateral			Other collateral <sup>1</sup>	Credit enhancements			Exposure to credit risk after collateral and credit enhancements
		Cash collateral received	Collateralized by securities	Secured by real estate		Netting	Credit derivative contracts	Guarantees	
<i>USD billion</i>									
<b>Financial assets measured at fair value on the balance sheet</b>									
Financial assets at fair value held for trading – debt instruments <sup>2,3</sup>	22.0								22.0
Derivative financial instruments <sup>4</sup>	126.2		4.1			110.8			11.4
Brokerage receivables	16.8	0.0	16.5						0.3
Financial assets at fair value not held for trading – debt instruments <sup>5</sup>	59.8		16.7		0.1				43.1
<b>Total financial assets measured at fair value</b>	<b>224.9</b>	<b>0.0</b>	<b>37.3</b>	<b>0.0</b>	<b>0.1</b>	<b>110.8</b>	<b>0.0</b>	<b>0.0</b>	<b>76.7</b>
Guarantees <sup>6</sup>	1.6							0.2	1.4
Loan commitments <sup>6</sup>	3.5				2.4		0.2	0.1	0.7
Forward starting transactions, reverse repurchase and securities borrowing agreements	8.1		8.1						0.0
<b>Total maximum exposure to credit risk not reflected on the balance sheet</b>	<b>13.3</b>	<b>0.0</b>	<b>8.1</b>	<b>0.0</b>	<b>2.4</b>	<b>0.0</b>	<b>0.2</b>	<b>0.4</b>	<b>2.1</b>

<sup>1</sup> Includes but is not limited to life insurance contracts, inventory, mortgage loans, gold and other commodities. <sup>2</sup> These positions are generally managed under the market risk framework. For the purpose of this disclosure, collateral and credit enhancements were not considered. <sup>3</sup> Does not include investment fund units. <sup>4</sup> The amount shown in the "Netting" column represents the netting potential not recognized on the balance sheet. Refer to Note 25 for more information. <sup>5</sup> Financial assets at fair value not held for trading collateralized by securities consisted of structured loans and reverse repurchase and securities borrowing agreements. <sup>6</sup> The amount shown in the "Guarantees" column largely relates to sub-participations. Refer to Note 34 for more information.

## Note 24 Fair value measurement (continued)

### j) Financial instruments not measured at fair value

The table below provides the estimated fair values of financial instruments not measured at fair value.

#### Financial instruments not measured at fair value<sup>1</sup>

USD billion	31.12.19						31.12.18					
	Carrying amount	Fair value					Carrying amount	Fair value				
		Carrying amount approximates fair value <sup>2</sup>	Level 1	Level 2	Level 3	Total		Carrying amount approximates fair value <sup>2</sup>	Level 1	Level 2	Level 3	Total
<b>Assets<sup>3</sup></b>	<b>Total</b>						<b>Total</b>					
Cash and balances at central banks	107.1	107.0	0.1	0.0	0.0	107.1	108.4	108.3	0.1	0.0	0.0	108.4
Loans and advances to banks	12.4	11.7	0.0	0.5	0.2	12.4	16.6	16.0	0.0	0.6	0.0	16.6
Receivables from securities financing transactions	84.2	74.0	0.0	8.6	1.6	84.2	95.3	85.0	0.0	6.9	3.4	95.4
Cash collateral receivables on derivative instruments	23.3	23.3	0.0	0.0	0.0	23.3	23.6	23.6	0.0	0.0	0.0	23.6
Loans and advances to customers	328.0	152.5	0.0	25.7	152.2	330.3	321.5	153.8	0.0	18.6	149.5	322.0
Other financial assets measured at amortized cost	23.0	5.8	8.4	6.4	2.8	23.3	22.6	5.9	8.4	4.8	3.3	22.5
<b>Liabilities</b>												
Amounts due to banks	6.6	5.6	0.0	0.9	0.0	6.6	11.0	8.8	0.0	1.9	0.2	11.0
Payables from securities financing transactions	7.8	7.5	0.0	0.3	0.0	7.8	10.3	10.0	0.0	0.3	0.0	10.3
Cash collateral payables on derivative instruments	31.4	31.4	0.0	0.0	0.0	31.4	28.9	28.9	0.0	0.0	0.0	28.9
Customer deposits	450.6	440.5	0.0	10.2	0.0	450.7	422.0	410.6	0.0	11.3	0.1	422.0
Funding from UBS Group AG and its subsidiaries	47.9	0.0	0.0	49.6	0.0	49.6	41.2	0.0	0.0	41.7	0.0	41.7
Debt issued measured at amortized cost	62.8	8.7	0.0	55.5	0.0	64.3	91.2	9.9	0.0	82.1	1.4	93.5
Other financial liabilities measured at amortized cost <sup>4</sup>	6.5	6.5	0.0	0.0	0.0	6.5	7.6	7.6	0.0	0.0	0.1	7.6

<sup>1</sup> In line with IFRS 7 Financial Instruments: Disclosures, effective 2019, UBS no longer discloses a fair value hierarchy level for financial instruments where the carrying amount approximates fair value. Prior periods have been restated for this change. <sup>2</sup> Includes certain financial instruments where the carrying amount is a reasonable approximation of the fair value due to the instruments' short-term nature (instruments that are receivable or payable on demand, or with a remaining maturity (excluding the effects of callable features) of three months or less). <sup>3</sup> As of 31 December 2019, USD 0 billion of Loans and advances to banks, USD 1 billion of Receivables from securities financing transactions, USD 140 billion of Loans and advances to customers and USD 16 billion of Other financial assets measured at amortized cost are expected to be recovered or settled after 12 months. As of 31 December 2018, USD 0 billion of Loans and advances to banks, USD 1 billion of Receivables from securities financing transactions, USD 139 billion of Loans and advances to customers and USD 15 billion of Other financial assets measured at amortized cost were expected to be recovered or settled after 12 months. <sup>4</sup> Excludes lease liabilities.

The fair values included in the table above were calculated for disclosure purposes only. The valuation techniques and assumptions described below relate only to the fair value of UBS's financial instruments not measured at fair value. Other institutions may use different methods and assumptions for their fair value estimation, and therefore such fair value disclosures cannot necessarily be compared from one financial institution to another. The following principles were applied when determining fair value estimates for financial instruments not measured at fair value:

- For financial instruments with remaining maturities greater than three months, the fair value was determined from quoted market prices, if available.

- Where quoted market prices were not available, the fair values were estimated by discounting contractual cash flows using current market interest rates or appropriate yield curves for instruments with similar credit risk and maturity. These estimates generally include adjustments for counterparty credit risk or UBS's own credit.
- For short-term financial instruments with remaining maturities of three months or less, the carrying amount, which is net of credit loss allowances, is generally considered a reasonable estimate of fair value.

## Note 25 Offsetting financial assets and financial liabilities

UBS AG enters into netting agreements with counterparties to manage the credit risks associated primarily with repurchase and reverse repurchase transactions, securities borrowing and lending, over-the-counter derivatives and exchange-traded derivatives. These netting agreements and similar arrangements generally enable the counterparties to set off liabilities against available assets received in the ordinary course of business and/or in the event that the counterparties to the transaction are unable to fulfill their contractual obligations. The right of setoff is a legal right to settle or otherwise eliminate all or a portion of an amount due by applying an amount receivable from the same counterparty against it, thus reducing credit exposure.

The table below provides a summary of financial assets subject to offsetting, enforceable master netting arrangements and similar agreements, as well as financial collateral received to mitigate credit exposures for these financial assets. The gross

financial assets of UBS AG that are subject to offsetting, enforceable netting arrangements and similar agreements are reconciled to the net amounts presented within the associated balance sheet line, after giving effect to financial liabilities with the same counterparties that have been offset on the balance sheet and other financial assets not subject to an enforceable netting arrangement or similar agreement, as well as other out-of-scope items. Furthermore, related amounts for financial liabilities and collateral received that are not offset on the balance sheet are shown to arrive at financial assets after consideration of netting potential.

UBS AG engages in a variety of counterparty credit mitigation strategies in addition to netting and collateral arrangements. Therefore, the net amounts presented in the tables on this and on the next page do not purport to represent their actual credit exposure.

### Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements

	Assets subject to netting arrangements			Assets not subject to netting arrangements <sup>4</sup>			Total assets	
	Netting recognized on the balance sheet		Net assets recognized on the balance sheet	Netting potential not recognized on the balance sheet <sup>3</sup>		Assets recognized on the balance sheet	Total assets after consideration of netting potential	Total assets recognized on the balance sheet
	Gross assets before netting	Netting with gross liabilities <sup>2</sup>		Financial liabilities	Collateral received			
<i>As of 31.12.19, USD billion</i>								
Receivables from securities financing transactions	83.2	(14.0)	69.2	(1.2)	(68.0)	0.0	15.0	84.2
Derivative financial instruments	120.2	(3.4)	116.8	(89.3)	(21.4)	6.1	11.1	121.8
Cash collateral receivables on derivative instruments <sup>1</sup>	26.4	(4.0)	22.4	(13.3)	(1.1)	8.0	8.9	23.3
Financial assets at fair value not held for trading	83.1	(77.5)	5.6	0.0	(5.6)	0.0	78.0	83.6
of which: reverse repurchase agreements	83.0	(77.5)	5.4	0.0	(5.4)	0.0	0.9	6.3
<b>Total assets</b>	<b>313.0</b>	<b>(98.9)</b>	<b>214.0</b>	<b>(103.8)</b>	<b>(96.1)</b>	<b>14.1</b>	<b>113.1</b>	<b>313.0</b>
<i>As of 31.12.18, USD billion</i>								
Receivables from securities financing transactions	88.5	(13.0)	75.5	(4.4)	(71.2)	0.0	19.8	95.3
Derivative financial instruments	124.3	(4.3)	120.0	(90.8)	(24.0)	5.2	11.4	126.2
Cash collateral receivables on derivative instruments <sup>1</sup>	24.6	(2.3)	22.3	(13.5)	(1.0)	7.8	9.1	23.6
Financial assets at fair value not held for trading	85.4	(77.5)	7.8	(1.4)	(6.4)	0.0	74.6	82.4
of which: reverse repurchase agreements	85.3	(77.5)	7.8	(1.4)	(6.4)	0.0	2.1	9.9
<b>Total assets</b>	<b>322.9</b>	<b>(97.2)</b>	<b>225.7</b>	<b>(110.0)</b>	<b>(102.6)</b>	<b>13.0</b>	<b>114.9</b>	<b>327.6</b>

<sup>1</sup> The net amount of Cash collateral receivables on derivative instruments recognized on the balance sheet includes certain OTC derivatives that are net settled on a daily basis either legally or in substance under IAS 32 principles and exchange-traded derivatives that are economically settled on a daily basis. <sup>2</sup> The logic of the table results in amounts presented in the "Netting with gross liabilities" column corresponding directly to the amounts presented in the "Netting with gross assets" column in the liabilities table presented on the following page. Netting in this column for reverse repurchase agreements presented within the lines "Receivables from securities financing transactions" and "Financial assets at fair value not held for trading" taken together corresponds to the amounts presented for repurchase agreements in the "Payables from securities financing transactions" and "Other financial liabilities designated at fair value" lines in the liabilities table presented on the following page. <sup>3</sup> For the purpose of this disclosure, the amounts of financial instruments and cash collateral presented have been capped so as not to exceed the net amount of financial assets presented on the balance sheet; i.e., over-collateralization, where it exists, is not reflected in the table. <sup>4</sup> Includes assets not subject to enforceable netting arrangements and other out-of-scope items.



## Note 25 Offsetting financial assets and financial liabilities (continued)

The table below provides a summary of financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements, as well as financial collateral pledged to mitigate credit exposures for these financial liabilities. The gross financial liabilities of UBS AG that are subject to offsetting, enforceable netting arrangements and similar agreements are reconciled to the net amounts presented within the associated

balance sheet line, after giving effect to financial assets with the same counterparties that have been offset on the balance sheet and other financial liabilities not subject to an enforceable netting arrangement or similar agreement. Furthermore, related amounts for financial assets and collateral pledged that are not offset on the balance sheet are shown to arrive at financial liabilities after consideration of netting potential.

### Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements

	Liabilities subject to netting arrangements						Liabilities not subject to netting arrangements <sup>4</sup>	Total liabilities		
	Netting recognized on the balance sheet			Netting potential not recognized on the balance sheet <sup>3</sup>				Liabilities recognized on the balance sheet	Total liabilities after consideration of netting potential	Total liabilities recognized on the balance sheet
	Gross liabilities before netting	Netting with gross assets <sup>2</sup>	Net liabilities recognized on the balance sheet	Financial assets	Collateral pledged	Liabilities after consideration of netting potential				
<i>As of 31.12.19, USD billion</i>										
Payables from securities financing transactions	19.8	(14.0)	5.8	(0.8)	(5.0)	0.0	2.0	2.0	7.8	
Derivative financial instruments	118.1	(3.4)	114.8	(89.3)	(16.8)	8.6	6.1	14.8	120.9	
Cash collateral payables on derivative instruments <sup>1</sup>	34.2	(4.0)	30.1	(16.5)	(1.7)	12.0	1.3	13.3	31.4	
Other financial liabilities designated at fair value	83.5	(77.6)	5.9	(0.4)	(5.6)	0.0	30.2	30.2	36.2	
<i>of which: repurchase agreements</i>	83.1	(77.6)	5.5	(0.4)	(5.2)	0.0	0.2	0.2	5.7	
<b>Total liabilities</b>	<b>255.6</b>	<b>(98.9)</b>	<b>156.6</b>	<b>(107.0)</b>	<b>(29.0)</b>	<b>20.6</b>	<b>39.6</b>	<b>60.2</b>	<b>196.2</b>	
<i>As of 31.12.18, USD billion</i>										
Payables from securities financing transactions	20.6	(12.4)	8.3	(3.6)	(4.7)	0.0	2.0	2.0	10.3	
Derivative financial instruments	124.1	(4.3)	119.8	(90.8)	(20.9)	8.1	5.9	14.0	125.7	
Cash collateral payables on derivative instruments <sup>1</sup>	29.0	(2.3)	26.7	(14.2)	(1.2)	11.3	2.2	13.5	28.9	
Other financial liabilities designated at fair value	86.6	(78.2)	8.4	(2.1)	(5.9)	0.4	25.2	25.6	33.6	
<i>of which: repurchase agreements</i>	86.1	(78.2)	7.9	(2.1)	(5.9)	0.0	1.6	1.6	9.5	
<b>Total liabilities</b>	<b>260.4</b>	<b>(97.2)</b>	<b>163.2</b>	<b>(110.7)</b>	<b>(32.6)</b>	<b>19.8</b>	<b>35.4</b>	<b>55.2</b>	<b>198.5</b>	

<sup>1</sup> The net amount of Cash collateral payables on derivative instruments recognized on the balance sheet includes certain exchange-traded derivatives that are net settled on a daily basis either legally or in substance under IAS 32 principles and exchange-traded derivatives that are economically settled on a daily basis. <sup>2</sup> The logic of the table results in amounts presented in the "Netting with gross assets" column corresponding to the amounts presented in the "Netting with gross liabilities" column in the assets table presented on the previous page. Netting in this column for repurchase agreements presented within the lines "Payables from securities financing transactions" and "Other financial liabilities designated at fair value" taken together corresponds to the amounts presented for reverse repurchase agreements in the "Receivables from securities financing transactions" and "Financial assets at fair value not held for trading" lines in the assets table presented on the previous page. <sup>3</sup> For the purpose of this disclosure, the amounts of financial instruments and cash collateral presented have been capped so as not to exceed the net amount of financial liabilities presented on the balance sheet; i.e., over-collateralization, where it exists, is not reflected in the table. <sup>4</sup> Includes liabilities not subject to enforceable netting arrangements and other out-of-scope items.

## Note 26 Restricted and transferred financial assets

This Note provides information about restricted financial assets (Note 26a), transfers of financial assets (Note 26b and 26c) and financial assets that are received as collateral with the right to resell or repledge these assets (Note 26d).

### a) Restricted financial assets

Restricted financial assets consist of assets pledged as collateral against an existing liability or contingent liability and other assets that are otherwise explicitly restricted such that they cannot be used to secure funding.

Financial assets are mainly pledged as collateral in securities lending transactions, in repurchase transactions, against loans from Swiss mortgage institutions and in connection with the issuance of covered bonds. The UBS AG generally enters into repurchase and securities lending arrangements under standard market agreements. For securities lending, the cash received as collateral may be more or less than the fair value of the securities loaned, depending on the nature of the transaction. For repurchase agreements, the fair value of the collateral sold under an agreement to repurchase is generally in excess of the cash borrowed. Pledged mortgage loans serve as collateral for

existing liabilities against Swiss central mortgage institutions and for existing covered bond issuances of USD 11,206 million as of 31 December 2019 (31 December 2018: USD 12,516 million).

Other restricted financial assets include assets protected under client asset segregation rules, assets held by the UBS AG's insurance entities to back related liabilities to the policy holders, assets held in certain jurisdictions to comply with explicit minimum local asset maintenance requirements and assets held in consolidated bankruptcy remote entities, such as certain investment funds and other structured entities. The carrying amount of the liabilities associated with these other restricted financial assets is generally equal to the carrying amount of the assets, with the exception of assets held to comply with local asset maintenance requirements, for which the associated liabilities are greater.

#### Restricted financial assets

<i>USD million</i>	<b>31.12.19</b>	31.12.18
<b>Financial assets pledged as collateral</b>		
Financial assets at fair value held for trading	<b>56,548</b>	43,292
<i>of which: assets pledged as collateral that may be sold or repledged by counterparties</i>	<b>41,285</b>	32,121
Loans and advances to customers <sup>1</sup>	<b>18,399</b>	18,804
Financial assets at fair value not held for trading	<b>188</b>	0
Debt securities classified as Other financial assets measured at amortized cost	<b>1,212</b>	0
<i>of which: assets pledged as collateral that may be sold or repledged by counterparties</i>	<b>1,212</b>	0
<b>Total financial assets pledged as collateral<sup>2</sup></b>	<b>76,347</b>	62,096

#### Other restricted financial assets

Loans and advances to banks	<b>2,353</b>	5,140
Financial assets at fair value held for trading	<b>242</b>	1,054
Cash collateral receivables on derivative instruments	<b>2,986</b>	3,205
Loans and advances to customers	<b>620</b>	935
Financial assets at fair value not held for trading	<b>29,368</b>	23,212
Financial assets measured at fair value through other comprehensive income	<b>176</b>	171
Other	<b>382</b>	203
<b>Total other restricted financial assets</b>	<b>36,126</b>	33,920
<b>Total financial assets pledged and other restricted financial assets</b>	<b>112,474</b>	96,016

<sup>1</sup> All related to mortgage loans that serve as collateral for existing liabilities against Swiss central mortgage institutions and for existing covered bond issuances. Of these pledged mortgage loans, approximately USD 6.3 billion for 31 December 2019 (31 December 2018: approximately USD 3.2 billion) could be withdrawn or used for future liabilities or covered bond issuances without breaching existing collateral requirements. <sup>2</sup> Does not include assets placed with central banks related to undrawn credit lines and for payment, clearing and settlement purposes (31 December 2019: USD 0.6 billion; 31 December 2018: USD 0.3 billion).

In addition to restrictions on financial assets, UBS AG and its subsidiaries are, in certain cases, subject to regulatory requirements that affect the transfer of dividends and capital within UBS AG, as well as intercompany lending. Supervisory authorities also may require entities to measure capital and

leverage ratios on a stressed basis, such as the Federal Reserve Board's Comprehensive Capital Analysis and Review (CCAR) process, which may limit the relevant subsidiaries' ability to make distributions of capital based on the results of those tests.

## Note 26 Restricted and transferred financial assets (continued)

Supervisory authorities generally have discretion to impose higher requirements or to otherwise limit the activities of subsidiaries.

Non-regulated subsidiaries are generally not subject to such requirements and transfer restrictions. However, restrictions can also be the result of different legal, regulatory, contractual, entity- or country-specific arrangements and/or requirements.

→ Refer to "Financial and regulatory key figures for our significant regulated subsidiaries and sub-groups" in the "Significant regulated subsidiary and sub-group information" section of this report for financial information about significant regulated subsidiaries of UBS AG

### b) Transferred financial assets that are not derecognized in their entirety

The table below presents information for financial assets that have been transferred but are subject to continued recognition in full, as well as recognized liabilities associated with those transferred assets.

#### Transferred financial assets subject to continued recognition in full

USD million	31.12.19		31.12.18	
	Carrying amount of transferred assets	Carrying amount of associated liabilities recognized on balance sheet	Carrying amount of transferred assets	Carrying amount of associated liabilities recognized on balance sheet
Financial assets at fair value held for trading that may be sold or repledged by counterparties	41,285	16,671	32,121	4,674
relating to securities lending and repurchase agreements in exchange for cash received	16,945	16,671	4,726	4,674
relating to securities lending agreements in exchange for securities received	24,082	0	26,234	0
relating to other financial asset transfers	258	0	1,161	0
Financial assets at fair value not held for trading that may be sold or repledged by counterparties	188	187	0	0
<b>Total financial assets transferred</b>	<b>41,473</b>	<b>16,858</b>	<b>32,121</b>	<b>4,674</b>

Transactions in which financial assets are transferred, but continue to be recognized in their entirety on UBS AG's balance sheet include securities lending and repurchase agreements as well as other financial asset transfers. Repurchase and securities lending arrangements are, for the most part, conducted under standard market agreements and are undertaken with counterparties subject to UBS AG's normal credit risk control processes.

→ Refer to Note 1a item 3e for more information about repurchase and securities lending agreements

As of 31 December 2019, approximately 40% of the transferred financial assets were assets held for trading transferred in exchange for cash, in which case the associated recognized liability represents the amount to be repaid to counterparties. For securities lending and repurchase agreements, a haircut between 0% and 15% is generally applied to the transferred assets, which results in associated liabilities having a carrying amount below the carrying amount of the transferred assets. The counterparties to the associated liabilities presented in the table above have full recourse to UBS AG.

In securities lending arrangements entered into in exchange for the receipt of other securities as collateral, neither the securities received nor the obligation to return them are recognized on UBS AG's balance sheet, as the risks and rewards of ownership are not transferred to UBS AG. In cases where such financial assets received are subsequently sold or repledged in another transaction, this is not considered to be a transfer of financial assets.

Other financial asset transfers primarily include securities transferred to collateralize derivative transactions, for which the carrying amount of associated liabilities is not provided in the table above because those replacement values are managed on a portfolio basis across counterparties and product types, and therefore there is no direct relationship between the specific collateral pledged and the associated liability.

Transferred financial assets that are not subject to derecognition in full, but remain on the balance sheet to the extent of UBS AG's continuing involvement, were not material as of 31 December 2019 and as of 31 December 2018.

## Note 26 Restricted and transferred financial assets (continued)

### c) Transferred financial assets that are derecognized in their entirety with continuing involvement

Continuing involvement in a transferred and fully derecognized financial asset may result from contractual provisions in the transfer agreement or from a separate agreement with the counterparty or a third party entered into in connection with the transfer.

#### Purchased and retained interests in securitization vehicles

In cases where UBS AG has transferred assets into a securitization vehicle and retained or purchased interests therein, UBS AG has a continuing involvement in those transferred assets.

As of 31 December 2019, the majority of the retained continuing involvement related to securitization positions held as financial assets at fair value held for trading, primarily collateralized debt obligations, US commercial mortgage-backed securities and residential mortgage-backed securities. The fair value and carrying amount of UBS AG's continuing involvement related to these purchased and retained interests was USD 351 million as of 31 December 2019, and UBS AG recognized gains of USD 0 million in 2019 related to these positions. As of 31 December 2019, life-to-date losses of USD 1,198 million were recorded related to the positions held as of 31 December 2019.

As of 31 December 2018, the fair value and carrying amount of UBS AG's continuing involvement related to purchased and retained interests in securitization vehicles was USD 6 million, and UBS AG recognized gains of USD 3 million in 2018 related to these positions. As of 31 December 2018, life-to-date losses of USD 1,198 million were recorded related to the positions held as of 31 December 2018.

The maximum exposure to loss related to purchased and retained interests in securitization structures was USD 8 million as of 31 December 2019, compared with USD 10 million as of 31 December 2018.

Undiscounted cash outflows of USD 3 million may be payable to the transferee in future periods as a consequence of holding the purchased and retained interests. The earliest period in which payment may be required is less than one month.

### d) Off-balance sheet assets received

The table below presents assets received from third parties that can be sold or repledged and that are not recognized on the balance sheet, but that are held as collateral, including amounts that have been sold or repledged.

#### Off-balance sheet assets received

USD million	31.12.19	31.12.18
Fair value of assets received that can be sold or repledged	475,726	483,688
received as collateral under reverse repurchase, securities borrowing and lending arrangements, derivative and other transactions <sup>1</sup>	466,045	473,302
received in unsecured borrowings	9,681	10,385
Thereof sold or repledged <sup>2</sup>	351,327	356,752
in connection with financing activities	306,212	315,402
to satisfy commitments under short sale transactions	30,591	28,949
in connection with derivative and other transactions <sup>1</sup>	14,524	12,400

<sup>1</sup> Includes securities received as initial margin from its clients that UBS AG is required to remit to central counterparties, brokers and deposit banks through its exchange-traded derivative clearing and execution services. <sup>2</sup> Does not include off-balance sheet securities (31 December 2019: USD 19.6 billion; 31 December 2018: USD 24.5 billion) placed with central banks related to undrawn credit lines and for payment, clearing and settlement purposes for which there are no associated liabilities or contingent liabilities.

## Note 27 Maturity analysis of financial liabilities

The contractual maturities for non-derivative and non-trading financial liabilities as of 31 December 2019 are based on the earliest date on which UBS could be contractually required to pay. The total amounts that contractually mature in each time band are also shown for 31 December 2018. Derivative positions

and trading liabilities, predominantly made up of short sale transactions, are assigned to the column *Due within 1 month*, as this provides a conservative reflection of the nature of these trading activities. The contractual maturities may extend over significantly longer periods.

### Maturity analysis of financial liabilities

	31.12.19					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
<b>Financial liabilities recognized on balance sheet<sup>1</sup></b>						
Amounts due to banks	5.4	0.3	0.4	0.5	0.0	6.6
Payables from securities financing transactions	7.4	0.1	0.3		0.0	7.8
Cash collateral payables on derivative instruments	31.4					31.4
Customer deposits	423.9	16.5	7.3	3.5	0.0	451.2
Funding from UBS Group AG and its subsidiaries <sup>2</sup>	0.0	0.2	2.3	29.0	24.6	56.2
Debt issued measured at amortized cost <sup>2</sup>	4.3	4.7	27.8	20.7	9.0	66.5
Other financial liabilities measured at amortized cost	5.2	0.1	0.5	1.9	2.0	9.6
of which: lease liabilities	0.1	0.1	0.5	1.9	2.0	4.5
<b>Total financial liabilities measured at amortized cost</b>	<b>477.6</b>	<b>22.0</b>	<b>38.5</b>	<b>55.6</b>	<b>35.6</b>	<b>629.3</b>
Financial liabilities at fair value held for trading <sup>3,4</sup>	30.6					30.6
Derivative financial instruments <sup>3</sup>	120.9					120.9
Brokerage payables designated at fair value	37.2					37.2
Debt issued designated at fair value <sup>5</sup>	21.3	17.4	9.5	12.7	7.1	68.0
Other financial liabilities designated at fair value	34.0	0.4	0.5	0.4	0.9	36.1
<b>Total financial liabilities measured at fair value through profit or loss</b>	<b>244.0</b>	<b>17.8</b>	<b>9.9</b>	<b>13.1</b>	<b>8.0</b>	<b>292.9</b>
<b>Total</b>	<b>721.6</b>	<b>39.9</b>	<b>48.4</b>	<b>68.7</b>	<b>43.6</b>	<b>922.2</b>
<b>Guarantees, commitments and forward starting transactions<sup>6</sup></b>						
Loan commitments <sup>7</sup>	33.1	0.5	0.3	0.0		33.9
Guarantees <sup>7</sup>	19.1					19.1
<b>Forward starting transactions</b>						
Reverse repurchase agreements <sup>7</sup>	21.9		0.0			21.9
Securities borrowing agreements						0.0
<b>Total</b>	<b>74.1</b>	<b>0.5</b>	<b>0.3</b>	<b>0.0</b>	<b>0.0</b>	<b>74.9</b>

## Note 27 Maturity analysis of financial liabilities (continued)

USD billion	31.12.18					Total
	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	
<b>Financial liabilities recognized on balance sheet<sup>1</sup></b>						
Amounts due to banks	7.9	1.0	1.6	0.5	0.0	11.0
Payables from securities financing transactions	9.5	0.6	0.3		0.0	10.4
Cash collateral payables on derivative instruments	28.9					28.9
Customer deposits	396.6	13.4	6.9	5.1	0.0	422.1
Funding from UBS Group AG and its subsidiaries <sup>2</sup>	0.0	0.0	0.5	21.9	22.0	44.4
Debt issued measured at amortized cost <sup>2</sup>	4.6	5.8	39.1	34.7	12.4	96.5
Other financial liabilities measured at amortized cost	6.4					6.4
<b>Total financial liabilities measured at amortized cost</b>	<b>453.9</b>	<b>20.8</b>	<b>48.4</b>	<b>62.3</b>	<b>34.3</b>	<b>619.7</b>
Financial liabilities at fair value held for trading <sup>3,4</sup>	29.0					29.0
Derivative financial instruments <sup>3</sup>	125.7					125.7
Brokerage payables designated at fair value	38.4					38.4
Debt issued designated at fair value <sup>5</sup>	15.7	18.1	10.2	7.4	8.0	59.4
Other financial liabilities designated at fair value	30.0	0.4	1.1	1.2	1.0	33.7
<b>Total financial liabilities measured at fair value through profit or loss</b>	<b>238.8</b>	<b>18.5</b>	<b>11.3</b>	<b>8.6</b>	<b>9.0</b>	<b>286.2</b>
<b>Total</b>	<b>692.7</b>	<b>39.3</b>	<b>59.7</b>	<b>70.9</b>	<b>43.3</b>	<b>905.9</b>
<b>Guarantees, commitments and forward starting transactions<sup>6</sup></b>						
Loan commitments <sup>7</sup>	34.1	0.3	0.3	0.0		34.7
Guarantees <sup>7</sup>	19.8					19.8
<b>Forward starting transactions</b>						
Reverse repurchase agreements <sup>7</sup>	9.0		0.0			9.0
Securities borrowing agreements	0.0					0.0
<b>Total</b>	<b>62.9</b>	<b>0.3</b>	<b>0.4</b>	<b>0.0</b>	<b>0.0</b>	<b>63.6</b>

<sup>1</sup> Except for financial liabilities at fair value held for trading and derivative financial instruments (see footnote 3), the amounts presented generally represent undiscounted cash flows of future interest and principal payments. <sup>2</sup> The time bucket Due after 5 years includes perpetual loss-absorbing additional tier 1 capital instruments. <sup>3</sup> Carrying amount is fair value. Management believes that this best represents the cash flows that would have to be paid if these positions had to be settled or closed out. Refer to Note 28 for undiscounted cash flows of derivatives designated in hedge accounting relationships. <sup>4</sup> Contractual maturities of financial liabilities at fair value held for trading are: USD 30 billion due within 1 month (2018: USD 28.3 billion), USD 0.6 billion due between 1 month and 1 year (2018: USD 0.6 billion) and USD 0 billion due between 1 and 5 years (2018: USD 0 billion). <sup>5</sup> Future interest payments on variable-rate liabilities are determined by reference to the applicable interest rate prevailing as of the reporting date. Future principal payments that are variable are determined by reference to the conditions existing at the reporting date. <sup>6</sup> Comprises the maximum irrevocable amount of guarantees, commitments and forward starting transactions. <sup>7</sup> Loan commitments measured at fair value of USD 6.3 billion (2018: USD 3.5 billion), guarantees measured at fair value of USD 1.0 billion (2018: USD 1.6 billion) and forward starting reverse repurchase agreements measured at fair value of USD 20.3 billion (2018: USD 8.1 billion) are under the time bucket Due within 1 month.

## Note 28 Hedge accounting

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### Derivatives transacted for hedging purposes

UBS AG enters into derivative transactions for the purpose of hedging risks inherent in assets, liabilities and forecast transactions. The accounting treatment of hedge transactions varies according to the nature of the instrument hedged and whether the hedge qualifies as such for accounting purposes.

Derivative transactions that qualify and are designated as hedges for accounting purposes are described under the corresponding risk category headings in this Note (interest rate risk hedge accounting and structural foreign exchange risk hedge accounting). In addition, UBS AG designates certain non-derivative financial assets and liabilities as hedging instruments in structural foreign exchange risk hedge accounting, as described under the corresponding risk category headings of this Note.

UBS AG has also executed various hedging strategies utilizing derivatives for which hedge accounting has not been applied. These economic hedges include interest rate swaps and other interest rate derivatives (e.g., futures) for day-to-day economic interest rate risk management purposes. In addition, UBS AG has used equity futures, options and, to a lesser extent, swaps in a variety of equity trading strategies to offset underlying equity and equity volatility exposure. UBS AG has also entered into credit default swaps that provide economic hedges for credit risk exposures (refer to "Credit derivatives" in Note 11). UBS AG's accounting policies for derivatives designated and accounted for as hedging instruments or economic hedges that do not qualify for hedge accounting are described in Note 1a item 3j, where terms used in the following sections are explained.

## Note 28 Hedge accounting (continued)

### Interest rate risk hedge accounting

#### Fair value hedges: interest rate risk related to debt instruments

UBS AG issues various long-term, fixed-rate debt instruments measured at amortized cost, such as senior unsecured debt, covered bonds and subordinated debt, that are exposed to changes in fair value due to movements in market interest rates. Interest rate swaps are used as fair value hedges to protect against changes in the fair value of the issued debt.

Fair value hedges of interest rate risk related to debt instruments involve swapping fixed cash flows associated with the debt issued to floating cash flows by entering into interest rate swaps that receive fixed and pay floating cash flows. The variable future cash flows are based on the following benchmark rates: USD LIBOR, CHF LIBOR, EURIBOR, GBP LIBOR, AUD LIBOR, JPY LIBOR and SGD LIBOR.

The issued debt and interest rate swaps are designated in a fair value hedge relationship. The notional of the designated hedging instrument matches the notional of the hedged item.

The hedged risk is determined as the change in the fair value of the debt issued arising solely from changes in the designated benchmark interest rate (e.g., one-month or three-month LIBOR). Such change is usually the largest component of the overall change in the fair value of the hedged position in transaction currency.

Hedge effectiveness is assessed by comparing changes in the fair value of the debt issued attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Hedge ineffectiveness can arise from different curves used for the discounting of the hedging instruments and the hedged items, or from mismatches of critical terms between fixed-term lending products and hedging interest rate swaps.

#### Hedging instruments and hedged items

USD million	31.12.19	31.12.18
<b>Hedging instruments: interest rate swaps</b>		
Nominal amount	65,257	63,816
Carrying amount		
Derivative financial assets	33	27
Derivative financial liabilities		1
<b>Hedged items: debt issued measured at amortized cost</b>		
Carrying amount	26,120	28,139
of which: accumulated amount of fair value hedge adjustment	574	282
<b>Hedged items: funding from UBS Group AG and its subsidiaries</b>		
Carrying amount	41,258	35,647
of which: accumulated amount of fair value hedge adjustment	525	(580)

#### Hedge ineffectiveness

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Changes in fair value of hedging instruments	1,427	(341)	(16)
Changes in fair value of hedged items	(1,408)	329	(4)
<b>Net gains / (losses) related to hedge ineffectiveness recognized in Other net income from financial instruments measured at fair value through profit or loss</b>	<b>19</b>	<b>(11)</b>	<b>(20)</b>

#### Profile of the timing of the nominal amount of the hedging instrument

	31.12.19					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps		3	9	40	14	65

  

	31.12.18					
USD billion	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
Interest rate swaps			4	43	17	64



## Note 28 Hedge accounting (continued)

### Fair value hedges: portfolio interest rate risk related to loans

UBS AG has a portfolio of long-term fixed-rate mortgage loans in CHF that are measured at amortized cost and exposed to changes in the fair value attributable to movements in market interest rates. Interest rate swaps that pay a fixed rate of interest and receive a floating rate of interest are used as fair value hedges to protect against changes in the fair value of the originated loans.

The portfolio of mortgage loans and interest rate swaps are designated in a fair value hedge relationship. The notional of the designated hedging instrument matches the notional of the hedged item.

The hedging strategy involves an open portfolio of hedged items, i.e., mortgage loans. Both the hedged items and the hedging instruments are adjusted on a monthly basis to reflect changes in size and the maturity profile of the hedged portfolio. The existing hedging relationship is discontinued and a new one

is designated. Changes in the portfolio are driven by new loans originated or existing loans repaid.

The hedged risk is determined as the change in the fair value of the loans arising solely from changes in the designated benchmark interest rate (e.g., one-month or three-month LIBOR). Such change is usually the largest component of the overall change in the fair value of the hedged position in transaction currency.

Hedge effectiveness is assessed by comparing changes in the fair value of the hedged portfolio of loans attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Hedge ineffectiveness can arise from different curves used for the discounting of the hedging instruments and the hedged items, or from mismatches of critical terms between fixed-term lending products and hedging interest rate swaps.

### Hedging instruments and hedged items

USD million	31.12.19	31.12.18
<b>Hedging instruments: interest rate swaps</b>		
Nominal amount	4,493	10,318
Carrying amount		
Derivative financial assets		0
Derivative financial liabilities	14	31
<b>Hedged items: loans and advances to customers</b>		
Carrying amount	4,494	10,299
of which: accumulated amount of fair value hedge adjustment on the portfolio that was subject to hedge accounting <sup>1</sup>	117	200
of which: accumulated amount of fair value hedge adjustment, subject to amortization attributable to the portion of the portfolio that ceased to be part of hedge accounting <sup>1</sup>	172	89

<sup>1</sup> Amounts presented within Other financial assets measured at amortized cost and Other financial liabilities measured at amortized cost.

### Hedge ineffectiveness

	For the year ended		
USD million	31.12.19	31.12.18	31.12.17
Changes in fair value of hedging instruments <sup>1</sup>	(38)	(22)	(10)
Changes in fair value of hedged items <sup>1</sup>	32	16	3
<b>Net gains / (losses) related to hedge ineffectiveness recognized in Other net income from financial instruments measured at fair value through profit or loss</b>	<b>(6)</b>	<b>(6)</b>	<b>(7)</b>

<sup>1</sup> For the year ended 31 December 2017, the amounts included offsetting accrued interest, which had no effect on net gains / (losses) related to hedge ineffectiveness.

## Note 28 Hedge accounting (continued)

### Cash flow hedges of forecast transactions

UBS AG is exposed to variability in future interest cash flows on non-trading financial assets and liabilities that bear interest at variable rates or are expected to be refinanced or reinvested in the future, due to movements in future market rates. The amounts and timing of future cash flows, representing both principal and interest flows, are projected on the basis of contractual terms and other relevant factors, including estimates of prepayments and defaults. The aggregate principal balances and interest cash flows across all portfolios over time form the basis for identifying the non-trading interest rate risk of UBS AG, which is hedged with interest rate swaps, the maximum maturity of which is 10 years.

UBS AG of forecast cash flows and interest rate swaps are designated in cash flow hedge relationships. The notional of the designated hedging instrument matches the notional of the hedged item for newly transacted swaps. For swaps that are re-designated, the ratio of the designation is determined based on the swap sensitivity.

The hedging strategy involves designation of each interest rate swap in a separate hedge relationship against a group of hedged items that share the same risk. The hedged items giving rise to the hedged cash flows are fungible and could be substituted for each other over the lifetime of the hedge. Cash flow forecasts and risk exposures are monitored and adjusted on an ongoing basis, and consequently hedging instruments are added or taken out of the program accordingly.

The hedged risk is determined as the variability of future cash flows arising solely from changes in the designated benchmark interest rate, i.e., overnight index swap rate / one-month or three-month LIBOR. Hedge effectiveness is assessed by comparing changes in the fair value of the hedged cash flows attributable to changes in the designated benchmark interest rate with the changes in the fair value of the interest rate swaps.

Hedge ineffectiveness can arise from differences in the reference index of the hedging instruments and hedged items, or from inception of the hedge relationship after the trade date of the hedging derivative.

### Hedging instruments

USD million	31.12.19	31.12.18
<b>Hedging instruments: interest rate swaps</b>		
Nominal amount	69,443	70,149
Carrying amount		
Derivative financial assets	16	24
Derivative financial liabilities		1

### Hedge ineffectiveness

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
Changes in fair value of hedging instruments <sup>1</sup>	1,639	97	
Changes in fair value of hedged items <sup>1</sup>	(1,571)	(73)	
<b>Effective portion of changes in fair value of hedging instruments recognized as Other comprehensive income</b>	<b>1,571</b>	<b>(42)</b>	<b>45</b>
<b>Ineffectiveness recognized as Other net income from financial instruments measured at fair value through profit or loss</b>	<b>68</b>	<b>25</b>	<b>8</b>

<sup>1</sup> This Note addresses the requirement of IFRS 7 effective from 1 January 2018, for which data is provided prospectively.

### Other comprehensive income recognized directly in equity related to cash flow hedges

USD million	2019	2018	2017
<b>Balance at the beginning of the year</b>	<b>109</b>	<b>360</b>	<b>955</b>
Effective portion of changes in fair value of hedging instruments recognized in OCI	1,571	(42)	45
Amount reclassified to Net interest income when the hedged item affected profit / (loss), for the year ended 31 December	(175)	(294)	(843)
of which: reclassified to interest income on amortized-cost instruments <sup>1</sup>	(175)	(293)	
of which: reclassified to interest income on FVTPL instruments <sup>1</sup>	0	(1)	
Translation effects recognized directly in retained earnings	9	18	39
Income tax related to cash flow hedges	(253)	67	163
<b>Balance at the end of the year</b>	<b>1,260</b>	<b>109</b>	<b>360</b>
of which: related to hedging relationships for which hedge accounting continues to be applied <sup>1,2</sup>	1,596	74	
of which: related to hedging relationships for which hedge accounting is no longer applied <sup>1,2</sup>	(43)	73	

<sup>1</sup> This Note addresses the requirement of IFRS 7 effective from 1 January 2018, for which data is provided prospectively. <sup>2</sup> Amounts are disclosed on a pre-tax basis.

## Note 28 Hedge accounting (continued)

### Structural foreign exchange risk hedge accounting

#### Hedges of net investments in foreign operations

UBS AG applies hedge accounting for certain net investments in foreign operations. For this purpose, foreign exchange (FX) derivatives, mainly FX forwards and FX swaps, as well as non-derivative financial assets or liabilities are used and designated as hedging instruments. The notional of the designated hedging instrument matches the notional of the hedged item.

Based on UBS AG's risk management strategy, the hedges are adjusted on at least a monthly basis to reflect the changes in the hedged position.

The hedged risk is determined as the change in the carrying amount of net assets of foreign operations arising solely from changes in spot foreign exchange rates. Consequently, UBS AG only designates the spot element of the FX forwards as hedging instruments. Changes in the fair value of the hedging instruments attributable to changes in forward points and the effect of discounting are not part of a hedge accounting designation. These amounts, therefore, do not form part of the effectiveness assessment and are recognized directly in profit or loss.

The effective portion of gains and losses of these FX swaps, i.e., the spot element, is transferred directly to OCI to offset foreign currency translation (FCT) gains and losses on the net investments in foreign branches and subsidiaries. As such, these FX swaps hedge the structural FX exposure, resulting in the accumulation of FCT movements at the level of individual foreign branches and subsidiaries, which make up the total FCT OCI of UBS AG.

When UBS AG designates as hedging instruments certain non-derivative foreign currency financial assets and liabilities of foreign branches or subsidiaries, the FX translation difference recorded in FCT OCI of the non-derivative hedging instrument of one foreign entity offsets the structural FX exposure of another foreign entity. Therefore, the aggregated FCT OCI of UBS AG is unchanged from this hedge designation.

Due to the fact that only the spot element of hedging instruments is designated in hedging relationships, ineffectiveness is unlikely unless the hedged net assets fall below the designated hedged amount. The exceptions are hedges where the hedging currency is not the same as the currency of the foreign operation, where the currency basis may cause ineffectiveness.

#### Hedging instruments

<i>USD million</i>	31.12.19	31.12.18
<b>Hedging instruments: derivative financial instruments</b>		
Nominal amount	11,875	11,432
Carrying amount		
Derivative financial assets	9	56
Derivative financial liabilities	170	45
<b>Hedging instruments: non-derivative foreign currency assets and liabilities</b>		
Nominal amount	217	229
Carrying amount		
Receivables from securities financing transactions	109	115
Payables from securities financing transactions	109	115

#### Hedge ineffectiveness

	For the year ended	
<i>USD million</i>	31.12.19	31.12.18
Changes in fair value of hedging instruments	(153)	199
Changes in fair value of hedged items	144	(199)
<b>Effective portion of changes in fair value of hedging instruments recognized in Foreign currency translation OCI</b>	<b>(144)</b>	<b>181</b>
<b>Ineffectiveness recognized as Other net income from financial instruments measured at fair value through profit or loss</b>	<b>(8)</b>	<b>18</b>

## Note 28 Hedge accounting (continued)

### Foreign currency translation reserve

USD million	31.12.19	31.12.18	31.12.17
<b>Foreign currency translation reserve</b>	<b>4,032</b>	<b>3,940</b>	<b>4,455</b>
<i>of which: effective portion of changes in fair value of hedging instruments related to investment in subsidiaries<sup>1</sup></i>	<i>634</i>	<i>770</i>	
<i>of which: for which hedge accounting continues to be applied<sup>1</sup></i>	<i>377</i>	<i>515</i>	
<i>of which: for which hedge accounting is no longer applied<sup>1</sup></i>	<i>257</i>	<i>255</i>	
<b>Effective portion of changes in fair value of hedging instruments reclassified to Other income upon disposal of investment for the year ended<sup>1</sup></b>	<b>(14)</b>	<b>2</b>	

<sup>1</sup> This Note addresses the requirement of IFRS 7 effective from 1 January 2018, for which data is provided prospectively.

### Undiscounted cash flows

The table below provides undiscounted cash flow information for derivative instruments designated in hedge accounting relationships.

#### Derivatives designated in hedge accounting relationships (undiscounted cash flows)

		2019					
USD billion	On demand	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
<b>Interest rate swaps<sup>1</sup></b>							
<b>FX swaps / forwards</b>							
Cash inflows		6	5	0			11
Cash outflows		6	5	0			11
<b>Net cash flows</b>		<b>0</b>	<b>0</b>	<b>0</b>			<b>0</b>

  

		2018					
USD billion	On demand	Due within 1 month	Due between 1 and 3 months	Due between 3 and 12 months	Due between 1 and 5 years	Due after 5 years	Total
<b>Interest rate swaps<sup>1</sup></b>							
<b>FX swaps / forwards</b>							
Cash inflows		9	2				11
Cash outflows		9	2				11
<b>Net cash flows</b>		<b>0</b>	<b>0</b>				<b>0</b>

<sup>1</sup> Undiscounted cash inflows and cash outflows of interest rate swaps were not material as the majority of interest rate swaps designated in hedge accounting relationships are legally settled on a daily basis.

### Interest rate benchmark reform

As of 1 October 2019, UBS AG early adopted the amendments to IAS 39 and IFRS 7 related to interest rate benchmark reform published by the IASB in September 2019.

The significant interest rate benchmarks to which UBS AG's hedging relationships are exposed are stated in the "Interest rate risk hedge accounting" section of this Note.

UBS AG established a cross-divisional, cross-regional governance structure and change program to address the scale and complexity of the transition to alternative reference rates (ARRs).

As all fair value hedges are directly affected by the interest rate benchmark reform, the relief is applied to all of the disclosed fair value hedges in this Note.

Hedges of net investments in foreign operations are not affected by the amendments.

UBS AG also applies the amendments to those cash flow hedge relationships where the hedged risk is LIBOR. The following table provides details on the nominal amount and carrying amount of the hedging instruments in those hedging relationships.

#### Cash flow hedges of forecast transactions referencing LIBOR

USD million	31.12.19
<b>Hedging instruments: interest rate swaps</b>	
Nominal amount	16,462
Carrying amount	
Derivative financial assets	0
Derivative financial liabilities	0

## Note 29 Pension and other post-employment benefit plans

The table below provides a breakdown of expenses related to pension and other post-employment benefit plans recognized in the income statement within *Personnel expenses*.

### Income statement – expenses related to pension and other post-employment benefit plans

USD million	31.12.19	31.12.18	31.12.17
Net periodic expenses for defined benefit plans	291	140	365
of which: related to major pension plans <sup>1</sup>	271	141	354
of which: Swiss plan <sup>2</sup>	248	108	307
of which: UK plan	3	11	15
of which: US and German plans	21	22	31
of which: related to post-employment medical insurance plans <sup>3</sup>	2	(11)	3
of which: related to remaining plans and other expenses <sup>4</sup>	17	10	8
Expenses for defined contribution plans <sup>5</sup>	278	223	236
of which: UK plans	34	35	65
of which: US plan	173	127	110
of which: remaining plans	71	61	61
<b>Total pension and other post-employment benefit plan expenses<sup>6</sup></b>	<b>569</b>	<b>363</b>	<b>601</b>

<sup>1</sup> Refer to Note 29a for more information. <sup>2</sup> Changes to the Swiss pension plan in 2018 resulted in a pre-tax gain of USD 132 million related to past service. Refer to Note 29a for more information on these changes. <sup>3</sup> Refer to Note 29b for more information. <sup>4</sup> Other expenses include differences between actual and estimated performance award accruals. <sup>5</sup> Refer to Note 29c for more information. <sup>6</sup> Refer to Note 6.

The table below provides a breakdown of amounts recognized in *Other comprehensive income* for defined benefit plans.

### Other comprehensive income – gains / (losses) on defined benefit plans

USD million	31.12.19	31.12.18	31.12.17
Major pension plans <sup>1</sup>	(128)	(79)	276
of which: Swiss plan	(15)	(201)	(56)
of which: UK plan	(78)	130	304
of which: US and German plans	(35)	(8)	28
Post-employment medical insurance plans <sup>2</sup>	(3)	7	1
Remaining plans	1	3	31
Gains / (losses) recognized in other comprehensive income, before tax	(129)	(70)	308
Tax (expense) / benefit relating to defined benefit plans recognized in other comprehensive income	(41)	245	6
<b>Gains / (losses) recognized in other comprehensive income, net of tax<sup>3</sup></b>	<b>(170)</b>	<b>175</b>	<b>314</b>

<sup>1</sup> Refer to Note 29a for more information. <sup>2</sup> Refer to Note 29b for more information. <sup>3</sup> Refer to the "Statement of comprehensive income."

## Note 29 Pension and other post-employment benefit plans (continued)

UBS AG recognizes assets and liabilities with respect to defined benefit plans within *Other non-financial assets* and *Other non-financial liabilities*.

As of 31 December 2019 and 31 December 2018, the Swiss pension plan was in a surplus situation. However, a surplus is

only recognized on the balance sheet to the extent that it does not exceed the estimated future economic benefit. Since the estimated future economic benefit was zero as of 31 December 2019 and 31 December 2018, no net defined benefit pension asset was recognized on the balance sheet.

The table below provides a breakdown of the assets and liabilities recognized on the balance sheet within *Other non-financial assets* and *Other non-financial liabilities* related to defined benefit plans.

### Balance sheet – net defined benefit pension and post-employment asset

USD million	31.12.19	31.12.18
Major pension plans <sup>1</sup>	9	0
<i>of which: Swiss plan</i>	0	0
<i>of which: UK plan</i>	4	0
<i>of which: US and German plans</i>	5	0
<b>Total net defined benefit pension and post-employment asset<sup>2</sup></b>	<b>9</b>	<b>0</b>

<sup>1</sup> Refer to Note 29a for more information. <sup>2</sup> Refer to Note 17.

### Balance sheet – net defined benefit pension and post-employment liability

USD million	31.12.19	31.12.18
Major pension plans <sup>1</sup>	527	671
<i>of which: Swiss plan</i>	0	0
<i>of which: UK plan</i>	0	160
<i>of which: US and German plans<sup>2</sup></i>	527	511
Post-employment medical insurance plans <sup>3</sup>	62	62
Remaining plans	40	40
<b>Total net defined benefit pension and post-employment liability<sup>4</sup></b>	<b>629</b>	<b>773</b>

<sup>1</sup> Refer to Note 29a for more information. <sup>2</sup> Of the total liability recognized as of 31 December 2019, USD 111 million related to US plans and USD 416 million related to German plans (31 December 2018: USD 137 million and USD 374 million, respectively). <sup>3</sup> Refer to Note 29b for more information. <sup>4</sup> Refer to Note 22.

## Note 29 Pension and other post-employment benefit plans (continued)

### a) Defined benefit pension plans

UBS AG has established defined benefit pension plans for its employees in various jurisdictions in accordance with local regulations and practices. The major plans are located in Switzerland, the UK, the US and Germany. The plans' benefits include retirement, disability and survivor benefits. The level of benefits provided depends on the specific plan rules and the level of employee compensation.

The overall investment policy and strategy for UBS AG's defined benefit pension plans is guided by the objective of achieving an investment return that, together with contributions, is intended to ensure that there will be sufficient assets to pay pension benefits as they fall due, while also mitigating various risks. For the plans with assets, i.e., funded plans, the investment strategies are managed under local laws and regulations in each jurisdiction. The asset allocation is determined by the governance body with reference to the current and expected economic and market conditions and in consideration of specific asset class risk in the risk profile. Within this framework, UBS AG ensures that the fiduciaries consider how the asset investment strategy correlates with the maturity profile of the plan liabilities and the respective potential effect on the funded status of the plans, including potential short-term liquidity requirements.

The defined benefit obligations (DBOs) for all of UBS AG's defined benefit pension plans are directly affected by changes in yields of high-quality corporate bonds quoted in an active market in the currency of the respective pension plan, as the applicable discount rate used to determine the DBO is based on these yields. For the funded plans, the pension assets are invested in a diversified portfolio of financial assets, including real estate, bonds, investment funds and cash, across geographic regions, to achieve a balance of risk and return. Under IFRS, volatility arises in each pension plan's net asset / liability position because the fair value of the plan's financial assets is not fully correlated to movements in the value of the plan's DBO. Specific asset-liability matching strategies for each pension plan are independently determined by the responsible governance body. The net asset / liability volatility for each plan is dependent on the specific financial assets chosen by each plan's governance body. For certain pension plans, a liability-driven investment approach is applied to a portion of the plan assets to reduce potential volatility. UBS AG's general principle is to ensure that the plans are adequately funded on the basis of actuarial valuations. Local pension regulations are the primary drivers for determining when contributions are required.

## Note 29 Pension and other post-employment benefit plans (continued)

### Swiss pension plan

The Swiss pension plan covers employees of UBS AG and employees of companies having close economic or financial ties with UBS AG, and exceeds the minimum benefit requirements under Swiss pension law.

In 2017, a significant number of employees transferred from UBS AG to UBS Business Solutions AG, which is a directly held subsidiary of UBS Group AG. There continues to be one pooled pension plan in Switzerland covering the employees of UBS AG and those transferred to UBS Business Solutions AG. UBS AG and UBS Business Solutions AG both are legal sponsors of UBS's Swiss pension plan. Since the date of the employee transfer, UBS AG and UBS Business Solutions AG apply proportionate defined benefit accounting, i.e., the net pension cost, any OCI impacts from remeasurements and the net pension asset / liability of the Swiss pension plan are allocated proportionally between UBS AG and UBS Business Solutions AG based on the aggregated net pension cost and defined benefit obligations related to their employees.

Contributions to the pension plan are paid by both the employer and the employees. The Swiss pension plan allows employees to choose the level of contributions paid by them. Employee contributions are calculated as a percentage of the contributory salary and are deducted monthly. The percentages deducted from salary depend on age and choice of contribution category and vary between 2.5% and 13.5% of contributory base salary and between 0% and 9% of contributory variable compensation. Depending on the age of the employee, UBS AG pays a contribution that ranges between 6.5% and 27.5% of contributory base salary and between 2.8% and 9% of contributory variable compensation. UBS AG also pays risk contributions that are used to finance benefits paid out in the event of death and disability.

The plan benefits include retirement, disability and survivor benefits. The pension plan offers to members at the normal retirement age of 65 a choice between a lifetime pension with or without full restitution and a partial or full lump sum payment. Participants can choose to continue employment and correspondingly remain active members in the pension plan until

the age of 70 at the latest or draw early retirement benefits starting from the age of 58. Employees have the opportunity to make additional purchases of benefits to fund early retirement benefits (Plan 58+).

The pension amount payable is a result of the conversion rate applied on the accumulated balance of the individual plan participant's pension account at the retirement date. The accumulated balance of each individual plan participant's pension account is based on credited vested benefits transferred from previous employers, purchases of benefits, and the employee and employer contributions that have been made to the pension account of each individual plan participant, as well as the interest accrued on the accumulated balance. The interest rate accrued is defined annually by the Pension Foundation Board.

Although the Swiss pension plan is based on a defined contribution promise under Swiss pension law, it is accounted for as a defined benefit plan under IFRS, primarily because of the obligation to accrue interest on the pension accounts and the payment of lifetime pension benefits.

The Swiss pension plan is governed by a Pension Foundation Board. The responsibilities of this board are defined by Swiss pension law and by the plan rules. An actuarial valuation under Swiss pension law is performed regularly. According to Swiss pension law, a temporary limited underfunding is permitted. However, should an underfunded situation occur, the Pension Foundation Board is required to take the necessary measures such that full funding can be expected to be restored within a maximum period of 10 years. If a Swiss pension plan were to become significantly underfunded on a Swiss pension law basis, additional employer and employee contributions could be required. In this situation, the risk is shared between employer and employees, and the employer is not legally obliged to cover more than 50% of the additional contributions required. As of 31 December 2019, the Swiss pension plan had a technical funding ratio under Swiss pension law of 127.1% (31 December 2018: 124.2%).



## Note 29 Pension and other post-employment benefit plans (continued)

The investment strategy of the Swiss plan is implemented on the basis of a multi-level investment and risk management process and complies with Swiss pension law, including the rules and regulations relating to diversification of plan assets. These rules, among others, specify restrictions on the composition of plan assets; e.g., there is a limit of 50% for investments in equities. The investment strategy of the Swiss plan is aligned with the defined risk budget set out by the Pension Foundation Board. The risk budget is determined on the basis of regularly performed asset and liability management analyses. In order to implement the risk budget, the Swiss plan may use direct investments, investment funds and derivatives. To mitigate foreign currency risk, a specific currency hedging strategy is in place. The Pension Foundation Board strives for a medium- and long-term balance between assets and liabilities.

As of 31 December 2019, the Swiss pension plan was in a surplus situation on an IFRS measurement basis, as the fair value of plan assets exceeded the DBO by USD 2,099 million (31 December 2018: surplus of USD 1,998 million). However, a surplus is only recognized on the balance sheet to the extent that it does not exceed the estimated future economic benefit, which equals the difference between the present value of the estimated future service cost and the present value of the estimated future employer contributions. The maximum future economic benefit is highly variable based on changes in the discount rate. As of both 31 December 2019 and 31 December 2018, the estimated future economic benefit was zero and hence no net defined benefit asset was recognized on the balance sheet. As of 31 December 2019, the difference between the pension plan surplus and the estimated future economic benefit, i.e., the asset ceiling effect, was USD 2,099 million (31 December 2018: USD 1,998 million).

In the fourth quarter of 2019, UBS AG established an enhanced methodology for measuring the estimated future economic benefits available under the Swiss pension plan, which limits the amount of any surplus recognized in accordance with IFRS, i.e., the asset ceiling calculation. Under the revised approach, which will come into effect in the first quarter of 2020, future service cost is measured individually for each future year, considering the individually applicable discount rate. In addition, an enhanced discount curve methodology will be adopted, utilizing the FINMA-published ultimate forward rate, which represents the average long-term historical real rate plus expected inflation over the long-dated periods where discount rates are unobservable. Application of this approach is expected to reduce the sensitivity in the quarterly asset ceiling calculation to short-term interest rates, resulting in lower variability in the calculation and accordingly the resulting recognition / derecognition of the Swiss pension plan surplus in *Other comprehensive income*. No changes have been made to the methodology for measuring the defined benefit obligation.

### *Changes to the Swiss pension plan*

As a result of the effects of continuing low and in some cases negative interest rates, diminished investment return

expectations and increasing life expectancy, the pension fund of UBS AG in Switzerland and UBS AG agreed to measures that have taken effect from the start of 2019 to support the long-term financial stability of the Swiss pension fund. As a result, the conversion rate was lowered, the regular retirement age was increased from 64 to 65, employee contributions were increased from a range of 1% and 13.5% of the contributory base salary to a range of 2.5% and 13.5% of the contributory base salary, and savings contributions start from age 20 instead of the previous starting age of 25. Pensions already in payment on 1 January 2019 were not affected by these measures.

To mitigate the effects of the reduction of the conversion rate on future pensions, UBS AG will make a payment to employees' retirement assets in the Swiss pension fund of up to USD 455 million in three installments in 2020, 2021 and 2022.

In accordance with IFRS, these measures led to a reduction in the pension obligation recognized by UBS AG, resulting in a pre-tax gain of USD 132 million in 2018. In addition, 2018 service costs were lower by USD 34 million due to the decrease in benefits. These effects were recognized as a reduction in *Personnel expenses* within the income statement across the business divisions and Corporate Center, with a corresponding effect in *Other comprehensive income*, as the Swiss pension plan was in a surplus situation that could not be recognized due to the IFRS asset ceiling restriction. If the Swiss pension plan remains in an asset ceiling position, the three payments in 2020, 2021 and 2022, adjusted for expected forfeitures, are expected to reduce total equity by USD 391 million, with no effect on the income statement.

The first installment and the regular employer contributions expected to be made to the Swiss pension plan in 2020 are estimated to be USD 143 million and USD 278 million, respectively.

### *UK pension plan*

The UK plan is a career-average revalued earnings scheme, and benefits increase automatically based on UK price inflation. The normal retirement age for participants in the UK plan is 60. Since 2000, the UK plan has been closed to new entrants and, since 2013, pension plan participants are no longer accruing benefits for current or future service. Employees instead participate in the UK defined contribution plan.

The governance responsibility for the UK plan lies jointly with the Pension Trustee Board, which is required under local pension laws, and UBS AG. The employer contributions to the pension fund reflect agreed-upon deficit funding contributions, which are determined on the basis of the most recent actuarial valuation using assumptions agreed by the Pension Trustee Board and UBS AG. In the event of underfunding, UBS AG and the Pension Trustee Board must agree on a deficit recovery plan within statutory deadlines. In 2019, UBS AG made deficit funding contributions of USD 242 million to the UK plan. In 2018, UBS AG did not make any deficit funding contributions.

## Note 29 Pension and other post-employment benefit plans (continued)

The plan assets are invested in a diversified portfolio of financial assets. A liability-driven investment approach is applied, as a portion of the plan assets is invested in inflation-indexed bonds that provide a partial hedge against price inflation. If price inflation increases, the DBO is likely to increase by more than the change in the fair value of plan assets, which would result in an increase in the net defined benefit liability. Plan rules and local pension legislation cap the level of inflationary increase that can be applied to plan benefits.

As the plan is obligated to provide guaranteed lifetime pension benefits to plan participants upon retirement, increases in life expectancy will result in an increase in the plan's liabilities. The sensitivity to changes in life expectancy is particularly high in the UK plan as the pension benefits are indexed to price inflation.

As of 31 December 2019, the UK plan was in a surplus situation on an IFRS measurement basis as the fair value of plan assets exceeded the DBO by USD 4 million (31 December 2018: deficit of USD 160 million).

Total contributions expected to be made to the UK defined benefit pension plan in 2020 are estimated at USD 13 million, subject to regular funding reviews during the year.

In addition, UBS AG and the Pension Trustee Board have entered into an arrangement whereby a collateral pool was established to provide security for the pension fund. The value of the collateral pool as of 31 December 2019 was USD 364 million and includes corporate bonds and government-related debt instruments. The Pension Trustee Board and UBS AG may agree adjustments to the collateral pool in the future. The arrangement provides the Pension Trustee Board dedicated access to a pool of assets in the event of UBS AG's insolvency or not paying a required deficit funding contribution.

### US pension plans

There are two distinct major defined benefit pension plans in the US, both with a normal retirement age of 65. Since 1998 and 2001, respectively, the plans have been closed to new entrants, who instead can participate in defined contribution plans.

One of the major defined benefit pension plans is a contribution-based plan in which each participant accrues a percentage of salary in a pension account. The pension account is credited annually with interest based on a rate that is linked to the average yield on one-year US government bonds. For the other major defined benefit pension plan, retirement benefits accrue based on the career-average earnings of each individual plan participant. Former employees with vested benefits have the option to take a lump sum payment or a lifetime annuity commencing early or at retirement age.

As required under local state pension laws, both plans have

fiduciaries who, together with UBS AG, are responsible for the governance of the plans. UBS AG regularly reviews the contribution strategy for these plans, considering local statutory funding rules and the cost of any premiums that must be paid to the Pension Benefit Guaranty Corporation for having an underfunded plan. In 2019, the contributions made by UBS AG were USD 29 million (2018: USD 42 million).

The plan assets for both plans are invested in a diversified portfolio of financial assets. Each pension plan's fiduciaries are responsible for the investment decisions with respect to the plan assets. Both US plans apply a liability-driven investment approach to support the volatility management in the net asset / liability position. Derivative instruments may be employed to manage volatility.

The employer contributions expected to be made to the US defined benefit pension plans in 2020 are estimated at USD 9 million.

### German pension plans

There are two different defined benefit pension plans in Germany, and both are contribution-based plans. No plan assets are set aside to fund these plans, and benefits are paid directly by UBS AG. The normal retirement age for the participants in the German plans is 65. Within the larger of the two plans, each participant accrues a percentage of salary in a pension account. The accumulated account balance of the plan participant is credited on an annual basis with guaranteed interest at a rate of 5%. In the other plan, amounts are accrued annually based on employee elections related to variable compensation. For this plan, the accumulated account balance is credited on an annual basis with a guaranteed interest rate of 6% for amounts accrued before 2010, of 4% for amounts accrued from 2010 to 2017 and of 0.9% for amounts accrued after 2017. Both plans are regulated under German pension law, under which the responsibility to pay pension benefits when they are due rests entirely with UBS AG. For these plans, a portion of the pension payments is directly increased in line with price inflation.

The benefits expected to be paid by UBS AG to the participants of the German plans in 2020 are estimated at USD 10 million.

### Financial information by plan

The tables on the following pages provide an analysis of the movement in the net asset / liability recognized on the balance sheet for defined benefit pension plans, as well as an analysis of amounts recognized in net profit and in *Other comprehensive income*.

## Note 29 Pension and other post-employment benefit plans (continued)

### Defined benefit pension plans

USD million	Swiss plan		UK plan		US and German plans		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
Defined benefit obligation at the beginning of the year	13,774	14,398	3,192	3,744	1,679	1,816	18,645	19,957
Current service cost	243	251	0	0	6	7	249	258
Interest expense	122	93	92	93	59	55	273	241
Plan participant contributions	149	137	0	0	0	0	149	137
Remeasurements	(61)	(263)	361	(266)	185	(69)	485	(598)
of which: actuarial (gains) / losses due to changes in demographic assumptions	(125)	0	(26)	(18)	3	(5)	(148)	(23)
of which: actuarial (gains) / losses due to changes in financial assumptions	1,006	(391)	421	(257)	179	(69)	1,605	(716)
of which: experience (gains) / losses <sup>1,2</sup>	(942)	128	(34)	8	4	5	(972)	142
Past service cost related to plan amendments	0	(132)	0	4	0	0	0	(128)
Curtailments	0	(17)	0	0	0	0	0	(17)
Benefit payments	(624)	(586)	(135)	(202)	(102)	(112)	(860)	(900)
Foreign currency translation	206	(108)	144	(181)	(8)	(18)	342	(307)
<b>Defined benefit obligation at the end of the year</b>	<b>13,809</b>	<b>13,774</b>	<b>3,654</b>	<b>3,192</b>	<b>1,820</b>	<b>1,679</b>	<b>19,283</b>	<b>18,645</b>
of which: amounts owed to active members	7,073	6,380	164	146	235	226	7,472	6,751
of which: amounts owed to deferred members	0	0	1,559	1,434	675	606	2,233	2,040
of which: amounts owed to retirees	6,735	7,394	1,931	1,612	911	847	9,577	9,854
Fair value of plan assets at the beginning of the year	15,772	16,388	3,032	3,469	1,168	1,265	19,972	21,122
Return on plan assets excluding amounts included in interest income <sup>2</sup>	(30)	(434)	284	(136)	150	(77)	403	(647)
Interest income	142	109	89	86	47	44	278	238
Employer contributions	271	308	242	0	38	51	550	360
Plan participant contributions	149	137	0	0	0	0	149	137
Benefit payments	(624)	(586)	(135)	(202)	(102)	(112)	(860)	(900)
Administration expenses, taxes and premiums paid	(7)	(7)	0	0	(2)	(3)	(9)	(10)
Foreign currency translation	235	(144)	146	(185)	0	0	381	(328)
<b>Fair value of plan assets at the end of the year</b>	<b>15,908</b>	<b>15,772</b>	<b>3,658</b>	<b>3,032</b>	<b>1,299</b>	<b>1,168</b>	<b>20,864</b>	<b>19,972</b>
Asset ceiling effect at the beginning of the year	1,998	1,990	0	0	0	0	1,998	1,990
Interest expense on asset ceiling effect	18	14	0	0	0	0	18	14
Asset ceiling effect excluding interest expense and foreign currency translation on asset ceiling effect	46	30	0	0	0	0	46	30
Foreign currency translation	36	(36)	0	0	0	0	36	(36)
<b>Asset ceiling effect at the end of the year</b>	<b>2,099</b>	<b>1,998</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,099</b>	<b>1,998</b>
<b>Net defined benefit asset / (liability)</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>(160)</b>	<b>(521)</b>	<b>(511)</b>	<b>(518)</b>	<b>(671)</b>

### Movement in the net asset / (liability) recognized on the balance sheet

<b>Net asset / (liability) recognized on the balance sheet at the beginning of the year</b>	<b>0</b>	<b>0</b>	<b>(160)</b>	<b>(275)</b>	<b>(511)</b>	<b>(550)</b>	<b>(671)</b>	<b>(825)</b>
Net periodic expenses recognized in net profit	(248)	(108)	(3)	(11)	(21)	(22)	(271)	(141)
Gains / (losses) recognized in other comprehensive income	(15)	(201)	(78)	130	(35)	(8)	(128)	(79)
Employer contributions	271	308	242	0	38	51	550	360
Foreign currency translation	(8)	0	2	(4)	8	18	2	14
<b>Net asset / (liability) recognized on the balance sheet at the end of the year</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>(160)</b>	<b>(521)</b>	<b>(511)</b>	<b>(518)</b>	<b>(671)</b>

### Funded and unfunded plans

Defined benefit obligation from funded plans	13,809	13,774	3,654	3,192	1,319	1,219	18,782	18,184
Defined benefit obligation from unfunded plans	0	0	0	0	501	460	501	460
Plan assets	15,908	15,772	3,658	3,032	1,299	1,168	20,864	19,972
<b>Surplus / (deficit)</b>	<b>2,099</b>	<b>1,998</b>	<b>4</b>	<b>(160)</b>	<b>(521)</b>	<b>(511)</b>	<b>1,582</b>	<b>1,327</b>
<b>Asset ceiling effect</b>	<b>2,099</b>	<b>1,998</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,099</b>	<b>1,998</b>
<b>Net defined benefit asset / (liability)</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>(160)</b>	<b>(521)</b>	<b>(511)</b>	<b>(518)</b>	<b>(671)</b>

<sup>1</sup> Experience (gains) / losses are a component of actuarial remeasurements of the defined benefit obligation that reflect the effects of differences between the previous actuarial assumptions and what has actually occurred. <sup>2</sup> Includes the effect from employees transferring between UBS AG and UBS Business Solutions during the period.

## Note 29 Pension and other post-employment benefit plans (continued)

### Analysis of amounts recognized in net profit

<i>USD million</i>	Swiss plan		UK plan		US and German plans		Total	
For the year ended	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Current service cost	243	251	0	0	6	7	249	258
Interest expense related to defined benefit obligation	122	93	92	93	59	55	273	241
Interest income related to plan assets	(142)	(109)	(89)	(86)	(47)	(44)	(278)	(238)
Interest expense on asset ceiling effect	18	14	0	0	0	0	18	14
Administration expenses, taxes and premiums paid	7	7	0	0	2	3	9	10
Past service cost related to plan amendments	0	(132)	0	4	0	0	0	(128)
Curtailments	0	(17)	0	0	0	0	0	(17)
<b>Net periodic expenses recognized in net profit</b>	<b>248</b>	<b>108</b>	<b>3</b>	<b>11</b>	<b>21</b>	<b>22</b>	<b>271</b>	<b>141</b>

### Analysis of amounts recognized in other comprehensive income (OCI)

<i>USD million</i>	Swiss plan		UK plan		US and German plans		Total	
For the year ended	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Remeasurement of defined benefit obligation	61	263	(361)	266	(185)	69	(485)	598
Return on plan assets excluding amounts included in interest income	(30)	(434)	284	(136)	150	(77)	403	(647)
Asset ceiling effect excluding interest expense and foreign currency translation on asset ceiling effect	(46)	(30)	0	0	0	0	(46)	(30)
<b>Total gains / (losses) recognized in other comprehensive income, before tax</b>	<b>(15)</b>	<b>(201)</b>	<b>(78)</b>	<b>130</b>	<b>(35)</b>	<b>(8)</b>	<b>(128)</b>	<b>(79)</b>

The table below provides information about the duration of the DBO and the timing for expected benefit payments.

	Swiss plan		UK plan		US and German plans <sup>1</sup>	
	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
<b>Duration of the defined benefit obligation (in years)</b>	<b>15.2</b>	<b>14.5</b>	<b>20.2</b>	<b>19.5</b>	<b>10.1</b>	<b>9.8</b>
<b>Maturity analysis of benefits expected to be paid</b>						
<i>USD million</i>						
Benefits expected to be paid within 12 months	687	704	93	82	121	108
Benefits expected to be paid between 1 and 3 years	1,383	1,439	209	187	228	216
Benefits expected to be paid between 3 and 6 years	2,048	2,170	384	345	346	336
Benefits expected to be paid between 6 and 11 years	3,232	3,446	748	701	548	566
Benefits expected to be paid between 11 and 16 years	2,899	3,140	807	770	455	494
Benefits expected to be paid in more than 16 years	9,136	10,253	3,913	3,927	721	798

<sup>1</sup> The duration of the defined benefit obligation represents a weighted average across US and German plans.

## Note 29 Pension and other post-employment benefit plans (continued)

### Actuarial assumptions

The measurement of each pension plan's DBO considers different actuarial assumptions. Changes in those assumptions lead to volatility in the DBO. The following significant actuarial assumptions are applied:

- Discount rate: the discount rate is based on the yield of high-quality corporate bonds quoted in an active market in the currency of the respective pension plan. Consequently, a decrease in the yield of high-quality corporate bonds increases the DBO. Conversely, an increase in the yield of high-quality corporate bonds decreases the DBO.
- Rate of salary increase: an increase in the salary of plan participants generally increases the DBO, specifically for the Swiss and German plans. For the UK plan, as the plan is closed for future service, UBS AG employees no longer accrue future service benefits and thus salary increases have no effect on the DBO. For the US plans, only a small percentage of the total population continues to accrue benefits for future service and therefore the effect of a salary increase on the DBO is minimal.
- Rate of pension increase: for the Swiss plan, there is no automatic indexing of pensions. Any increase would be decided by the Pension Foundation Board. For the US plans, there is also no automatic indexing of pensions. For the UK plan, pensions are automatically indexed to price inflation as per plan rules and local pension legislation. The German plans are also automatically indexed and a portion of the pensions are directly increased by price inflation. An increase in price inflation in the UK or Germany increases the respective plan's DBO.
- Rate of interest credit on retirement savings: the Swiss plan and one of the US plans have retirement saving balances that are increased annually by an interest credit rate. For each of these plans, an increase in the interest credit rate increases the plan's DBO.
- Life expectancy: most of UBS AG's defined benefit pension plans are obligated to provide guaranteed lifetime pension benefits. The DBO for all plans is calculated using an underlying best estimate of the life expectancy of plan participants. An increase in the life expectancy of plan participants increases the plan's DBO.

The actuarial assumptions used for the pension plans are based on the economic conditions prevailing in the jurisdiction in which they are offered.

→ Refer to Note 1a item 7 for a description of the accounting policy for defined benefit pension plans

### Changes in actuarial assumptions

UBS AG regularly reviews the actuarial assumptions used in calculating its DBO to determine their continuing relevance.

#### Swiss pension plan

In 2019, a net gain of USD 61 million was recognized in *Other comprehensive income* (OCI) related to the remeasurement of the DBO. This was primarily due to experience gains of USD 942 million, reflecting differences between the previous actuarial assumptions and what actually occurred, USD 149 million resulting from a decrease in the expected rate of interest credit on retirement savings, USD 65 million due to an update in the disability assumption and USD 60 million due to an update in the turnover assumption. This effect was partly offset by a market-driven decrease in the discount rate, which resulted in an OCI loss of USD 1,156 million.

In 2018, a net gain of USD 263 million was recognized in OCI related to the remeasurement of the DBO. This was primarily due to a market-driven increase in the discount rate, which resulted in an OCI gain of USD 478 million. This effect was partially offset by experience losses of USD 128 million, reflecting differences between the previous actuarial assumptions and what actually occurred, and market-driven changes to the assumed rate of interest credit on retirement savings, which resulted in a loss of USD 77 million. Changes in other assumptions were not significant.

#### UK pension plan

In 2019, a loss of USD 361 million was recognized in OCI related to the remeasurement of the DBO for the UK plan. This was primarily due to a market-driven decrease in the discount rate, which resulted in an OCI loss of USD 552 million. This loss was partially offset by a gain of USD 132 million due to a decrease in the expected rate of pension increase, experience gains of USD 34 million which reflect differences between the previous actuarial assumptions and what actually occurred, and a gain of USD 21 million due to an update of the mortality improvement assumption.

In 2018, a net gain of USD 266 million was recognized in OCI related to the remeasurement of the DBO for the UK plan. This was primarily due to a market-driven increase in the discount rate, which resulted in an OCI gain of USD 219 million, as well as changes in the pension increase assumption, which resulted in an OCI gain of USD 37 million.

#### US and German pension plans

In 2019, a loss of USD 185 million was recognized in OCI related to the remeasurement of the DBO for the US and German plans, compared with a net gain of USD 69 million in 2018. OCI gains and losses in both years were primarily driven by market-driven movements in discount rates.

## Note 29 Pension and other post-employment benefit plans (continued)

The tables below show the significant actuarial assumptions used in calculating the DBO at the end of the year.

### Significant actuarial assumptions

In %	Swiss plan		UK plan		US and German plans <sup>1</sup>	
	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
Discount rate	0.29	0.92	2.07	2.90	2.58	3.69
Rate of salary increase	1.50	1.50	0.00	0.00	2.37	2.81
Rate of pension increase	0.00	0.00	2.92	3.10	1.80	1.50
Rate of interest credit on retirement savings	0.49	0.92	0.00	0.00	2.57	3.70

<sup>1</sup> Represents weighted average assumptions across US and German plans.

### Mortality tables and life expectancies for major plans

Country		Life expectancy at age 65 for a male member currently			
		aged 65		aged 45	
		31.12.19	31.12.18	31.12.19	31.12.18
Switzerland	BVG 2015 G with CMI 2016 projections	21.6	21.6	23.1	23.1
UK	S2PA with CMI 2018 projections <sup>1</sup>	23.3	23.4	24.5	24.6
USA	RP2014 WCHA with MP2019 projection scale <sup>2</sup>	22.8	22.8	24.3	24.3
Germany	Dr. K. Heubeck 2018 G	20.7	20.5	23.5	23.3

Country		Life expectancy at age 65 for a female member currently			
		aged 65		aged 45	
		31.12.19	31.12.18	31.12.19	31.12.18
Switzerland	BVG 2015 G with CMI 2016 projections	23.6	23.5	25.1	25.0
UK	S2PA with CMI 2018 projections <sup>1</sup>	25.1	25.2	26.4	26.5
USA	RP2014 WCHA with MP2019 projection scale <sup>2</sup>	24.4	24.4	25.9	26.0
Germany	Dr. K. Heubeck 2018 G	24.2	24.1	26.4	26.3

<sup>1</sup> In 2018, the mortality table S2PA with CMI 2017 projections was used. <sup>2</sup> In 2018, the mortality table RP2014 WCHA with MP2018 projection scale was used.

### Sensitivity analysis of significant actuarial assumptions

The table below presents a sensitivity analysis for each significant actuarial assumption, showing how the DBO would have been affected by changes in the relevant actuarial assumption that were reasonably possible at the balance sheet date. Unforeseen

circumstances may arise, which could result in variations that are outside the range of alternatives deemed reasonably possible. Caution should be used in extrapolating the sensitivities below on the DBO as the sensitivities may not be linear.

### Sensitivity analysis of significant actuarial assumptions<sup>1</sup>

Increase / (decrease) in defined benefit obligation	Swiss plan		UK plan		US and German plans	
USD million	31.12.19	31.12.18	31.12.19	31.12.18	31.12.19	31.12.18
<b>Discount rate</b>						
Increase by 50 basis points	(853)	(797)	(346)	(292)	(86)	(77)
Decrease by 50 basis points	972	904	395	333	93	84
<b>Rate of salary increase</b>						
Increase by 50 basis points	49	45	– <sup>2</sup>	– <sup>2</sup>	1	1
Decrease by 50 basis points	(47)	(43)	– <sup>2</sup>	– <sup>2</sup>	(1)	(1)
<b>Rate of pension increase</b>						
Increase by 50 basis points	673	643	331	260	7	6
Decrease by 50 basis points	– <sup>3</sup>	– <sup>3</sup>	(299)	(262)	(7)	(6)
<b>Rate of interest credit on retirement savings</b>						
Increase by 50 basis points	107	141	– <sup>4</sup>	– <sup>4</sup>	9	9
Decrease by 50 basis points	(62) <sup>5</sup>	(134)	– <sup>4</sup>	– <sup>4</sup>	(9)	(9)
<b>Life expectancy</b>						
Increase in longevity by one additional year	459	446	154	122	51	42

<sup>1</sup> The sensitivity analyses are based on a change in one assumption while holding all other assumptions constant, so that interdependencies between the assumptions are excluded. <sup>2</sup> As the plan is closed for future service, a change in assumption is not applicable. <sup>3</sup> As the assumed rate of pension increase was 0% as of 31 December 2019 and as of 31 December 2018, a downward change in assumption is not applicable. <sup>4</sup> As the UK plan does not provide interest credits on retirement savings, a change in assumption is not applicable. <sup>5</sup> As of 31 December 2019, 18.5% of retirement savings were subject to a legal minimum rate of 1.00%.



## Note 29 Pension and other post-employment benefit plans (continued)

### Fair value of plan assets

The tables below provide information about the composition and fair value of plan assets of the Swiss, the UK and the US pension plans.

#### Composition and fair value of plan assets

##### Swiss plan

	31.12.19				31.12.18			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
<i>USD million</i>								
<b>Cash and cash equivalents</b>	90	0	90	1	83	0	83	1
<b>Real estate / property</b>								
Domestic	0	1,720	1,720	11	0	1,808	1,808	11
Foreign	0	90	90	1	0	0	0	0
<b>Investment funds</b>								
Equity								
Domestic	395	0	395	2	383	0	383	2
Foreign	3,433	932	4,365	27	3,492	925	4,417	28
Bonds <sup>1</sup>								
Domestic, AAA to BBB–	1,825	0	1,825	11	1,569	0	1,569	10
Foreign, AAA to BBB–	3,315	0	3,315	21	3,781	0	3,781	24
Foreign, below BBB–	563	0	563	4	544	0	544	3
Real estate								
Foreign	0	0	0	0	0	7	7	0
Other	904	2,230	3,134	20	316	2,528	2,844	18
<b>Other investments</b>	301	109	411	3	324	11	335	2
<b>Total fair value of plan assets</b>	<b>10,827</b>	<b>5,081</b>	<b>15,908</b>	<b>100</b>	<b>10,493</b>	<b>5,279</b>	<b>15,772</b>	<b>100</b>
	31.12.19				31.12.18			
<b>Total fair value of plan assets</b>	<b>15,908</b>				<b>15,772</b>			
<i>of which:<sup>2</sup></i>								
Bank accounts at UBS AG			90				80	
UBS AG debt instruments			4				8	
UBS Group AG shares			12				15	
Securities lent to UBS AG <sup>3</sup>			748				957	
Property occupied by UBS AG			50				54	
Derivative financial instruments, counterparty UBS AG <sup>3</sup>			6				21	

<sup>1</sup> The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in the Standard & Poor's rating classification. <sup>2</sup> Bank accounts at UBS AG encompass accounts in the name of the Swiss pension fund. The other positions disclosed in the table encompass both direct investments in UBS AG instruments and UBS Group AG shares and indirect investments, i.e., those made through funds that the pension fund invests in. <sup>3</sup> Securities lent to UBS AG and derivative financial instruments are presented gross of any collateral. Securities lent to UBS AG were fully covered by collateral as of 31 December 2019 and 31 December 2018. Net of collateral, derivative financial instruments amounted to USD 3 million as of 31 December 2019 (31 December 2018: USD 6 million).

## Note 29 Pension and other post-employment benefit plans (continued)

### Composition and fair value of plan assets (continued)

#### UK plan

	31.12.19				31.12.18			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
USD million								
Cash and cash equivalents	141	0	141	4	143	0	143	5
Bonds <sup>1</sup>								
Domestic, AAA to BBB–	1,810	0	1,810	49	1,604	0	1,604	53
Investment funds								
Equity								
Domestic	33	0	33	1	26	0	26	1
Foreign	916	0	916	25	658	0	658	22
Bonds <sup>1</sup>								
Domestic, AAA to BBB–	610	117	727	20	587	93	680	22
Domestic, below BBB–	22	0	22	1	15	0	15	0
Foreign, AAA to BBB–	310	0	310	8	258	0	258	9
Foreign, below BBB–	108	0	108	3	51	0	51	2
Real estate								
Domestic	103	18	122	3	102	28	131	4
Foreign	0	19	19	1	0	0	0	0
Insurance contracts	0	7	7	0	0	0	0	0
Derivatives	3	0	3	0	0	0	0	0
Asset-backed securities	0	6	6	0	21	2	22	1
Other investments <sup>2</sup>	(572)	7	(565)	(15)	(565)	9	(556)	(18)
Total fair value of plan assets	3,483	175	3,658	100	2,900	132	3,032	100

<sup>1</sup> The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor's rating classification. <sup>2</sup> Mainly relates to repurchase arrangements on UK treasury bonds.



## Note 29 Pension and other post-employment benefit plans (continued)

### Composition and fair value of plan assets (continued)

#### US plans

	31.12.19				31.12.18			
	Fair value			Plan asset allocation %	Fair value			Plan asset allocation %
	Quoted in an active market	Other	Total		Quoted in an active market	Other	Total	
<i>USD million</i>								
<b>Cash and cash equivalents</b>	27	0	27	2	27	0	27	2
<b>Bonds<sup>1</sup></b>								
Domestic, AAA to BBB–	475	0	475	37	462	0	462	40
Domestic, below BBB–	2	0	2	0	2	0	2	0
Foreign, AAA to BBB–	99	0	99	8	92	0	92	8
Foreign, below BBB–	3	0	3	0	3	0	3	0
<b>Investment funds</b>								
Equity								
Domestic	208	0	208	16	143	0	143	12
Foreign	161	0	161	12	157	0	157	13
Bonds <sup>1</sup>								
Domestic, AAA to BBB–	176	0	176	14	104	0	104	9
Domestic, below BBB–	28	0	28	2	23	0	23	2
Foreign, AAA to BBB–	17	0	17	1	56	0	56	5
Foreign, below BBB–	3	0	3	0	6	0	6	1
Real estate								
Domestic	0	13	13	1	0	13	13	1
Other	69	0	69	5	64	0	64	5
<b>Insurance contracts</b>	0	18	18	1	0	17	17	1
<b>Total fair value of plan assets</b>	<b>1,268</b>	<b>31</b>	<b>1,299</b>	<b>100</b>	<b>1,139</b>	<b>29</b>	<b>1,168</b>	<b>100</b>

<sup>1</sup> The bond credit ratings are primarily based on Standard & Poor's credit ratings. Ratings AAA to BBB– and below BBB– represent investment grade and non-investment grade ratings, respectively. In cases where credit ratings from other rating agencies were used, these were converted to the equivalent rating in Standard & Poor's rating classification.

## Note 29 Pension and other post-employment benefit plans (continued)

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### b) Post-employment medical insurance plans

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In the US and the UK, UBS AG offers post-employment medical insurance benefits that contribute to the health care coverage of certain employees and their beneficiaries after retirement. The UK post-employment medical insurance plan is closed to new entrants. In the US, retiree medical premiums are subsidized for eligible participants who retired before 2014. These plans are not prefunded.

In 2018, UBS AG announced changes to one of the US post-employment medical insurance plans that replaced the UBS AG retiree medical subsidy with a new subsidy to purchase medical coverage through a private Medicare exchange. This change reduced the post-employment benefit obligation by USD 14 million, resulting in a corresponding gain recognized in the income statement in 2018.

As of 31 December 2019, the net liability recognized for post-employment medical insurance plans was USD 62 million (31 December 2018: USD 62 million). An expense of USD 2 million was recognized in the income statement in 2019 (2018: gain of USD 11 million; 2017: expense of USD 3 million) and a loss of USD 3 million in *Other comprehensive income* in 2019 (2018: gain of USD 7 million; 2017: gain of USD 1 million).

The benefits expected to be paid to participants in 2020 are estimated at USD 5 million.

The measurement of each medical insurance plan's post-employment benefit obligation considers different actuarial assumptions. Reasonably possible changes in actuarial assumptions would not lead to material movements in the net liability recognized as of 31 December 2019 and as of December 2018.

### c) Defined contribution plans

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UBS AG sponsors a number of defined contribution plans in locations outside Switzerland. The locations with significant defined contribution plans are the US and the UK. Certain plans allow employees to make contributions and earn matching or

other contributions from UBS AG. Employer contributions to defined contribution plans are recognized as an expense, which, for 2019, 2018 and 2017, amounted to USD 278 million, USD 223 million and USD 236 million, respectively.

## Note 29 Pension and other post-employment benefit plans (continued)

### d) Related-party disclosure

UBS AG is the principal provider of banking services for the pension fund of UBS AG in Switzerland. In this capacity, UBS AG is engaged to execute most of the pension fund's banking activities. These activities can include, but are not limited to, trading, securities lending and borrowing and derivative transactions. The non-Swiss UBS AG pension funds do not have a similar banking relationship with UBS AG.

Also, UBS AG leases certain properties that are owned by the Swiss pension fund. As of 31 December 2019, the minimum commitment toward the Swiss pension fund under the related

leases was approximately USD 8 million (31 December 2018: USD 10 million).

→ Refer to the "Composition and fair value of plan assets" table in Note 29a for more information about fair value of investments in UBS AG and UBS Group AG instruments held by the Swiss pension fund

The following amounts have been received or paid by UBS AG from and to the pension and other post-employment benefit plans located in Switzerland, the UK and the US in respect of these banking activities and arrangements.

#### Related-party disclosure

USD million	For the year ended		
	31.12.19	31.12.18	31.12.17
<b>Received by UBS AG</b>			
Fees	19	22	36
<b>Paid by UBS AG</b>			
Rent	2	3	5
Dividends, capital repayments and interest	10	10	10

The transaction volumes in UBS Group AG shares and UBS AG debt instruments and the balances of UBS Group AG shares held as of 31 December were:

#### Transaction volumes – UBS Group AG shares and UBS AG debt instruments

	For the year ended	
	31.12.19	31.12.18
<b>Financial instruments bought by pension funds</b>		
UBS Group AG shares (in thousands of shares)	929	831
UBS AG debt instruments (par values, USD million)	1	9
<b>Financial instruments sold by pension funds or matured</b>		
UBS Group AG shares (in thousands of shares)	1,778	547
UBS AG debt instruments (par values, USD million)	5	2

#### UBS Group AG shares held by pension and other post-employment benefit plans

	31.12.19	31.12.18
Number of shares (in thousands of shares)	14,991	15,934
Fair value (USD million)	189	197

## Note 30 Employee benefits: variable compensation

### a) Plans offered

UBS has several share-based and other compensation plans that align the interests of Group Executive Board (GEB) members and other employees with the interests of investors. These compensation plans are also designed to meet regulatory requirements. The most significant compensation plans are described below.

For the majority of variable compensation awards granted under such plans to employees of UBS AG, the grantor entity is UBS Group AG. Expenses associated with these awards are charged by UBS Group AG to UBS AG. For the purpose of this Note, references to shares refer to UBS Group AG shares.

→ Refer to Note 1a item 6 for a description of the accounting policy related to share-based and other deferred compensation plans

#### Mandatory deferred compensation plans

##### Equity Ownership Plan (EOP)

The EOP is a mandatory deferred share-based compensation plan for all employees with total annual compensation greater than USD / CHF 300,000. Starting with performance year 2019, GEB members, Group Managing Directors (GMDs) and Vice Chairs receive Long-Term Incentive Plan (LTIP) awards instead of EOP.

EOP awards granted to GEB members and GMDs in 2019 and prior years, as well as EOP awards granted to certain other employees, will only vest if both Group and business division performance conditions are met. For awards granted in 2019 and 2020, related to the performance years 2018 and 2019, respectively, the Group performance condition is based on the average reported return on common equity tier 1 capital (RoCET1). For awards granted in 2018 and before, the Group performance condition is based on the average adjusted return on tangible equity (RoTE) excluding deferred tax assets over the performance period. Business division performance is measured on the basis of their average adjusted return on attributed equity (RoAE). For Corporate Center employees, it is measured on the basis of the average operating businesses' adjusted RoAE.

Certain awards, such as replacement awards issued outside the normal performance year cycle, may take the form of deferred cash under the EOP plan rules.

Notional shares represent a promise to receive UBS shares at vesting and do not carry voting rights during the vesting period. Awards granted generally carry a dividend equivalent that may be paid in notional shares or cash and that vests on the same terms and conditions as the awards. However, starting with awards granted in 2018 for the performance year 2017, European Banking Authority guidelines do not permit individuals who are deemed to be Material Risk Takers (MRTs) to receive dividend or interest payments on instruments awarded as deferred variable compensation. Where dividend payments are not permitted, the grant price of the EOP award is adjusted for the expected dividend

yield over the vesting period to reflect the fair value of the non-dividend-bearing award.

Awards are settled by delivering UBS shares at vesting, except in jurisdictions where this is not permitted for legal or tax reasons. EOP awards generally vest in equal installments after two and three years following the granting of such awards. Awards granted to GEB members in 2019 and prior years generally vest after three, four and five years. The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

##### Long-Term Incentive Plan

The LTIP is a mandatory deferred share-based compensation plan for senior leaders of the Group (i.e., GEB members, GMDs and Vice Chairs). LTIP awards are granted for the first time in 2020 as part of the performance award pool for 2019.

The final number of notional shares delivered at vesting depends on two equally weighted performance metrics: average reported return on CET1 capital (RoCET1) and relative total shareholder return (rTSR), which measures UBS's total shareholder return against an index consisting of global systemically important banks as determined by the Financial Stability Board. These performance metrics are separately valued as of the date of grant and (re-)assessed over a three-year performance period starting in the year of grant. For both metrics there is a threshold level, which would result in a 33% payout, and a maximum level, which would result in a 100% payout. Any performance between the threshold and the maximum level would result in a linear payout between 33% and 100%.

The final number of shares as determined at the end of the three-year performance period will vest in three equal installments in each of the three years following the performance period for GEB members, and cliff-vest in the first year following the performance period for GMDs and Vice Chairs. The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

In general, the form of the equity awards (notional shares), the entitlement to dividend equivalents and the settlement method is the same as for EOP awards.

##### Deferred Contingent Capital Plan (DCCP)

The DCCP is a mandatory deferred compensation plan for all employees with total annual compensation greater than USD / CHF 300,000.

DCCP awards take the form of notional additional tier 1 (AT1) capital instruments, which, at the discretion of UBS, can be settled in either a cash payment or a perpetual, marketable AT1 capital instrument. DCCP awards vest in full after five years, and up to seven years for UK senior management functions, unless there is a trigger event.

## Note 30 Employee benefits: variable compensation (continued)

Awards are forfeited if a viability event occurs, i.e., if FINMA notifies the firm in writing that the DCCP awards must be written down to prevent an insolvency, bankruptcy or failure of UBS, or if UBS receives a commitment of extraordinary support from the public sector that is necessary to prevent such an event. Additionally, they are also written down if the Group's common equity tier 1 capital ratio falls below 10% for GEB members and below 7% for all other employees. As an additional performance condition, GEB members forfeit 20% of their award for each loss-making year during the vesting period.

Interest payments on DCCP awards are paid at the discretion of UBS. Where interest payments are not permitted, such as for MRTs, the DCCP award reflects the fair value of the granted non-interest-bearing award.

The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

### Asset Management EOP

In order to align deferred compensation of certain Asset Management employees with the performance of the investment funds they manage, awards are granted to such employees in the form of cash-settled notional investment funds. The amount delivered depends on the value of the underlying investment funds at the time of vesting. The awards are generally forfeitable upon, among other circumstances, voluntary termination of employment with UBS.

### Financial advisor variable compensation

In line with market practice for US wealth management businesses, the compensation for US financial advisors in Global Wealth Management is comprised of production payout and deferred compensation awards. Production payout is primarily based on compensable revenue and is paid monthly.

Financial advisors may also qualify for deferred compensation awards, which generally vest over a six-year period. The awards are based on strategic performance measures, including production, length of service with the firm and net new

business. Production payout rates and deferred compensation awards may be reduced for, among other things, errors, negligence or carelessness, or a failure to comply with the firm's rules, standards, practices and policies or applicable laws and regulations.

### Strategic objective awards

Strategic objective awards are deferred compensation awards based on strategic performance measures, including production, length of service with the firm and net new business. These awards are granted in the form of both deferred share-based and deferred cash-based awards, with a vesting period of up to six years.

### Other compensation plans

#### Equity Plus Plan (Equity Plus)

Equity Plus is a voluntary share-based compensation plan that provides eligible employees with the opportunity to purchase UBS shares at market value and receive one notional share for every three shares purchased, up to a maximum annual limit. Share purchases may be made annually from the performance award and/or monthly through deductions from salary. If the shares purchased are held until three years from the start of the associated plan year and, in general, if the employee remains employed by UBS, the notional shares vest. Employees are entitled to receive a dividend equivalent which may be paid in notional shares and/or cash.

#### Role-based allowances (RBA)

Certain employees of legal entities regulated in the EU may receive an RBA in addition to their base salary. This allowance reflects the market value of a specific role and is fixed, non-forfeitable compensation. Unlike salary, an RBA is paid only as long as the employee is in such a role. RBA consist of a cash portion and, where applicable, a blocked UBS share award. Such shares will be unblocked in equal installments after two and three years. The compensation expense is recognized in the year of grant.

### Note 30 Employee benefits: variable compensation (continued)

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#### Discontinued deferred compensation plans

The following plans have been discontinued.

##### Key Employee Stock Appreciation Rights Plan (KESAP) and Key Employee Stock Option Plan (KESOP)

Until 2009, certain key and high-potential employees were granted discretionary share-settled stock appreciation rights (SARs) or options on UBS shares with a strike price not less than the market value of a UBS share on the date of grant. SARs gave employees the right to receive a number of UBS shares equal to the increase in market price of the UBS share between the grant date and the exercise date. One option entitled the holder to acquire one registered UBS share at the option's strike price. SARs and options were settled by delivering UBS shares, except in jurisdictions where this was not permitted for legal reasons. All unexercised options and stock appreciation rights under these awards expired in 2019.

##### PartnerPlus

Through performance year 2016, financial advisor strategic objective awards were partly granted under the PartnerPlus deferred cash plan. In addition to such granted awards (UBS company contributions), participants were allowed to voluntarily contribute additional amounts otherwise payable as production payout up to a certain percentage, which vested upon contribution. Company contributions and voluntary contributions were credited with interest in accordance with the terms of the plan. Rather than being credited with interest, a participant could elect to have voluntary contributions, along with vested company contributions, credited with notional earnings based on the performance of various mutual funds. Company contributions and interest on both company and voluntary contributions ratably vest in 20% installments six to 10 years following grant date. Company contributions and interest on notional earnings on both company and voluntary contributions are forfeitable under certain circumstances.

##### GrowthPlus

GrowthPlus is a compensation plan for selected financial advisors whose revenue production and length of service exceeded defined thresholds from 2010 to 2017. Awards were granted in 2010, 2011, 2015 and 2018. The awards are cash-based and are distributed over seven years, with the exception of 2018 awards, which are distributed over five years.

## Note 30 Employee benefits: variable compensation (continued)

### b) Effect on the income statement

#### Effect on the income statement for the financial year and future periods

The table below provides information about compensation expenses related to total variable compensation, including financial advisor variable compensation, that were recognized in the financial year ended 31 December 2019, as well as expenses that were deferred and will be recognized in the income statement for 2020 and later.

The majority of expenses deferred to 2020 and later that are related to the performance year 2019 relates to awards granted in February 2020. The total unamortized compensation expense for unvested share-based awards granted up to 31 December 2019 will be recognized in future periods over a weighted average period of 2.4 years.

#### Variable compensation including financial advisor variable compensation

USD million	Expenses recognized in 2019			Expenses deferred to 2020 and later <sup>1</sup>		
	Related to the performance year 2019	Related to prior performance years	Total	Related to the performance year 2019	Related to prior performance years	Total
Non-deferred cash	1,706	(24)	1,682	0	0	0
Deferred compensation awards	287	576	863	413	592	1,005
<i>of which: Equity Ownership Plan</i>	115	294	410	198	213	412
<i>of which: Deferred Contingent Capital Plan</i>	109	256	365	166	356	521
<i>of which: Long-Term Incentive Plan</i>	38	0	38	23	0	23
<i>of which: Asset Management EOP</i>	25	26	51	26	23	49
<b>Total variable compensation – performance awards</b>	<b>1,993</b>	<b>553</b>	<b>2,545</b>	<b>413</b>	<b>592</b>	<b>1,005</b>
Replacement payments	5	49	55	43	30	73
Forfeiture credits	0	(84)	(84)	0	0	0
Severance payments	110	0	110	0	0	0
Retention plan and other payments	24	27	52	22	29	51
Deferred Contingent Capital Plan: interest expense	0	93	93	50	169	219
<b>Total variable compensation – other</b>	<b>140</b>	<b>85</b>	<b>225</b>	<b>115</b>	<b>228</b>	<b>343</b>
Financial advisor variable compensation	3,233	268	3,501	197	710	907
<i>of which: non-deferred cash</i>	3,064	0	3,064	0	0	0
<i>of which: deferred share-based awards</i>	57	48	106	54	130	183
<i>of which: deferred cash-based awards</i>	112	219	331	144	580	724
Compensation commitments with recruited financial advisors <sup>2</sup>	32	510	542	350	1,617	1,967
<b>Total financial advisor variable compensation</b>	<b>3,265</b>	<b>778</b>	<b>4,043</b>	<b>548</b>	<b>2,327</b>	<b>2,874</b>
<b>Total variable compensation including FA variable compensation</b>	<b>5,398</b>	<b>1,416</b>	<b>6,814<sup>3</sup></b>	<b>1,076</b>	<b>3,146</b>	<b>4,222</b>

<sup>1</sup> Estimate as of 31 December 2019. Actual amounts to be expensed in future periods may vary, e.g., due to forfeiture of awards. <sup>2</sup> Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. <sup>3</sup> Includes USD 595 million in expenses related to share-based compensation (performance awards: USD 448 million; other variable compensation: USD 42 million; financial advisor compensation: USD 106 million). A further USD 54 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 10 million, related to role-based allowances; social security: USD 23 million; other personnel expenses: USD 22 million related to the Equity Plus Plan).

## Note 30 Employee benefits: variable compensation (continued)

### Variable compensation including financial advisor variable compensation (continued)

USD million	Expenses recognized in 2018			Expenses deferred to 2019 and later <sup>1</sup>		
	Related to the performance year 2018	Related to prior performance years	Total	Related to the performance year 2018	Related to prior performance years	Total
Non-deferred cash	1,896	(26)	1,870	0	0	0
Deferred compensation awards	360	564	924	570	638	1,208
<i>of which: Equity Ownership Plan</i>	208	299	507	316	238	554
<i>of which: Deferred Contingent Capital Plan</i>	126	235	361	232	373	605
<i>of which: Asset Management EOP</i>	25	28	53	22	26	48
<i>of which: other performance awards</i>	0	2	2	0	1	1
<b>Total variable compensation – performance awards</b>	<b>2,256</b>	<b>538</b>	<b>2,794</b>	<b>570</b>	<b>638</b>	<b>1,208</b>
Replacement payments	7	61	68	58	40	99
Forfeiture credits	0	(136)	(136)	0	0	0
Severance payments	106	0	106	0	0	0
Retention plan and other payments	31	33	64	23	33	56
Deferred Contingent Capital Plan: interest expense	0	116	116	96	191	288
<b>Total variable compensation – other</b>	<b>144</b>	<b>75</b>	<b>220</b>	<b>178</b>	<b>264</b>	<b>442</b>
Financial advisor variable compensation	3,233	237	3,470	128	639	767
<i>of which: non-deferred cash</i>	3,089	0	3,089	0	0	0
<i>of which: deferred share-based awards</i>	51	44	95	52	131	183
<i>of which: deferred cash-based awards</i>	93	193	286	76	507	584
Compensation commitments with recruited financial advisors <sup>2</sup>	33	551	584	357	1,883	2,240
<b>Total financial advisor variable compensation</b>	<b>3,266</b>	<b>789</b>	<b>4,054</b>	<b>484</b>	<b>2,522</b>	<b>3,006</b>
<b>Total variable compensation including FA variable compensation</b>	<b>5,666</b>	<b>1,402</b>	<b>7,068<sup>3</sup></b>	<b>1,233</b>	<b>3,424</b>	<b>4,656</b>

<sup>1</sup> Estimate as of 31 December 2018. Actual amounts expensed may vary, e.g., due to forfeiture of awards. <sup>2</sup> Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. <sup>3</sup> Includes USD 612 million in expenses related to share-based compensation (performance awards: USD 507 million; other variable compensation: USD 10 million; financial advisor compensation: USD 95 million). A further USD 44 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 15 million, related to role-based allowances; social security: USD 7 million; other personnel expenses: USD 22 million, related to the Equity Plus Plan).



## Note 30 Employee benefits: variable compensation (continued)

### Variable compensation including financial advisor variable compensation (continued)

USD million	Expenses recognized in 2017			Expenses deferred to 2018 and later <sup>1</sup>		
	Related to the performance year 2017	Related to prior performance years	Total	Related to the performance year 2017	Related to prior performance years	Total
Non-deferred cash	1,982	(24)	1,958	0	0	0
Deferred compensation awards	392	704	1,096	589	685	1,274
<i>of which: Equity Ownership Plan</i>	235	364	599	322	286	608
<i>of which: Deferred Contingent Capital Plan</i>	132	304	436	240	369	609
<i>of which: Asset Management EOP</i>	25	32	57	27	27	54
<i>of which: other performance awards</i>	0	4	4	0	3	3
<b>Total variable compensation – performance awards</b>	<b>2,373</b>	<b>680</b>	<b>3,054</b>	<b>589</b>	<b>685</b>	<b>1,274</b>
Replacement payments	12	58	70	82	41	123
Forfeiture credits	0	(106)	(106)	0	0	0
Severance payments	95	0	95	0	0	0
Retention plan and other payments	24	38	62	30	32	62
Deferred Contingent Capital Plan: interest expense	0	110	110	80	218	297
<b>Total variable compensation – other</b>	<b>131</b>	<b>99</b>	<b>231</b>	<b>191</b>	<b>291</b>	<b>482</b>
Financial advisor variable compensation	3,050	260	3,310	156	795	951
<i>of which: non-deferred cash</i>	2,891	0	2,891	0	0	0
<i>of which: deferred share-based awards</i>	54	48	102	70	121	191
<i>of which: deferred cash-based awards</i>	104	212	316	86	674	760
Compensation commitments with recruited financial advisors <sup>2</sup>	31	723	754	369	2,058	2,429
<b>Total financial advisor variable compensation</b>	<b>3,080</b>	<b>984</b>	<b>4,064</b>	<b>526</b>	<b>2,853</b>	<b>3,379</b>
<b>Total variable compensation including FA variable compensation</b>	<b>5,585</b>	<b>1,764</b>	<b>7,349<sup>3</sup></b>	<b>1,306</b>	<b>3,829</b>	<b>5,135</b>

<sup>1</sup> Estimate as of 31 December 2017. Actual amounts expensed may vary, e.g., due to forfeiture of awards. <sup>2</sup> Reflects expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements. Amounts reflected as deferred expenses represent the maximum deferred exposure as of the balance sheet date. <sup>3</sup> Includes USD 726 million in expenses related to share-based compensation (performance awards: USD 599 million; other variable compensation: USD 25 million; financial advisor compensation: USD 102 million). A further USD 97 million in expenses related to share-based compensation was recognized within other expense categories included in Note 6 (salaries: USD 25 million, related to role-based allowances; social security: USD 49 million; other personnel expenses: USD 23 million, related to the Equity Plus Plan).

## Note 30 Employee benefits: variable compensation (continued)

### c) Outstanding share-based compensation awards

#### Share and performance share awards

Movements in outstanding share-based awards under the EOP during 2019 and 2018 are provided in the table below. The awards presented are granted by UBS AG, but are based on UBS Group AG shares.

#### Movements in outstanding share-based compensation awards

	Number of shares 2019	Weighted average grant date fair value (USD)	Number of shares 2018	Weighted average grant date fair value (USD)
Outstanding, at the beginning of the year	201,793	15	404,720	15
Awarded during the year	29,092	11	26,005	13
Distributed during the year	(140,441)	14	(228,932)	15
Forfeited during the year	0	0	0	0
Outstanding, at the end of the year	90,443	14	201,793	15
<i>of which: shares vested for accounting purposes</i>	<i>56,492</i>		<i>133,225</i>	

The total carrying amount of the liability related to cash-settled share-based awards as of 31 December 2019 and 31 December 2018 was USD 1 million and USD 2 million, respectively.

### d) Valuation

#### UBS share awards

UBS measures compensation expense based on the average market price of the UBS share on the grant date as quoted on the SIX Swiss Exchange, taking into consideration post-vesting sale and hedge restrictions, non-vesting conditions and market conditions, where applicable. The fair value of the share awards subject to post-vesting sale and hedge restrictions is discounted on the basis of the duration of the post-vesting restriction and is referenced to the cost of purchasing an at-the-money European

put option for the term of the transfer restriction. The weighted average discount for share and performance share awards granted during 2019 was approximately 22.6% (2018: 18.0%) of the market price of the UBS share. The grant date fair value of notional shares without dividend entitlements also includes a deduction for the present value of future expected dividends to be paid between the grant date and distribution.

## Note 31 Interests in subsidiaries and other entities

### a) Interests in subsidiaries

UBS AG defines its significant subsidiaries as those entities that, either individually or in aggregate, contribute significantly to UBS AG's financial position or results of operations, based on a number of criteria, including the subsidiaries' equity and their contribution to UBS AG's total assets and profit or loss before tax, in accordance with the requirements set by IFRS 12, Swiss regulations and the rules of the US Securities and Exchange Commission (SEC).

#### Individually significant subsidiaries

The table below lists UBS AG's individually significant subsidiaries as of 31 December 2019. Unless otherwise stated, the subsidiaries listed below have share capital consisting solely of

ordinary shares that are held entirely by UBS AG, and the proportion of ownership interest held is equal to the voting rights held by UBS AG.

The country where the respective registered office is located is also the principal place of business. UBS AG operates through a global network of branches and a significant proportion of its business activity is conducted outside Switzerland in the UK, the US, Singapore, Hong Kong and other countries. UBS Europe SE has branches and offices in a number of EU Member States, including Germany, Italy, Luxembourg, Spain and Austria. Share capital is provided in the currency of the legally registered office.

#### Individually significant subsidiaries of UBS AG as of 31 December 2019<sup>1</sup>

Company	Registered office	Primary business	Share capital in million	Equity interest accumulated in %
UBS Americas Holding LLC	Wilmington, Delaware, USA	Corporate Center	USD 3,150.0 <sup>2</sup>	100.0
UBS Americas Inc.	Wilmington, Delaware, USA	Corporate Center	USD 0.0	100.0
UBS Asset Management AG	Zurich, Switzerland	Asset Management	CHF 43.2	100.0
UBS Bank USA	Salt Lake City, Utah, USA	Global Wealth Management	USD 0.0	100.0
UBS Europe SE	Frankfurt, Germany	Global Wealth Management	EUR 446.0	100.0
UBS Financial Services Inc.	Wilmington, Delaware, USA	Global Wealth Management	USD 0.0	100.0
UBS Securities LLC	Wilmington, Delaware, USA	Investment Bank	USD 1,283.1 <sup>3</sup>	100.0
UBS Switzerland AG	Zurich, Switzerland	Personal & Corporate Banking	CHF 10.0	100.0

<sup>1</sup> Includes direct and indirect subsidiaries of UBS AG. <sup>2</sup> Comprised of common share capital of USD 1,000 and non-voting preferred share capital of USD 3,150,000,000. <sup>3</sup> Comprised of common share capital of USD 100,000 and non-voting preferred share capital of USD 1,283,000,000.

## Note 31 Interests in subsidiaries and other entities (continued)

### Other subsidiaries

The table below lists other direct and indirect subsidiaries of UBS AG that are not individually significant but that contribute to UBS AG's total assets and aggregated profit before tax thresholds and are thereby disclosed in accordance with the requirements set by the SEC.

#### Other subsidiaries of UBS AG as of 31 December 2019

Company	Registered office	Primary business	Share capital in million	Equity interest accumulated in %
UBS Asset Management (Hong Kong) Limited	Hong Kong, Hong Kong	Asset Management	HKD 254.0	100.0
UBS Asset Management (Japan) Ltd	Tokyo, Japan	Asset Management	JPY 2,200.0	100.0
UBS Asset Management Life Ltd	London, United Kingdom	Asset Management	GBP 15.0	100.0
UBS Asset Management Switzerland AG	Zurich, Switzerland	Asset Management	CHF 0.5	100.0
UBS Business Solutions US LLC	Wilmington, Delaware, USA	Corporate Center	USD 0.0	100.0
UBS Credit Corp.	Wilmington, Delaware, USA	Global Wealth Management	USD 0.0	100.0
UBS (France) S.A.	Paris, France	Global Wealth Management	EUR 133.0	100.0
UBS Fund Advisor, L.L.C.	Wilmington, Delaware, USA	Global Wealth Management	USD 0.0	100.0
UBS Fund Management (Luxembourg) S.A.	Luxembourg, Luxembourg	Asset Management	EUR 13.0	100.0
UBS Fund Management (Switzerland) AG	Basel, Switzerland	Asset Management	CHF 1.0	100.0
UBS (Monaco) S.A.	Monte Carlo, Monaco	Global Wealth Management	EUR 49.2	100.0
UBS Realty Investors LLC	Boston, Massachusetts, USA	Asset Management	USD 9.0	100.0
UBS Securities (Thailand) Ltd	Bangkok, Thailand	Investment Bank	THB 500.0	100.0
UBS Securities Australia Ltd	Sydney, Australia	Investment Bank	AUD 0.3 <sup>1</sup>	100.0
UBS Securities Japan Co., Ltd.	Tokyo, Japan	Investment Bank	JPY 32,100.0	100.0
UBS Securities Pte. Ltd.	Singapore, Singapore	Investment Bank	SGD 420.4	100.0

<sup>1</sup> Includes a nominal amount relating to redeemable preference shares.

### Consolidated structured entities

UBS AG consolidates a structured entity (SE) if it has power over the relevant activities of the entity, exposure to variable returns and the ability to use its power to affect its returns. Consolidated SEs include certain investment funds, securitization vehicles and client investment vehicles. UBS AG has no individually significant subsidiaries that are SEs.

Investment fund SEs are generally consolidated when UBS AG's aggregate exposure combined with its decision-making rights indicate the ability to use such power in a principal capacity. Typically, UBS AG will have decision-making rights as fund manager, earning a management fee, and will provide seed capital at the inception of the fund or hold a significant percentage of the fund units. Where other investors do not have the substantive ability to remove UBS as decision maker, UBS AG is deemed to have control and therefore consolidates the fund.

Securitization SEs are generally consolidated when UBS AG holds a significant percentage of the asset-backed securities

issued by the SE and has the power to remove without cause the servicer of the asset portfolio.

Client investment SEs are generally consolidated when UBS AG has a substantive liquidation right over the SE or a decision right over the assets held by the SE and has exposure to variable returns through derivatives traded with the SE or holding notes issued by the SE.

In 2019 and 2018, UBS AG did not enter into any contractual obligation that could require UBS AG to provide financial support to consolidated SEs. In addition, UBS AG did not provide support, financial or otherwise, to a consolidated SE when UBS AG was not contractually obligated to do so, nor has UBS AG an intention to do so in the future. Further, UBS AG did not provide support, financial or otherwise, to a previously unconsolidated SE that resulted in UBS AG controlling the SE during the reporting period.

## Note 31 Interests in subsidiaries and other entities (continued)

### b) Interests in associates and joint ventures

As of 31 December 2019 and 2018, no associate or joint venture was individually material to UBS AG. In addition, there were no significant restrictions on the ability of associates or joint ventures to transfer funds to UBS AG or its subsidiaries in

the form of cash dividends or to repay loans or advances made. There were no quoted market prices for any associates or joint ventures of UBS AG.

#### Investments in associates and joint ventures

USD million	2019	2018
Carrying amount at the beginning of the year	1,099	1,045
Additions	0	3
Disposals <sup>1</sup>	0	(431)
Reclassifications <sup>2</sup>		(21)
Share of comprehensive income	25	529
<i>of which: share of net profit<sup>3</sup></i>	46	529
<i>of which: share of other comprehensive income<sup>4</sup></i>	(21)	1
Dividends received	(83)	(42)
Impairment	(1)	
Foreign currency translation	11	16
<b>Carrying amount at the end of the year</b>	<b>1,051</b>	<b>1,099</b>
<i>of which: associates</i>	<i>1,010</i>	<i>1,066</i>
<i>of which: SIX Group AG, Zurich<sup>5</sup></i>	<i>887</i>	<i>952</i>
<i>of which: other associates</i>	<i>123</i>	<i>114</i>
<i>of which: joint ventures</i>	<i>41</i>	<i>33</i>

<sup>1</sup> In December 2018, UBS AG increased its shareholding in UBS Securities China from 24.99% to 51%, acquiring control of the entity in accordance with IFRS 10, Consolidated Financial Statements. Upon acquisition of control, UBS AG derecognized its former investment in associate. Refer to Note 32 for more information. <sup>2</sup> Reflects reclassifications to Properties and other non-current assets held for sale. <sup>3</sup> For 2019, consists of USD 28 million from associates and USD 18 million from joint ventures. For 2018, consists of USD 511 million from associates, of which USD 460 million reflected a valuation gain on the equity ownership in SIX related to the sale of SIX Payment Services to Worldline, and USD 18 million from joint ventures. <sup>4</sup> For 2019, consists of negative USD 22 million from associates and USD 1 million from joint ventures. For 2018, the total of USD 1 million is from associates. <sup>5</sup> In 2019, UBS AG's equity interest amounts to 17.31%. UBS AG is represented on the Board of Directors.

## Note 31 Interests in subsidiaries and other entities (continued)

### c) Interests in unconsolidated structured entities

During 2019, UBS AG sponsored the creation of various SEs and interacted with a number of non-sponsored SEs, including securitization vehicles, client vehicles as well as certain investment funds, that UBS did not consolidate as of 31 December 2019 because it did not control these entities.

The table below presents UBS AG's interests in and maximum exposure to loss from unconsolidated SEs as well as the total assets held by the SEs in which UBS had an interest as of year-end, except for investment funds sponsored by third parties, for which the carrying amount of UBS's interest as of year-end has been disclosed.

#### Interests in unconsolidated structured entities

	31.12.19				
<i>USD million, except where indicated</i>	Securitization vehicles	Client vehicles	Investment funds	Total	Maximum exposure to loss <sup>1</sup>
Financial assets at fair value held for trading	462	130	5,874	6,466	6,466
Derivative financial instruments	9	9	36	55	53
Loans and advances to customers			174	174	174
Financial assets at fair value not held for trading	81	8 <sup>2</sup>	62	151	902
Financial assets measured at fair value through other comprehensive income		3,955		3,955	3,955
Other financial assets measured at amortized cost	335	16 <sup>2</sup>		351	1,372
<b>Total assets</b>	<b>888<sup>3</sup></b>	<b>4,118</b>	<b>6,147</b>	<b>11,152</b>	
Derivative financial instruments	2 <sup>4</sup>	225	324	552	1
<b>Total liabilities</b>	<b>2</b>	<b>225</b>	<b>324</b>	<b>552</b>	
<b>Assets held by the unconsolidated structured entities in which UBS had an interest (USD billion)</b>	<b>55<sup>5</sup></b>	<b>73<sup>6</sup></b>	<b>413<sup>7</sup></b>		

	31.12.18				
<i>USD million, except where indicated</i>	Securitization vehicles	Client vehicles	Investment funds	Total	Maximum exposure to loss <sup>1</sup>
Financial assets at fair value held for trading	420	174	7,297	7,890	7,890
Derivative financial instruments	8	35	1	44	44
Loans and advances to customers			179	179	179
Financial assets at fair value not held for trading	87	48 <sup>2</sup>	85	220	1,796
Financial assets measured at fair value through other comprehensive income		3,931		3,931	3,931
Other financial assets measured at amortized cost	312	25 <sup>2</sup>		337	1,423
<b>Total assets</b>	<b>826<sup>3</sup></b>	<b>4,212</b>	<b>7,562</b>	<b>12,600</b>	
Derivative financial instruments	3 <sup>4</sup>	123	32	158	3
<b>Total liabilities</b>	<b>3</b>	<b>123</b>	<b>32</b>	<b>158</b>	
<b>Assets held by the unconsolidated structured entities in which UBS had an interest (USD billion)</b>	<b>63<sup>5</sup></b>	<b>69<sup>6</sup></b>	<b>385<sup>7</sup></b>		

<sup>1</sup> For the purpose of this disclosure, maximum exposure to loss amounts do not consider the risk-reducing effects of collateral or other credit enhancements. <sup>2</sup> Represents the carrying amount of loan commitments. The maximum exposure to loss for these instruments is equal to the notional amount. <sup>3</sup> As of 31 December 2019, USD 0.6 billion of the USD 0.9 billion (31 December 2018: USD 0.6 billion of the USD 0.8 billion) was held in Corporate Center – Non-core and Legacy Portfolio. <sup>4</sup> Comprised of credit default swap liabilities and other swap liabilities. The maximum exposure to loss for credit default swap liabilities is equal to the sum of the negative carrying amount and the notional amount. For other swap liabilities, no maximum exposure to loss is reported. <sup>5</sup> Represents the principal amount outstanding. <sup>6</sup> Represents the market value of total assets. <sup>7</sup> Represents the net asset value of the investment funds sponsored by UBS and the carrying amount of UBS's interests in the investment funds not sponsored by UBS.

## Note 31 Interests in subsidiaries and other entities (continued)

UBS AG retains or purchases interests in unconsolidated SEs in the form of direct investments, financing, guarantees, letters of credit, derivatives and through management contracts.

UBS AG's maximum exposure to loss is generally equal to the carrying amount of UBS AG's interest in the SE, with the exception of guarantees, letters of credit and credit derivatives, for which the contract's notional amount, adjusted for losses already incurred, represents the maximum loss that UBS AG is exposed to. In addition, the current fair value of derivative swap instruments with a positive replacement value only, such as total return swaps, is presented as the maximum exposure to loss. Risk exposure for these swap instruments could change over time with market movements.

The maximum exposure to loss disclosed in the table on the previous page does not reflect UBS AG's risk management activities, including effects from financial instruments that may be used to economically hedge the risks inherent in the unconsolidated SE or the risk-reducing effects of collateral or other credit enhancements.

In 2019 and 2018, UBS AG did not provide support, financial or otherwise, to an unconsolidated SE when not contractually obligated to do so, nor has UBS AG an intention to do so in the future.

In 2019 and 2018, income and expenses from interests in unconsolidated SEs primarily resulted from mark-to-market movements recognized in *Other net income from financial instruments measured at fair value through profit or loss*, which have generally been hedged with other financial instruments, as well as fee and commission income received from UBS-sponsored funds.

### Interests in securitization vehicles

As of 31 December 2019 and 31 December 2018, UBS AG held interests, both retained and acquired, in various securitization vehicles, a majority of which are held within Corporate Center – Non-core and Legacy Portfolio. The Investment Bank also retained interests in securitization vehicles related to financing, underwriting, secondary market and derivative trading activities. In some cases UBS AG may be required to absorb losses from an unconsolidated SE before other parties because UBS AG's interest is subordinated to others in the ownership structure.

The numbers outlined in the table on the previous page may differ from the securitization positions presented in the

31 December 2019 Pillar 3 report under "Pillar 3 disclosures" at [www.ubs.com/investors](http://www.ubs.com/investors), for the following reasons: (i) exclusion of synthetic securitizations transacted with entities that are not SEs and transactions in which UBS AG did not have an interest because it did not absorb any risk; (ii) a different measurement basis in certain cases (e.g., IFRS carrying amount within the table above compared with net exposure amount at default for Pillar 3 disclosures); and (iii) different classification of vehicles viewed as sponsored by UBS AG versus sponsored by third parties.

→ **Refer to Note 1a item 1 for more information about UBS AG's accounting policies regarding consolidation and sponsorship of securitization vehicles and other structured entities**

→ **Refer to the 31 December 2019 Pillar 3 report under "Pillar 3 disclosures" at [www.ubs.com/investors](http://www.ubs.com/investors) for more information**

### Interests in client vehicles

As of 31 December 2019 and 31 December 2018, UBS AG retained interests in client vehicles sponsored by UBS AG and third parties that relate to financing and derivative activities, and to hedge structured product offerings. Included within these investments are securities guaranteed by US government agencies.

### Interests in investment funds

UBS AG holds interests in a number of investment funds, primarily resulting from seed investments or in order to hedge structured product offerings. In addition to the interests disclosed in the table on the previous page, UBS AG manages the assets of various pooled investment funds and receives fees that are based, in whole or part, on the net asset value of the fund and/or the performance of the fund. The specific fee structure is determined on the basis of various market factors and considers the nature of the fund and the jurisdiction of incorporation, as well as fee schedules negotiated with clients. These fee contracts represent an interest in the fund as they align UBS AG's exposure with investors, providing a variable return that is based on the performance of the entity. Depending on the structure of the fund, these fees may be collected directly from the fund assets and/or from the investors. Any amounts due are collected on a regular basis and are generally backed by the assets of the fund. UBS AG did not have any material exposure to loss from these interests as of 31 December 2019 or as of 31 December 2018.

## Note 31 Interests in subsidiaries and other entities (continued)

### Sponsored unconsolidated structured entities in which UBS did not have an interest

For several sponsored SEs, no interest was held by UBS AG at year-end. However, during the respective reporting period UBS AG transferred assets, provided services and held instruments that did not qualify as an interest in these sponsored SEs, and accordingly earned income or incurred expenses from these entities. The table below presents the income earned and expenses incurred directly from these entities during the year as well as corresponding asset information. The table does not include income earned and expenses incurred from risk management activities, including income and expenses from financial instruments used to economically hedge instruments transacted with the unconsolidated SEs.

The majority of the fee income arose from investment funds that are sponsored and administrated by UBS AG, but managed by third parties. As UBS AG does not provide any active management services, UBS AG was not exposed to risk from the performance of these entities and was therefore deemed not to have an interest in them. In certain structures, the fees receivable may be collected directly from the investors and have therefore not been included in the table below.

UBS AG also recorded other net income from financial instruments measured at fair value through profit or loss from mark-to-market movements arising primarily from derivatives, such as interest rate and currency swaps as well as credit derivatives, through which UBS AG purchases protection, and financial liabilities designated at fair value, which do not qualify as interests because UBS AG does not absorb variability from the performance of the entity. Total income reported does not reflect economic hedges or other mitigating effects from UBS AG's risk management activities.

During 2019, UBS AG and third parties transferred assets of USD 1 billion and USD 1 billion, respectively, into sponsored securitization vehicles created in the year (2018: USD 1 billion and USD 1 billion, respectively). UBS AG and third parties also transferred assets of USD 0 billion and USD 1 billion, respectively, into sponsored client vehicles created in the year (2018: USD 2 billion and USD 0 billion, respectively). For sponsored investment funds, transfers arose during the period as investors invested and redeemed positions, thereby changing the overall size of the funds, which, when combined with market movements, resulted in a total closing net asset value of USD 42 billion (31 December 2018: USD 18 billion).

### Sponsored unconsolidated structured entities in which UBS did not have an interest at year-end

	As of or for the year ended			
	31.12.19			
<i>USD million, except where indicated</i>	Securitization vehicles	Client vehicles	Investment funds	Total
Net interest income	(1)	0	(1)	(2)
Net fee and commission income		13	50	63
Other net income from financial instruments measured at fair value through profit or loss	19	(18)	9	11
<b>Total income</b>	<b>19</b>	<b>(5)</b>	<b>58</b>	<b>72</b>
<b>Asset information (USD billion)</b>	<b>2<sup>1</sup></b>	<b>1<sup>2</sup></b>	<b>42<sup>3</sup></b>	

	As of or for the year ended			
	31.12.18			
<i>USD million, except where indicated</i>	Securitization vehicles	Client vehicles	Investment funds	Total
Net interest income	0	(6)	1	(5)
Net fee and commission income		16	39	54
Other net income from financial instruments measured at fair value through profit or loss	0	8	20	29
<b>Total income</b>	<b>1</b>	<b>18</b>	<b>60</b>	<b>78</b>
<b>Asset information (USD billion)</b>	<b>2<sup>1</sup></b>	<b>2<sup>2</sup></b>	<b>18<sup>3</sup></b>	

<sup>1</sup> Represents the amount of assets transferred to the respective securitization vehicles. <sup>2</sup> Represents the amount of assets transferred to the respective client vehicles. <sup>3</sup> Represents the total net asset value of the respective investment funds.



## Note 32 Changes in organization and acquisitions and disposals of subsidiaries and businesses

### Changes in Group structure and organization

#### UK business transfer and cross-border merger of UBS Limited into UBS Europe SE

In the fourth quarter of 2018, clients and other counterparties of UBS Limited who can be serviced by UBS AG, London Branch were generally migrated to UBS AG, London Branch. Transactions affecting the transferred businesses that occurred on or after the transfer date were recorded in UBS AG, London Branch.

On 1 March 2019, UBS AG completed its combined UK business transfer and cross-border merger of UBS Limited into UBS Europe SE, its Germany-headquartered European subsidiary.

#### UBS Asset Management AG

In 2016, UBS AG transferred the majority of the operating subsidiaries of Asset Management to UBS Asset Management AG. Effective 1 April 2019, as part of UBS's efforts to improve the resolvability of the Group, the portion of the Asset Management business in Switzerland conducted by UBS AG was transferred from UBS AG to its indirect subsidiary, UBS Asset Management Switzerland AG. With this transfer, UBS AG has completed the transfer of its Swiss Asset Management business and all Asset Management subsidiaries outside the US into a separate Asset Management sub-group structure.

#### UBS Group Funding (Switzerland) AG

UBS Group Funding (Switzerland) AG was established in 2016 as a wholly owned direct subsidiary of UBS Group AG, to issue loss-absorbing additional tier 1 (AT1) capital instruments and total loss-absorbing capacity (TLAC)-eligible senior unsecured debt, which were guaranteed by UBS Group AG. In line with regulatory requirements in Switzerland and following a change in Swiss tax law as of 1 January 2019 that applies to holding companies of systemically relevant banks issuing loss-absorbing AT1 or TLAC-eligible senior unsecured debt instruments, such existing instruments were migrated to UBS Group AG from UBS Group Funding (Switzerland) AG in October 2019.

#### UBS Business Solutions AG

In 2015, UBS Business Solutions AG was established as a direct subsidiary of UBS Group AG to act as the Group service company and UBS AG transferred the ownership of the majority of its existing service subsidiaries outside the US to UBS Business Solutions AG. In 2017, shared services functions in Switzerland and the UK were transferred from UBS AG to UBS Business Solutions AG and UBS AG also completed the transfer of the shared services employees in the US to its US service company, UBS Business Solutions US LLC, a wholly owned subsidiary of UBS Americas Holding LLC.

### Acquisitions

#### Increase of stake in and consolidation of UBS Securities China

In December 2018, UBS AG increased its shareholding in UBS Securities China from 24.99% to 51%, acquiring control of the entity in accordance with IFRS 10, *Consolidated Financial Statements*. Upon acquisition of control, UBS AG remeasured its former 24.99% holding at fair value, resulting in a pre-tax loss of USD 270 million, recognized in *Other income*. In addition, a net foreign currency translation gain of USD 46 million was recognized upon derecognition of the former investment in associate, also in *Other income*.

The cost of acquisition of the additional 26.01% stake was USD 125 million. Upon consolidation, UBS AG recognized USD 102 million of goodwill and USD 278 million of other net assets. In addition, a non-controlling interest of USD 136 million has been recognized.

### Sales and disposals of subsidiaries and businesses

In 2019, 2018 and 2017, no significant subsidiaries were removed from the scope of consolidation as a result of sales or disposals.

In the third quarter of 2018, UBS AG completed the sale of Widder Hotel, resulting in a pre-tax gain on sale of subsidiaries and businesses of USD 25 million and a pre-tax gain on sale of real estate of USD 31 million.

In 2017, UBS AG completed the sale of Asset Management's fund administration servicing units in Luxembourg and Switzerland to Northern Trust, resulting in a pre-tax gain on sale of USD 153 million.

## Note 32 Changes in organization and acquisitions and disposals of subsidiaries and businesses (continued)

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### Strategic partnership with Sumitomo Mitsui Trust Holdings

In June 2019, UBS AG entered into a strategic wealth management partnership in Japan with Sumitomo Mitsui Trust Holdings, Inc. (SuMi Trust Holdings). In January 2020, the first phase was launched, with operations commencing in the newly established joint venture, UBS SuMi TRUST Wealth Advisory, which is owned equally by UBS Securities Japan and SuMi Trust Holdings and is accounted for as an investment in a joint venture by UBS AG. UBS AG and SuMi Trust Holdings have also started offering each other's products and services to their respective current clients.

The second phase of the partnership is expected to launch in 2021 with the establishment of a new entity which will be 51% owned and controlled by UBS AG, requiring UBS AG to consolidate this entity. UBS AG does not expect a material effect on shareholders' equity upon closing.

### Strategic partnership with Banco do Brasil

In November 2019, UBS AG signed a binding agreement with Banco do Brasil to establish a strategic investment banking partnership that will provide investment banking services and institutional securities brokerage in Brazil and selected countries in South America. The partnership is expected to be established through a combination of assets from both stakeholders. UBS AG intends to contribute its operational investment banking

platform in Brazil and Argentina, as well as its institutional brokerage business in Brazil. Banco do Brasil intends to contribute the exclusive access rights to its corporate clients. UBS AG will hold a controlling interest of 50.01% in the entity, requiring UBS AG to consolidate this entity. Closing of the transaction is subject to regulatory approvals and is currently expected in the first half of 2020. UBS AG does not expect a material effect on shareholders' equity upon closing.

### Sale of majority stake in UBS Fondcenter

In January 2020, UBS AG has agreed to sell a majority stake in UBS Fondcenter to Clearstream, Deutsche Börse Group's post-trade services provider. UBS AG will retain a minority (48.8%) shareholding in the business and will enter into an agreement under which it may sell its remaining shareholding to Clearstream at a later date. As part of the transaction, UBS AG and Clearstream will enter into long-term commercial cooperation arrangements for the provision of services to Global Wealth Management, Asset Management and the Corporate & Institutional Clients unit of Personal & Corporate Banking. The transaction is subject to customary closing conditions and is expected to close in the second half of 2020. UBS AG expects to record a post-tax gain of around USD 600 million upon closing of the transaction. UBS AG will deconsolidate UBS Fondcenter and account for its minority interest as an investment in an associate.

### Note 33 Finance lease receivables

UBS AG acts as a lessor and leases a variety of assets to third parties under finance leases, such as commercial vehicles, production lines, medical equipment, construction equipment and aircraft. At the end of the respective lease term, assets may be sold to third parties or further leased. Lessees may participate in any sales proceeds achieved. Lease payments cover the cost of the assets less their residual value as well as financing costs.

As of 31 December 2019, unguaranteed residual values of USD 246 million (31 December 2018: USD 156 million) had been accrued and the ECL stage 3 allowance for uncollectible minimum lease payments receivable was USD 6 million (31 December 2018: USD 7 million). No contingent rents were received in 2019. Amounts in the table below are disclosed on a gross basis. The finance lease receivables in Note 17a of USD 1,444 million are presented net of expected credit loss allowances.

#### Lease receivables

USD million		31.12.19		
		Total minimum lease payments	Unearned finance income	Present value
2020		448	31	417
2021–2024		874	52	822
Thereafter		221	6	215
<b>Total</b>		<b>1,544</b>	<b>89</b>	<b>1,455</b>

USD million		31.12.18		
		Total minimum lease payments	Unearned finance income	Present value
2019		359	22	337
2020–2023		703	35	669
Thereafter		103	2	102
<b>Total</b>		<b>1,166</b>	<b>58</b>	<b>1,107</b>

### Note 34 Guarantees, commitments and forward starting transactions

The table below shows the maximum irrevocable amount of guarantees, commitments and forward starting transactions.

	Gross		Total gross	Sub-participations	Net
	Measured at fair value	Not measured at fair value			
As of 31.12.19, USD million					
<b>Total guarantees</b>	<b>986</b>	<b>18,142</b>	<b>19,128</b>	<b>(2,646)</b>	<b>16,482</b>
<b>Loan commitments</b>	<b>6,308</b>	<b>27,547</b>	<b>33,856</b>	<b>(787)</b>	<b>33,069</b>
<b>Forward starting transactions<sup>1</sup></b>					
Reverse repurchase agreements	20,284	1,657	21,941		
Repurchase agreements	7,740	408	8,148		
As of 31.12.18, USD million					
<b>Total guarantees</b>	1,639	18,146	19,785	(2,803)	16,982
<b>Loan commitments</b>	3,535	31,212	34,747	(647)	34,099
<b>Forward starting transactions<sup>1</sup></b>					
Reverse repurchase agreements	8,117	925	9,042		
Securities borrowing agreements		12	12		
Repurchase agreements	7,926	400	8,326		

<sup>1</sup> Cash to be paid in the future by either UBS AG or the counterparty.

## Note 35 Related parties

UBS AG defines related parties as associates (entities that are significantly influenced by UBS), joint ventures (entities in which UBS shares control with another party), post-employment benefit plans for UBS AG employees, key management personnel, close family members of key management personnel

and entities that are, directly or indirectly, controlled or jointly controlled by key management personnel or their close family members. Key management personnel is defined as members of the Board of Directors (BoD) and Executive Board (EB).

### a) Remuneration of key management personnel

The Chairman of the BoD has a specific management employment contract and receives pension benefits upon retirement. Total remuneration of the Chairman of the Board of Directors and all EB members is included in the table below.

#### Remuneration of key management personnel

USD million, except where indicated	31.12.19	31.12.18	31.12.17
Base salaries and other cash payments <sup>1</sup>	30	25	24
Incentive awards – cash <sup>2</sup>	13	14	13
Annual incentive award under DCCP	20	21	20
Employer's contributions to retirement benefit plans	2	3	3
Benefits in kind, fringe benefits (at market value)	1	2	2
Equity-based compensation <sup>3</sup>	34	38	36
<b>Total</b>	<b>101</b>	<b>102</b>	<b>98</b>
<b>Total (CHF million)<sup>4</sup></b>	<b>101</b>	<b>100</b>	<b>98</b>

<sup>1</sup> May include role-based allowances in line with market practice and regulatory requirements. <sup>2</sup> The cash portion may also include blocked shares in line with regulatory requirements. <sup>3</sup> Expenses for shares granted are calculated at grant date of the respective award and allocated over the vesting period of generally five years. Refer to Note 30 for more information. For EB members, equity-based compensation for 2019 was entirely comprised of LTIP awards and equity-based compensation for 2018 and 2017 was entirely comprised of EOP awards. For the Chairman of the BoD, the equity-based compensation for 2019, 2018 and 2017 was entirely comprised of UBS shares. <sup>4</sup> Swiss franc amounts disclosed represent the respective US dollar amounts translated at the applicable performance award currency exchange rates (2019: USD / CHF 0.99; 2018: USD / CHF 0.98; 2017: USD / CHF 1.00)

The independent members of the BoD do not have employment or service contracts with UBS AG, and thus are not entitled to benefits upon termination of their service on the BoD. Payments to these individuals for their services as external board members

amounted to USD 7.3 million (CHF 7.3 million) in 2019, USD 7.6 million (CHF 7.4 million) in 2018 and USD 7.1 million (CHF 7.1 million) in 2017.

### b) Equity holdings of key management personnel

#### Equity holdings of key management personnel

	31.12.19	31.12.18
Number of stock options from equity participation plans held by non-independent members of the BoD and the EB members <sup>1</sup>	0	0
Number of shares held by members of the BoD, EB and parties closely linked to them <sup>2</sup>	6,609,848	5,676,989

<sup>1</sup> Refer to Note 30 for more information. <sup>2</sup> Excludes shares granted under variable compensation plans with forfeiture provisions.

Of the share totals above, no shares were held by close family members of key management personnel on 31 December 2019 and 95,597 shares were held by close family members of key management personnel on 31 December 2018. No shares were held by entities that are directly or indirectly controlled or jointly

controlled by key management personnel or their close family members on 31 December 2019 and 31 December 2018. Refer to Note 30 for more information. As of 31 December 2019, no member of the BoD or EB was the beneficial owner of more than 1% of UBS Group AG's shares.

## Note 35 Related parties (continued)

### c) Loans, advances and mortgages to key management personnel

The non-independent members of the BoD and EB members are granted loans, fixed advances and mortgages in the ordinary course of business on substantially the same terms and conditions that are available to other employees, including interest rates and collateral, and neither involve more than the normal risk of collectibility nor contain any other unfavorable

features for the firm. Independent BoD members are granted loans and mortgages in the ordinary course of business at general market conditions.

Movements in the loan, advances and mortgage balances are as follows.

#### Loans, advances and mortgages to key management personnel<sup>1</sup>

<i>USD million, except where indicated</i>	2019	2018
Balance at the beginning of the year	28	34
Additions	6	15
Reductions	(11)	(22)
Balance at the end of the year <sup>2</sup>	23	28
Balance at the end of the year (CHF million) <sup>2, 3</sup>	22	27

<sup>1</sup> All loans are secured loans. <sup>2</sup> No unused uncommitted credit facilities as of 31 December 2019. Excludes unused uncommitted credit facilities for one EB member of USD 3,000,000 (CHF 2,949,690) as of 31 December 2018. <sup>3</sup> Swiss franc amounts disclosed represent the respective US dollar amounts translated at the relevant year-end closing exchange rate.

### d) Other related-party transactions with entities controlled by key management personnel

In 2019 and 2018, UBS AG did not enter into transactions with entities that are directly or indirectly controlled or jointly controlled by UBS AG's key management personnel or their close family members and as of 31 December 2019, 31 December 2018 and 31 December 2017, there were no outstanding balances related to such transactions. Furthermore,

in 2019 and 2018, entities controlled by key management personnel did not sell any goods or provide any services to UBS AG, and therefore did not receive any fees from UBS AG. UBS AG also did not provide services to such entities in 2019 and 2018, and therefore also received no fees.

## Note 35 Related parties (continued)

### e) Transactions with associates and joint ventures

#### Loans to and outstanding receivables from associates and joint ventures

<i>USD million</i>	2019	2018
Carrying amount at the beginning of the year	829	565
Additions	145	276
Reductions	(5)	(13)
Foreign currency translation	13	0
Carrying amount at the end of the year	982	829
<i>of which: unsecured loans</i>	971	818

#### Other transactions with associates and joint ventures

<i>USD million</i>	As of or for the year ended	
	31.12.19	31.12.18
Payments to associates and joint ventures for goods and services received	124	177
Fees received for services provided to associates and joint ventures	1	4
Liabilities to associates and joint ventures	101	
Commitments and contingent liabilities to associates and joint ventures	1,598	4

→ Refer to Note 31 for an overview of investments in associates and joint ventures

### f) Receivables and payables from / to UBS Group AG and other subsidiaries of UBS Group AG

<i>USD million</i>	31.12.19	31.12.18
<b>Receivables</b>		
Loans and advances to customers	1,255	1,161
Financial assets at fair value held for trading	180	139
Other financial assets measured at amortized cost	60	105
<b>Payables</b>		
Customer deposits	2,314	2,152
Funding from UBS Group AG and its subsidiaries	47,866	41,202
Other financial liabilities measured at amortized cost	1,829	1,711
Other financial liabilities designated at fair value <sup>1</sup>	217	

<sup>1</sup> Represents funding recognized from UBS Group AG and its subsidiaries that is designated at fair value. Refer to Note 22b for more information.

## Note 36 Invested assets and net new money

### Invested assets

Invested assets include all client assets managed by or deposited with UBS AG for investment purposes. Invested assets include managed fund assets, managed institutional assets, discretionary and advisory wealth management portfolios, fiduciary deposits, time deposits, savings accounts and wealth management securities or brokerage accounts. All assets held for purely transactional purposes and custody-only assets, including corporate client assets held for cash management and transactional purposes, are excluded from invested assets as UBS AG only administers the assets and does not offer advice on how the assets should be invested. Also excluded are non-bankable assets (e.g., art collections) and deposits from third-party banks for funding or trading purposes.

Discretionary assets are defined as client assets that UBS AG decides how to invest. Other invested assets are those where the client ultimately decides how the assets are invested. When a single product is created in one business division and sold in another, it is counted in both the business division that manages the investment and the one that distributes it. This results in double counting within UBS AG total invested assets, as both business divisions are independently providing a service to their respective clients, and both add value and generate revenue.

### Net new money

Net new money in a reporting period is the amount of invested assets that are entrusted to UBS AG by new and existing clients, less those withdrawn by existing clients and clients who terminated their relationship with UBS AG.

Net new money is calculated using the direct method, under which inflows and outflows to / from invested assets are determined at the client level based on transactions. Interest and dividend income from invested assets are not counted as net new money inflows. Market and currency movements as well as fees, commissions and interest on loans charged are excluded from net new money, as are the effects resulting from any acquisition or divestment of a UBS AG subsidiary or business. Reclassifications between invested assets and custody-only assets as a result of a change in the service level delivered are generally treated as net new money flows. However, where the change in service level directly results from an externally imposed regulation or from a strategic decision by UBS AG to exit a market or specific service offering, the one-time net effect is reported as *Other effects*.

The Investment Bank does not track invested assets and net new money. However, when a client is transferred from the Investment Bank to another business division, this may produce net new money even though client assets were already with UBS AG. There were no such transfers between the Investment Bank and other business divisions in 2019 and 2018.

### Invested assets and net new money

	As of or for the year ended	
USD billion	31.12.19	31.12.18
Fund assets managed by UBS	358	342
Discretionary assets	1,209	999
Other invested assets	2,040	1,760
<b>Total invested assets<sup>1</sup></b>	<b>3,607</b>	<b>3,101</b>
<i>of which: double counts</i>	<i>248</i>	<i>213</i>
<b>Net new money<sup>1</sup></b>	<b>51</b>	<b>59</b>

<sup>1</sup> Includes double counts.

### Development of invested assets

USD billion	2019	2018
Total invested assets at the beginning of the year <sup>1</sup>	3,101	3,262
Net new money	51	59
Market movements <sup>2</sup>	444	(180)
Foreign currency translation	6	(35)
Other effects	5	(5)
<i>of which: acquisitions / (divestments)</i>	<i>(7)</i>	<i>7</i>
<b>Total invested assets at the end of the year<sup>1</sup></b>	<b>3,607</b>	<b>3,101</b>

<sup>1</sup> Includes double counts. <sup>2</sup> Includes interest and dividend income.

### Note 37 Currency translation rates

The following table shows the rates of the main currencies used to translate the financial information of UBS AG's operations with a functional currency other than the US dollar into US dollars.

	Closing exchange rate		Average rate <sup>1</sup>		
	As of		For the year ended		
	31.12.19	31.12.18	31.12.19	31.12.18	31.12.17
1 CHF	1.03	1.02	1.01	1.02	1.02
1 EUR	1.12	1.15	1.12	1.18	1.14
1 GBP	1.32	1.28	1.28	1.33	1.30
100 JPY	0.92	0.91	0.92	0.91	0.89

<sup>1</sup> Monthly income statement items of operations with a functional currency other than the US dollar are translated with month-end rates into US dollars. Disclosed average rates for a year represent an average of 12 month-end rates, weighted according to the income and expense volumes of all operations of UBS AG with the same functional currency for each month. Weighted average rates for individual business divisions may deviate from the weighted average rates for UBS AG.



## Note 38 Main differences between IFRS and Swiss GAAP

The consolidated financial statements of UBS AG are prepared in accordance with International Financial Reporting Standards (IFRS). The Swiss Financial Market Supervisory Authority (FINMA) requires financial groups that present their financial statements under IFRS to provide a narrative explanation of the main differences between IFRS and Swiss GAAP (FINMA Circular 2015 / 1 and the Banking Ordinance). Included in this Note are the significant differences in the recognition and measurement between IFRS and the provisions of the Banking Ordinance and the guidelines of FINMA governing true and fair view financial statement reporting pursuant to article 25 through article 42 of the Banking Ordinance.

### 1. Consolidation

Under IFRS, all entities that are controlled by the holding entity are consolidated.

Under Swiss GAAP, controlled entities that are deemed immaterial to UBS AG or that are held temporarily only are exempt from consolidation, but instead are recorded as participations accounted for under the equity method of accounting or as financial investments measured at the lower of cost or market value.

### 2. Classification and measurement of financial assets

Under IFRS, debt instruments are measured at amortized cost, fair value through other comprehensive income (FVOCI) or fair value through profit or loss (FVTPL), depending on the nature of the business model within which the asset is held and the characteristics of the contractual cash flows of the asset. Equity instruments are accounted for at FVTPL by UBS AG.

Under Swiss GAAP, trading assets and derivatives are measured at FVTPL in line with IFRS. However, non-trading debt instruments are generally measured at amortized cost, even when the assets are managed on a fair value basis. In addition, the measurement of financial assets in the form of securities depends on the nature of the asset: debt instruments that are not held to maturity, i.e. instruments which are available for sale, as well as equity instruments with no permanent holding intent, are classified as *Financial investments* and measured at the lower of (amortized) cost or market value. Market value adjustments up to the original cost amount and realized gains or losses upon disposal of the investment are recorded in the income statement as *Other income from ordinary activities*. Equity instruments with a permanent holding intent are classified as participations in *Non-consolidated investments in subsidiaries and other participations* and are measured at cost less impairment.

Impairment losses are recorded in the income statement as *Impairment of investments in non-consolidated subsidiaries and other participations*. Reversals of impairments up to the original cost amount as well as realized gains or losses upon disposal of the investment are recorded as *Extraordinary income / Extraordinary expenses* in the income statement.

### 3. Fair value option applied to financial liabilities

Under IFRS, UBS AG applies the fair value option to certain financial liabilities not held for trading. Instruments for which the fair value option is applied are accounted for at FVTPL. The amount of change in the fair value that is attributable to changes in UBS AG's own credit is presented in *Other comprehensive income* directly within *Retained earnings*. The fair value option is applied primarily to issued structured debt instruments, certain non-structured debt instruments, certain payables under repurchase agreements and cash collateral on securities lending agreements, amounts due under unit-linked investment contracts, and brokerage payables.

Under Swiss GAAP, the fair value option can only be applied to structured debt instruments that consist of a debt host contract and one or more embedded derivatives that do not relate to own equity. Furthermore, unrealized changes in fair value attributable to changes in UBS AG's own credit are not recognized, whereas realized own credit is recognized in *Net trading income*.

### 4. Allowances and provisions for credit losses

Under IFRS, allowances and provisions for credit losses are estimated based on an expected credit loss model. Expected credit losses (ECL) are recognized for financial assets measured at amortized cost, financial assets measured at FVOCI, fee and lease receivables, financial guarantees, loan commitments and certain other credit facilities. Maximum 12-month ECL are recognized from initial recognition of instruments in stage 1. Lifetime ECL are recognized for instruments in stage 2 if a significant increase in credit risk is observed subsequent to the instrument's initial recognition. Lifetime ECL are also recognized for credit-impaired financial instruments, referred to as instruments in stage 3. Determination of whether an instrument is credit-impaired is based on the occurrence of one or more loss events.

## Note 38 Main differences between IFRS and Swiss GAAP (continued)

Under Swiss GAAP, a claim is impaired and an allowance or provision for credit losses is recognized when objective evidence demonstrates that a loss event has occurred after the initial recognition and that the loss event has an effect on future cash flows that can be reliably estimated (incurred loss approach). UBS AG considers a claim to be impaired if it will be unable to collect all amounts due on it based on the original contractual terms as a result of credit deterioration of the issuer or counterparty. Impairment under the incurred loss approach is in line with ECL for credit-impaired claims in stage 3 under IFRS. A claim can be a loan or receivable or other debt instrument held to maturity measured at amortized cost, a debt instrument available for sale measured at the lower of amortized cost or market value, or a commitment, such as a letter of credit, a guarantee or a similar instrument.

An allowance for credit losses is reported as a decrease in the carrying amount of a financial asset. For an off-balance sheet item, such as a commitment, a provision for credit losses is reported in *Provisions*. Changes to allowances and provisions for credit losses are recognized in *Credit loss (expense) / recovery*.

### 5. Hedge accounting

Under IFRS, when cash flow hedge accounting is applied, the fair value gain or loss on the effective portion of the derivative designated as a cash flow hedge is recognized in equity. When fair value hedge accounting is applied, the fair value gains or losses of the derivative and the hedged item are recognized in the income statement.

Under Swiss GAAP, the effective portion of the fair value change of the derivative instrument designated as a cash flow or as a fair value hedge is deferred on the balance sheet as *Other assets* or *Other liabilities*. The carrying amount of the hedged item designated in fair value hedges is not adjusted for fair value changes attributable to the hedged risk.

### 6. Goodwill and intangible assets

Under IFRS, goodwill acquired in a business combination is not amortized but tested annually for impairment. Intangible assets with an indefinite useful life are also not amortized but tested annually for impairment.

Under Swiss GAAP, goodwill and intangible assets with indefinite useful lives are amortized over a period not exceeding five years, unless a longer useful life, which may not exceed 10 years, can be justified. In addition, these assets are tested annually for impairment.

### 7. Pension and other post-employment benefit plans

Swiss GAAP permits the use of IFRS or Swiss accounting standards for pension and other post-employment benefit plans, with the election made on a plan-by-plan basis.

UBS AG has elected to apply IFRS (IAS 19) for the non-Swiss defined benefit plans and Swiss GAAP (FER 16) for the Swiss pension plan in its standalone financial statements. The requirements of Swiss GAAP are better aligned with the specific nature of Swiss pension plans, which are hybrid in that they combine elements of defined contribution and defined benefit plans, but are treated as defined benefit plans under IFRS. Key differences between Swiss GAAP and IFRS include the treatment of dynamic elements, such as future salary increases and future interest credits on retirement savings, which are not considered under the static method used in accordance with Swiss GAAP. Also, the discount rate used to determine the defined benefit obligation in accordance with IFRS is based on the yield of high-quality corporate bonds of the market in the respective pension plan country. The discount rate used in accordance with Swiss GAAP (i.e., the technical interest rate) is determined by the Pension Foundation Board based on the expected returns of the Board's investment strategy.

For defined benefit plans, IFRS requires the full defined benefit obligation net of the plan assets to be recorded on the balance sheet, with changes resulting from remeasurements recognized directly in equity. However, for non-Swiss defined benefit plans for which IFRS accounting is elected, changes due to remeasurements are recognized in the income statement of UBS AG standalone under Swiss GAAP.

Swiss GAAP requires that employer contributions to the pension fund are recognized as personnel expenses in the income statement. Furthermore, Swiss GAAP requires an assessment as to whether, based on the financial statements of the pension fund prepared in accordance with Swiss accounting standards (FER 26), an economic benefit to, or obligation of, the employer arises from the pension fund which is recognized in the balance sheet when conditions are met. Conditions for recording a pension asset or liability would be met if, for example, an employer contribution reserve is available or the employer is required to contribute to the reduction of a pension deficit (on an FER 26 basis).

## Note 38 Main differences between IFRS and Swiss GAAP (continued)

### 8. Leasing

Under IFRS, a single lease accounting model applies that requires UBS AG to record a right-of-use (RoU) asset and a corresponding lease liability on the balance sheet when UBS AG is a lessee in a lease arrangement. The RoU asset and the lease liability are recognized when UBS AG acquires control of the physical use of the asset. The lease liability is measured based on the present value of the lease payments over the lease term, discounted using UBS AG's unsecured borrowing rate. The RoU asset is recorded at an amount equal to the lease liability but is adjusted for rent prepayments, initial direct costs, any costs to refurbish the leased asset and/or lease incentives received. The RoU asset is depreciated over the shorter of the lease term or the useful life of the underlying asset.

Under Swiss GAAP, leases that transfer substantially all the risks and rewards, but not necessarily legal title in the underlying assets, are classified as finance leases. All other leases are classified as operating leases. Whereas finance leases are recognized on the balance sheet and measured in line with IFRS, operating lease payments are recognized as *General and administrative expenses* on a straight-line basis over the lease term, which commences with control of the physical use of the asset. Lease incentives are treated as a reduction of rental expense and are recognized on a consistent basis over the lease term.

### 9. Netting of replacement values

Under IFRS, replacement values and related cash collateral are reported on a gross basis unless the restrictive IFRS netting

requirements are met: i) existence of master netting agreements and related collateral arrangements that are unconditional and legally enforceable, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS AG and its counterparties; and ii) UBS AG's intention to either settle on a net basis or to realize the asset and settle the liability simultaneously.

Under Swiss GAAP, replacement values and related cash collateral are generally reported on a net basis, provided the master netting and the related collateral agreements are legally enforceable in the event of default, bankruptcy or insolvency of UBS AG's counterparties.

### 10. Negative interest

Under IFRS, negative interest income arising on a financial asset does not meet the definition of interest income and, therefore, negative interest on financial assets and negative interest on financial liabilities are presented within interest expense and interest income, respectively.

Under Swiss GAAP, negative interest on financial assets is presented within interest income and negative interest on financial liabilities is presented within interest expense.

### 11. Extraordinary income and expense

Certain non-recurring and non-operating income and expense items, such as realized gains or losses from the disposal of participations, fixed and intangible assets, as well as reversals of impairments of participations and fixed assets, are classified as extraordinary items under Swiss GAAP. This distinction is not available under IFRS. ▲

## **Note 39 Supplemental guarantor information required under SEC regulations**

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### **Joint liability of UBS Switzerland AG**

In 2015, the Personal & Corporate Banking and Wealth Management businesses booked in Switzerland were transferred from UBS AG to UBS Switzerland AG through an asset transfer in accordance with the Swiss Merger Act. Under the terms of the asset transfer agreement, UBS Switzerland AG assumed joint liability for contractual obligations of UBS AG existing on the asset transfer date, including the full and unconditional guarantee of certain registered debt securities issued by UBS AG. To reflect this joint liability, UBS Switzerland AG is presented in a separate column as a subsidiary co-guarantor.

The joint liability of UBS Switzerland AG for contractual obligations of UBS AG decreased in 2019 by USD 9 billion to USD 17 billion as of 31 December 2019, mainly driven by contractual maturities and, to a lesser extent, early extinguishments of UBS AG liabilities which existed at the date of the asset transfer in the second quarter of 2015.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated income statement

USD million

For the year ended 31 December 2019

	UBS AG (standalone) <sup>1</sup>	UBS Switzerland AG (standalone) <sup>1</sup>	Other subsidiaries <sup>2</sup>	Elimination entries	UBS AG (consolidated)
<b>Operating income<sup>3</sup></b>					
Interest income	8,966	4,104	5,380	(3,028)	15,421
Interest expense	(9,472)	(1,021)	(3,583)	3,070	(11,006)
Net interest income	(506)	3,083	1,796	42	4,415
Other net income from financial instruments measured at fair value through profit or loss	5,116	924	1,114	(322)	6,833
Credit loss (expense) / recovery	(51)	7	(33)	0	(78)
Fee and commission income	3,285	4,342	12,527	(997)	19,156
Fee and commission expense	(674)	(819)	(1,188)	986	(1,696)
Net fee and commission income	2,610	3,523	11,338	(11)	17,460
Other income	4,962	259	1,960	(6,504)	677
<b>Total operating income</b>	<b>12,131</b>	<b>7,796</b>	<b>16,176</b>	<b>(6,795)</b>	<b>29,307</b>
<b>Operating expenses</b>					
Personnel expenses	3,251	1,936	8,614	0	13,801
General and administrative expenses	3,467	3,181	4,565	(2,627)	8,586
Depreciation and impairment of property, equipment and software	861	221	602	(108)	1,576
Amortization and impairment of goodwill and intangible assets	94	0	170	(88)	175
<b>Total operating expenses</b>	<b>7,672</b>	<b>5,338</b>	<b>13,951</b>	<b>(2,823)</b>	<b>24,138</b>
<b>Operating profit / (loss) before tax</b>	<b>4,458</b>	<b>2,458</b>	<b>2,225</b>	<b>(3,972)</b>	<b>5,169</b>
Tax expense / (benefit)	176	514	530	(21)	1,198
Net profit / (loss)	4,283	1,944	1,695	(3,951)	3,971
Net profit / (loss) attributable to non-controlling interests	0	0	6	0	6
<b>Net profit / (loss) attributable to shareholders</b>	<b>4,283</b>	<b>1,944</b>	<b>1,689</b>	<b>(3,951)</b>	<b>3,965</b>

<sup>1</sup> Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at [www.ubs.com/investors](http://www.ubs.com/investors) for information prepared in accordance with Swiss GAAP. <sup>2</sup> The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG, as well as standalone information for other subsidiaries. <sup>3</sup> Effective 1 January 2019, UBS AG, UBS Switzerland AG and certain other subsidiaries refined the presentation of dividend income and expense, reclassifying dividends from Interest income (expense) to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. Refer to Note 1b for more information.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated statement of comprehensive income

USD million	UBS AG (standalone) <sup>1</sup>	UBS Switzerland AG (standalone) <sup>1</sup>	Other subsidiaries <sup>2</sup>	Elimination entries	UBS AG (consolidated)
For the year ended 31 December 2019					
<b>Comprehensive income attributable to shareholders</b>					
Net profit / (loss)	4,283	1,944	1,689	(3,951)	3,965
<b>Other comprehensive income</b>					
<b>Other comprehensive income that may be reclassified to the income statement</b>					
Foreign currency translation, net of tax	(12)	150	39	(85)	92
Financial assets measured at fair value through other comprehensive income, net of tax	0	0	117	0	117
Cash flow hedges, net of tax	870	140	147	(15)	1,143
<b>Total other comprehensive income that may be reclassified to the income statement, net of tax</b>	<b>859</b>	<b>290</b>	<b>303</b>	<b>(100)</b>	<b>1,351</b>
<b>Other comprehensive income that will not be reclassified to the income statement</b>					
Defined benefit plans, net of tax	(78)	(6)	(75)	(11)	(170)
Own credit on financial liabilities designated at fair value, net of tax	(392)				(392)
<b>Total other comprehensive income that will not be reclassified to the income statement, net of tax</b>	<b>(470)</b>	<b>(6)</b>	<b>(75)</b>	<b>(11)</b>	<b>(562)</b>
<b>Total other comprehensive income</b>	<b>388</b>	<b>284</b>	<b>228</b>	<b>(111)</b>	<b>789</b>
<b>Total comprehensive income attributable to shareholders</b>	<b>4,671</b>	<b>2,228</b>	<b>1,917</b>	<b>(4,062)</b>	<b>4,754</b>
<b>Total comprehensive income attributable to non-controlling interests</b>			<b>2</b>		<b>2</b>
<b>Total comprehensive income</b>	<b>4,671</b>	<b>2,228</b>	<b>1,919</b>	<b>(4,062)</b>	<b>4,756</b>

<sup>1</sup> Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at [www.ubs.com/investors](http://www.ubs.com/investors) for information prepared in accordance with Swiss GAAP. <sup>2</sup> The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG, as well as standalone information for other subsidiaries.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated balance sheet

USD million	UBS AG (standalone) <sup>1</sup>	UBS Switzerland AG (standalone) <sup>1</sup>	Other subsidiaries <sup>2</sup>	Elimination entries	UBS AG (consolidated)
As of 31 December 2019					
<b>Assets</b>					
Cash and balances at central banks	36,386	60,926	9,756		107,068
Loans and advances to banks	32,888	7,992	17,430	(45,931)	12,379
Receivables from securities financing transactions	56,946	12,536	42,534	(27,771)	84,245
Cash collateral receivables on derivative instruments	22,830	990	8,508	(9,038)	23,289
Loans and advances to customers	88,386	193,543	63,676	(17,612)	327,992
Other financial assets measured at amortized cost	5,723	8,168	11,448	(2,327)	23,012
<b>Total financial assets measured at amortized cost</b>	<b>243,159</b>	<b>284,154</b>	<b>153,351</b>	<b>(102,679)</b>	<b>577,985</b>
Financial assets at fair value held for trading	113,802	53	15,320	(1,479)	127,695
<i>of which: assets pledged as collateral that may be sold or repledged by counterparties</i>	<i>58,599</i>	<i>0</i>	<i>5,386</i>	<i>(22,701)</i>	<i>41,285</i>
Derivative financial instruments	118,708	4,251	29,782	(30,899)	121,843
Brokerage receivables	11,453		6,556	(1)	18,007
Financial assets at fair value not held for trading	49,525	6,701	41,908	(14,498)	83,636
<b>Total financial assets measured at fair value through profit or loss</b>	<b>293,488</b>	<b>11,004</b>	<b>93,565</b>	<b>(46,877)</b>	<b>351,181</b>
<b>Financial assets measured at fair value through other comprehensive income</b>	<b>176</b>		<b>6,169</b>		<b>6,345</b>
Investments in subsidiaries and associates	51,212	28	39	(50,227)	1,051
Property, equipment and software <sup>3</sup>	7,318	1,144	3,749	(385)	11,826
Goodwill and intangible assets	222		6,212	35	6,469
Deferred tax assets	618	0	8,895		9,513
Other non-financial assets	5,060	1,770	857	(140)	7,547
<b>Total assets</b>	<b>601,252</b>	<b>298,101</b>	<b>272,837</b>	<b>(200,273)</b>	<b>971,916</b>
<b>Liabilities</b>					
Amounts due to banks	55,738	28,240	35,773	(113,181)	6,570
Payables from securities financing transactions	21,326	565	13,583	(27,696)	7,778
Cash collateral payables on derivative instruments	30,571	98	9,773	(9,027)	31,416
Customer deposits	85,954	239,226	86,550	38,861	450,591
Funding from UBS Group AG and its subsidiaries <sup>4</sup>	47,866				47,866
Debt issued measured at amortized cost	54,317	8,583	5	(70)	62,835
Other financial liabilities measured at amortized cost <sup>3</sup>	5,345	2,666	5,204	(2,842)	10,373
<b>Total financial liabilities measured at amortized cost</b>	<b>301,117</b>	<b>279,379</b>	<b>150,888</b>	<b>(113,954)</b>	<b>617,429</b>
Financial liabilities at fair value held for trading	25,292	383	6,233	(1,317)	30,591
Derivative financial instruments	117,597	4,046	30,089	(30,852)	120,880
Brokerage payables designated at fair value	25,358		11,877	(3)	37,233
Debt issued designated at fair value	65,677		952	(38)	66,592
Other financial liabilities designated at fair value	8,571		31,031	(3,445)	36,157
<b>Total financial liabilities measured at fair value through profit or loss</b>	<b>242,495</b>	<b>4,429</b>	<b>80,184</b>	<b>(35,655)</b>	<b>291,452</b>
Provisions	1,101	196	1,641		2,938
Other non-financial liabilities	1,644	931	3,559	34	6,168
<b>Total liabilities</b>	<b>546,357</b>	<b>284,936</b>	<b>236,271</b>	<b>(149,576)</b>	<b>917,988</b>
<b>Equity attributable to shareholders</b>	<b>54,895</b>	<b>13,165</b>	<b>36,391</b>	<b>(50,697)</b>	<b>53,754</b>
Equity attributable to non-controlling interests			174		174
<b>Total equity</b>	<b>54,895</b>	<b>13,165</b>	<b>36,566</b>	<b>(50,697)</b>	<b>53,928</b>
<b>Total liabilities and equity</b>	<b>601,252</b>	<b>298,101</b>	<b>272,837</b>	<b>(200,273)</b>	<b>971,916</b>

<sup>1</sup> Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at [www.ubs.com/investors](http://www.ubs.com/investors) for information prepared in accordance with Swiss GAAP. <sup>2</sup> The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE and UBS Asset Management AG, as well as standalone information for other subsidiaries. <sup>3</sup> Includes the effects of the adoption of IFRS 16, Leases, as of 1 January 2019. Refer to Note 1 for more information. <sup>4</sup> Represents funding from UBS Group AG to UBS AG.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated statement of cash flows

<i>USD million</i>				
For the year ended 31 December 2019	UBS AG <sup>1</sup>	UBS Switzerland AG <sup>1</sup>	Other subsidiaries <sup>1</sup>	UBS AG (consolidated)
<b>Net cash flow from / (used in) operating activities</b>	<b>17,531</b>	<b>8,882</b>	<b>(7,608)</b>	<b>18,805</b>
<b>Cash flow from / (used in) investing activities</b>				
Purchase of subsidiaries, associates and intangible assets	(6)	0	(20)	(26)
Disposal of subsidiaries, associates and intangible assets <sup>2</sup>	100	0	14	114
Purchase of property, equipment and software	(628)	(173)	(600)	(1,401)
Disposal of property, equipment and software	10	0	1	11
Purchase of financial assets measured at fair value through other comprehensive income	(10)	0	(3,414)	(3,424)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	10	0	3,904	3,913
Net (purchase) / redemption of debt securities measured at amortized cost	(1,045)	437	45	(562)
<b>Net cash flow from / (used in) investing activities</b>	<b>(1,569)</b>	<b>264</b>	<b>(70)</b>	<b>(1,374)</b>
<b>Cash flow from / (used in) financing activities</b>				
Net short-term debt issued / (repaid)	(17,150)	0	0	(17,149)
Distributions paid on UBS shares	(3,250)	0	0	(3,250)
Repayment of lease liabilities	(262)	0	(234)	(496)
Issuance of long-term debt, including debt issued designated at fair value	58,437	621	142	59,199
Repayment of long-term debt, including debt issued designated at fair value	(67,113)	(752)	(1,017)	(68,883)
Funding from UBS Group AG and its subsidiaries <sup>3</sup>	5,848	0	0	5,848
Net changes in non-controlling interests	0	0	(8)	(8)
Net activity related to group internal capital transactions and dividends	3,569	(2,055)	(1,514)	0
<b>Net cash flow from / (used in) financing activities</b>	<b>(19,922)</b>	<b>(2,186)</b>	<b>(2,630)</b>	<b>(24,738)</b>
<b>Total cash flow</b>				
<b>Cash and cash equivalents at the beginning of the year</b>	<b>42,895</b>	<b>54,757</b>	<b>28,201</b>	<b>125,853</b>
Net cash flow from / (used in) operating, investing and financing activities	(3,960)	6,961	(10,308)	(7,307)
Effects of exchange rate differences on cash and cash equivalents	664	833	(239)	1,258
<b>Cash and cash equivalents at the end of the year<sup>4</sup></b>	<b>39,598</b>	<b>62,551</b>	<b>17,655</b>	<b>119,804</b>
<i>of which: cash and balances at central banks</i>	<i>36,275</i>	<i>60,926</i>	<i>9,756</i>	<i>106,957</i>
<i>of which: loans and advances to banks</i>	<i>2,697</i>	<i>1,127</i>	<i>7,493</i>	<i>11,317</i>
<i>of which: money market paper<sup>5</sup></i>	<i>626</i>	<i>498</i>	<i>406</i>	<i>1,530</i>

<sup>1</sup> Cash flows generally represent a third-party view from a UBS AG consolidated perspective, except for Net activity related to group internal capital transactions and dividends. <sup>2</sup> Includes dividends received from associates. <sup>3</sup> Represents funding from UBS Group AG to UBS AG. <sup>4</sup> Comprises balances with an original maturity of three months or less. USD 3,192 million of cash and cash equivalents were restricted. <sup>5</sup> Money market paper is included in the balance sheet under Financial assets at fair value held for trading, Financial assets measured at fair value through other comprehensive income, Financial assets at fair value not held for trading, and Other financial assets measured at amortized cost.



## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated income statement

USD million	UBS AG (standalone) <sup>1</sup>	UBS Switzerland AG (standalone) <sup>1</sup>	Other subsidiaries <sup>2</sup>	Elimination entries	UBS AG (consolidated)
For the year ended 31 December 2018					
<b>Operating income<sup>3</sup></b>					
Interest income	8,176	4,263	5,308	(2,960)	14,787
Interest expense	(8,673)	(901)	(3,240)	2,998	(9,815)
Net interest income	(497)	3,363	2,068	38	4,971
Other net income from financial instruments measured at fair value through profit or loss	5,204	889	970	(110)	6,953
Credit loss (expense) / recovery	(37)	(52)	(9)	(19)	(117)
Fee and commission income	2,655	4,474	13,159	(656)	19,632
Fee and commission expense	(851)	(391)	(1,108)	648	(1,703)
Net fee and commission income	1,804	4,083	12,050	(8)	17,930
Other income	4,722	198	2,110	(6,125)	905
<b>Total operating income</b>	<b>11,196</b>	<b>8,480</b>	<b>17,189</b>	<b>(6,223)</b>	<b>30,642</b>
<b>Operating expenses</b>					
Personnel expenses	3,592	1,890	8,510	0	13,992
General and administrative expenses	4,691	3,471	5,403	(3,490)	10,075
Depreciation and impairment of property, equipment and software	715	21	316	0	1,052
Amortization and impairment of goodwill and intangible assets	3	0	62	0	65
<b>Total operating expenses</b>	<b>9,001</b>	<b>5,382</b>	<b>14,291</b>	<b>(3,490)</b>	<b>25,184</b>
<b>Operating profit / (loss) before tax</b>	<b>2,195</b>	<b>3,098</b>	<b>2,898</b>	<b>(2,733)</b>	<b>5,458</b>
Tax expense / (benefit)	25	670	577	73	1,345
Net profit / (loss)	2,170	2,428	2,321	(2,806)	4,113
Net profit / (loss) attributable to non-controlling interests	0	0	7	0	7
<b>Net profit / (loss) attributable to shareholders</b>	<b>2,170</b>	<b>2,428</b>	<b>2,314</b>	<b>(2,806)</b>	<b>4,107</b>

<sup>1</sup> Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at [www.ubs.com/investors](http://www.ubs.com/investors) for information prepared in accordance with Swiss GAAP. <sup>2</sup> The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries. <sup>3</sup> Effective 1 January 2019, UBS AG, UBS Switzerland AG and certain other subsidiaries refined the presentation of dividend income and expense, reclassifying dividends from Interest income (expense) to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. Refer to Note 1b for more information.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated statement of comprehensive income

USD million	UBS AG (standalone) <sup>1</sup>	UBS Switzerland AG (standalone) <sup>1</sup>	Other subsidiaries <sup>2</sup>	Elimination entries	UBS AG (consolidated)
For the year ended 31 December 2018					
<b>Comprehensive income attributable to shareholders</b>					
Net profit / (loss)	2,170	2,428	2,314	(2,806)	4,107
<b>Other comprehensive income</b>					
<b>Other comprehensive income that may be reclassified to the income statement</b>					
Foreign currency translation, net of tax	(369)	(109)	215	(252)	(515)
Financial assets measured at fair value through other comprehensive income, net of tax	0	0	(45)	0	(45)
Cash flow hedges, net of tax	(277)	2	19	(13)	(269)
<b>Total other comprehensive income that may be reclassified to the income statement, net of tax</b>	<b>(646)</b>	<b>(107)</b>	<b>189</b>	<b>(265)</b>	<b>(829)</b>
<b>Other comprehensive income that will not be reclassified to the income statement</b>					
Defined benefit plans, net of tax	89	(126)	212	0	175
Own credit on financial liabilities designated at fair value, net of tax	509				509
<b>Total other comprehensive income that will not be reclassified to the income statement, net of tax</b>	<b>598</b>	<b>(126)</b>	<b>212</b>	<b>0</b>	<b>684</b>
<b>Total other comprehensive income</b>	<b>(48)</b>	<b>(233)</b>	<b>401</b>	<b>(265)</b>	<b>(145)</b>
<b>Total comprehensive income attributable to shareholders</b>	<b>2,122</b>	<b>2,195</b>	<b>2,715</b>	<b>(3,071)</b>	<b>3,961</b>
<b>Total comprehensive income attributable to non-controlling interests</b>			<b>5</b>		<b>5</b>
<b>Total comprehensive income</b>	<b>2,122</b>	<b>2,195</b>	<b>2,721</b>	<b>(3,071)</b>	<b>3,967</b>

<sup>1</sup> Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at [www.ubs.com/investors](http://www.ubs.com/investors) for information prepared in accordance with Swiss GAAP. <sup>2</sup> The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated balance sheet

USD million	UBS AG (standalone) <sup>1</sup>	UBS Switzerland AG (standalone) <sup>1</sup>	Other subsidiaries <sup>2</sup>	Elimination entries	UBS AG (consolidated)
As of 31 December 2018					
<b>Assets</b>					
Cash and balances at central banks	36,350	53,490	18,530		108,370
Loans and advances to banks	34,063	7,405	21,151	(45,978)	16,642
Receivables from securities financing transactions	70,028	28,637	51,617	(54,932)	95,349
Cash collateral receivables on derivative instruments	23,136	559	12,148	(12,240)	23,603
Loans and advances to customers	93,141	188,013	62,166	(21,838)	321,482
Other financial assets measured at amortized cost	4,696	8,564	11,247	(1,869)	22,637
<b>Total financial assets measured at amortized cost</b>	<b>261,415</b>	<b>286,667</b>	<b>176,858</b>	<b>(136,857)</b>	<b>588,084</b>
Financial assets at fair value held for trading	92,784	62	15,578	(3,911)	104,513
<i>of which: assets pledged as collateral that may be sold or repledged by counterparties</i>	<i>49,509</i>	<i>0</i>	<i>7,326</i>	<i>(24,714)</i>	<i>32,121</i>
Derivative financial instruments	119,590	3,834	38,760	(35,972)	126,212
Brokerage receivables	11,063		5,779	(2)	16,840
Financial assets at fair value not held for trading	50,592	7,177	41,184	(16,566)	82,387
<b>Total financial assets measured at fair value through profit or loss</b>	<b>274,030</b>	<b>11,073</b>	<b>101,300</b>	<b>(56,451)</b>	<b>329,953</b>
<b>Financial assets measured at fair value through other comprehensive income</b>	<b>171</b>		<b>6,495</b>		<b>6,667</b>
Investments in subsidiaries and associates	50,971	20	31	(49,922)	1,099
Property, equipment and software	6,546	242	1,714	(24)	8,479
Goodwill and intangible assets	308		6,395	(56)	6,647
Deferred tax assets	533	198	9,282	52	10,066
Other non-financial assets	4,623	1,659	766	14	7,062
<b>Total assets</b>	<b>598,598</b>	<b>299,860</b>	<b>302,842</b>	<b>(243,244)</b>	<b>958,055</b>
<b>Liabilities</b>					
Amounts due to banks	36,430	24,774	44,377	(94,618)	10,962
Payables from securities financing transactions	36,840	1,167	27,297	(55,008)	10,296
Cash collateral payables on derivative instruments	28,096	35	12,894	(12,118)	28,906
Customer deposits	77,180	245,452	82,360	16,994	421,986
Funding from UBS Group AG and its subsidiaries <sup>3</sup>	41,202				41,202
Debt issued measured at amortized cost	82,653	8,578	587	(573)	91,245
Other financial liabilities measured at amortized cost	4,170	1,454	3,790	(1,838)	7,576
<b>Total financial liabilities measured at amortized cost</b>	<b>306,571</b>	<b>281,460</b>	<b>171,305</b>	<b>(147,161)</b>	<b>612,174</b>
Financial liabilities at fair value held for trading	23,455	493	8,829	(3,828)	28,949
Derivative financial instruments	119,131	3,510	39,107	(36,025)	125,723
Brokerage payables designated at fair value	26,559		11,875	(14)	38,420
Debt issued designated at fair value	55,378		1,670	(17)	57,031
Other financial liabilities designated at fair value	10,936		28,618	(5,959)	33,594
<b>Total financial liabilities measured at fair value through profit or loss</b>	<b>235,458</b>	<b>4,004</b>	<b>90,098</b>	<b>(45,843)</b>	<b>283,717</b>
Provisions	1,361	163	1,850	83	3,457
Other non-financial liabilities	1,676	929	3,623	47	6,275
<b>Total liabilities</b>	<b>545,067</b>	<b>286,556</b>	<b>266,876</b>	<b>(192,875)</b>	<b>905,624</b>
<b>Equity attributable to shareholders</b>	<b>53,531</b>	<b>13,304</b>	<b>35,790</b>	<b>(50,369)</b>	<b>52,256</b>
Equity attributable to non-controlling interests			176		176
<b>Total equity</b>	<b>53,531</b>	<b>13,304</b>	<b>35,966</b>	<b>(50,369)</b>	<b>52,432</b>
<b>Total liabilities and equity</b>	<b>598,598</b>	<b>299,860</b>	<b>302,842</b>	<b>(243,244)</b>	<b>958,055</b>

<sup>1</sup> Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at [www.ubs.com/investors](http://www.ubs.com/investors) for information prepared in accordance with Swiss GAAP. <sup>2</sup> The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries. <sup>3</sup> Represents funding from UBS Group Funding (Switzerland) AG to UBS AG.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated statement of cash flows

<i>USD million</i>				
For the year ended 31 December 2018 <sup>1</sup>	UBS AG <sup>2</sup>	UBS Switzerland AG <sup>2</sup>	Other subsidiaries <sup>2</sup>	UBS AG (consolidated)
<b>Net cash flow from / (used in) operating activities</b>	(652)	14,887	13,509	27,744
<b>Cash flow from / (used in) investing activities</b>				
Purchase of subsidiaries, associates and intangible assets	(124)	(5)	(158)	(287)
Disposal of subsidiaries, associates and intangible assets <sup>3</sup>	97	0	40	137
Purchase of property, equipment and software	(822)	(170)	(481)	(1,473)
Disposal of property, equipment and software	111	0	3	114
Purchase of financial assets measured at fair value through other comprehensive income	(170)	0	(1,829)	(1,999)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	20	15	1,325	1,361
Net (purchase) / redemption of debt securities measured at amortized cost	(1,000)	2,111	(4,881)	(3,770)
<b>Net cash flow from / (used in) investing activities</b>	(1,888)	1,951	(5,982)	(5,918)
<b>Cash flow from / (used in) financing activities</b>				
Net short-term debt issued / (repaid)	(12,295)	(3)	53	(12,245)
Distributions paid on UBS shares	(3,098)	0	0	(3,098)
Issuance of long-term debt, including debt issued designated at fair value	53,294	872	560	54,726
Repayment of long-term debt, including debt issued designated at fair value	(42,759)	(812)	(772)	(44,344)
Funding from UBS Group AG and its subsidiaries <sup>4</sup>	5,956	0	0	5,956
Net changes in non-controlling interests	0	0	(31)	(31)
Net activity related to group internal capital transactions and dividends	3,000	(2,372)	(628)	0
<b>Net cash flow from / (used in) financing activities</b>	4,098	(2,315)	(820)	963
<b>Total cash flow</b>				
<b>Cash and cash equivalents at the beginning of the year</b>	41,570	40,961	22,256	104,787
Net cash flow from / (used in) operating, investing and financing activities	1,559	14,523	6,707	22,789
Effects of exchange rate differences on cash and cash equivalents	(234)	(726)	(762)	(1,722)
<b>Cash and cash equivalents at the end of the year<sup>5</sup></b>	42,895	54,757	28,201	125,853
<i>of which: cash and balances at central banks</i>	36,248	53,490	18,530	108,268
<i>of which: loans and advances to banks</i>	4,849	1,249	9,354	15,452
<i>of which: money market paper<sup>6</sup></i>	1,798	18	318	2,133

<sup>1</sup> Upon adoption of IFRS 9 on 1 January 2018, cash flows from certain financial assets previously classified as available-for-sale assets have been reclassified from investing to operating activities as the assets are accounted for at fair value through profit or loss effective 1 January 2018. Refer to Note 1c of the Annual Report 2018 for more information. <sup>2</sup> Cash flows generally represent a third-party view from a UBS AG consolidated perspective, except for Net activity related to group internal capital transactions and dividends. <sup>3</sup> Includes dividends received from associates. <sup>4</sup> Represents funding from UBS Group Funding (Switzerland) AG to UBS AG. <sup>5</sup> Comprises balances with an original maturity of three months or less. USD 5,245 million of cash and cash equivalents were restricted. <sup>6</sup> Money market paper is included in the balance sheet under Financial assets at fair value held for trading, Financial assets measured at fair value through other comprehensive income, Financial assets at fair value not held for trading and Other financial assets measured at amortized cost.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated income statement

USD million	UBS AG (standalone) <sup>1</sup>	UBS Switzerland AG (standalone) <sup>1</sup>	Other subsidiaries <sup>2</sup>	Elimination entries	UBS AG (consolidated)
For the year ended 31 December 2017					
<b>Operating income<sup>3</sup></b>					
Interest income	7,219	4,063	3,774	(2,338)	12,717
Interest expense	(6,101)	(680)	(2,161)	2,245	(6,696)
Net interest income	1,118	3,383	1,613	(93)	6,021
Other net income from financial instruments measured at fair value through profit or loss	3,821	918	836	64	5,640
Credit loss (expense) / recovery	(139)	(23)	(9)	40	(131)
Fee and commission income	2,561	4,424	13,315	(911)	19,390
Fee and commission expense	(968)	(380)	(1,357)	865	(1,840)
Net fee and commission income	1,594	4,045	11,958	(46)	17,550
Other income	4,387	172	3,022	(6,616)	965
<b>Total operating income</b>	<b>10,780</b>	<b>8,495</b>	<b>17,420</b>	<b>(6,651)</b>	<b>30,044</b>
<b>Operating expenses</b>					
Personnel expenses	4,488	2,060	8,403	0	14,952
General and administrative expenses	4,922	3,400	5,760	(5,081)	9,001
Depreciation and impairment of property, equipment and software	664	11	270	0	945
Amortization and impairment of goodwill and intangible assets	8	0	63	0	71
<b>Total operating expenses</b>	<b>10,082</b>	<b>5,472</b>	<b>14,496</b>	<b>(5,081)</b>	<b>24,969</b>
<b>Operating profit / (loss) before tax</b>	<b>698</b>	<b>3,023</b>	<b>2,924</b>	<b>(1,570)</b>	<b>5,076</b>
Tax expense / (benefit)	458	628	3,156	0	4,242
Net profit / (loss)	240	2,395	(232)	(1,570)	834
Net profit / (loss) attributable to preferred noteholders	73	0	0	0	73
Net profit / (loss) attributable to non-controlling interests	0	0	4	0	4
<b>Net profit / (loss) attributable to shareholders</b>	<b>168</b>	<b>2,395</b>	<b>(236)</b>	<b>(1,569)</b>	<b>758</b>

<sup>1</sup> Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at [www.ubs.com/investors](http://www.ubs.com/investors) for information prepared in accordance with Swiss GAAP. <sup>2</sup> The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries. <sup>3</sup> Effective 1 January 2019, UBS AG, UBS Switzerland AG and certain other subsidiaries refined the presentation of dividend income and expense, reclassifying dividends from Interest income (expense) to Other net income from financial instruments measured at fair value through profit or loss. Prior-year comparative information was restated accordingly. Refer to Note 1b for more information.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated statement of comprehensive income

USD million					
For the year ended 31 December 2017	UBS AG (standalone) <sup>1</sup>	UBS Switzerland AG (standalone) <sup>1</sup>	Other subsidiaries <sup>2</sup>	Elimination entries	UBS AG (consolidated)
<b>Comprehensive income attributable to shareholders</b>					
Net profit / (loss)	168	2,395	(236)	(1,569)	758
<b>Other comprehensive income</b>					
<b>Other comprehensive income that may be reclassified to the income statement</b>					
Foreign currency translation, net of tax	2,177	500	(2,473)	1,318	1,522
Financial assets measured at fair value through other comprehensive income, net of tax	(10)	2	11	(93)	(91)
Cash flow hedges, net of tax	(474)	(162)	(1)	2	(635)
<b>Total other comprehensive income that may be reclassified to the income statement, net of tax</b>	<b>1,693</b>	<b>340</b>	<b>(2,463)</b>	<b>1,226</b>	<b>797</b>
<b>Other comprehensive income that will not be reclassified to the income statement</b>					
Defined benefit plans, net of tax	284	(22)	27	26	314
Own credit on financial liabilities designated at fair value, net of tax	(317)				(317)
<b>Total other comprehensive income that will not be reclassified to the income statement, net of tax</b>	<b>(33)</b>	<b>(22)</b>	<b>27</b>	<b>26</b>	<b>(3)</b>
<b>Total other comprehensive income</b>	<b>1,660</b>	<b>318</b>	<b>(2,436)</b>	<b>1,252</b>	<b>794</b>
<b>Total comprehensive income attributable to shareholders</b>	<b>1,828</b>	<b>2,713</b>	<b>(2,672)</b>	<b>(317)</b>	<b>1,552</b>
Total comprehensive income attributable to preferred noteholders	320				320
Total comprehensive income attributable to non-controlling interests			6		6
<b>Total comprehensive income</b>	<b>2,148</b>	<b>2,713</b>	<b>(2,665)</b>	<b>(317)</b>	<b>1,878</b>

<sup>1</sup> Amounts presented for UBS AG standalone and UBS Switzerland AG standalone represent IFRS standalone information. Refer to the UBS AG standalone and UBS Switzerland AG standalone financial statements under "Complementary financial information" at [www.ubs.com/investors](http://www.ubs.com/investors) for information prepared in accordance with Swiss GAAP. <sup>2</sup> The column "Other subsidiaries" includes consolidated information for the significant sub-groups UBS Americas Holding LLC, UBS Europe SE, UBS Asset Management AG and UBS Limited, as well as standalone information for other subsidiaries.

## Note 39 Supplemental guarantor information required under SEC regulations (continued)

### Supplemental guarantor consolidated statement of cash flows

USD million

For the year ended 31 December 2017

	UBS AG <sup>1</sup>	UBS Switzerland AG <sup>1</sup>	Other subsidiaries <sup>1</sup>	UBS AG (consolidated)
<b>Net cash flow from / (used in) operating activities</b>	(35,057)	(8,742)	(9,348)	(53,147)
<b>Cash flow from / (used in) investing activities</b>				
Purchase of subsidiaries, associates and intangible assets	0	(2)	(104)	(106)
Disposal of subsidiaries, associates and intangible assets <sup>2</sup>	291	0	48	339
Purchase of property, equipment and software	(1,054)	(86)	(393)	(1,532)
Disposal of property, equipment and software	1	0	209	210
Purchase of financial assets measured at fair value through other comprehensive income	(234)	0	(8,393)	(8,626)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	3,489	1,580	10,181	15,250
Net (purchase) / redemption of financial assets held to maturity	(455)	364	0	(91)
<b>Net cash flow from / (used in) investing activities</b>	2,039	1,856	1,548	5,444
<b>Cash flow from / (used in) financing activities</b>				
Net short-term debt issued / (repaid)	24,556	(5)	(50)	24,500
Distributions paid on UBS shares	(2,219)	0	0	(2,219)
Issuance of long-term debt, including debt issued designated at fair value	39,232	631	409	40,270
Repayment of long-term debt, including debt issued designated at fair value	(43,605)	(589)	(993)	(45,187)
Funding from UBS Group AG and its subsidiaries <sup>3</sup>	11,180	0	0	11,180
Dividends paid and repayments of preferred notes	(782)	0	0	(782)
Net changes in non-controlling interests	0	0	(5)	(5)
Net activity related to group internal capital transactions and dividends	1,264	(194)	(1,071)	0
<b>Net cash flow from / (used in) financing activities</b>	29,625	(158)	(1,710)	27,758
<b>Total cash flow</b>				
<b>Cash and cash equivalents at the beginning of the year</b>	43,495	45,815	29,674	118,984
Net cash flow from / (used in) operating, investing and financing activities	(3,393)	(7,043)	(9,510)	(19,944)
Effects of exchange rate differences on cash and cash equivalents	1,466	2,189	2,094	5,749
<b>Cash and cash equivalents at the end of the year<sup>4</sup></b>	41,570	40,961	22,256	104,787
<i>of which: cash and balances at central banks</i>	37,420	39,461	13,086	89,968
<i>of which: loans and advances to banks</i>	2,344	1,492	8,890	12,726
<i>of which: money market paper<sup>5</sup></i>	1,806	7	280	2,093

<sup>1</sup> Cash flows generally represent a third-party view from a UBS AG consolidated perspective, except for Net activity related to group internal capital transactions and dividends. <sup>2</sup> Includes dividends received from associates. <sup>3</sup> Represents funding from UBS Group Funding (Switzerland) AG to UBS AG. <sup>4</sup> Comprises balances with an original maturity of three months or less. USD 2,497 of cash and cash equivalents were restricted. <sup>5</sup> Money market paper is included in the balance sheet under Financial assets at fair value held for trading, Financial assets measured at fair value through other comprehensive income, Financial assets at fair value not held for trading and Other financial assets measured at amortized cost.

## **APPENDIX 2**

### **RISK FACTORS RELATING TO THE OPERATING ENVIRONMENT AND STRATEGY OF UBS AG**



## UBS AG

### Risks relating to UBS

*Certain risks, including those described below, may affect UBS AG's ability to execute its strategy or its business activities, financial condition, results of operations and prospects. A broad-based international financial services firm such as UBS AG is inherently exposed to multiple risks, many of which may become apparent only with the benefit of hindsight. As a result, risks that UBS AG does not consider to be material or of which it is not currently aware could also adversely affect UBS. Within each category, the risks that UBS AG considers to be most material are presented first.*

#### **Market and macroeconomic risks**

***UBS AG's results of operations and financial condition have been, and will likely continue to be, adversely affected by the COVID-19 pandemic.***

The spread of the coronavirus disease (COVID-19) pandemic and the governmental measures taken to contain the pandemic have significantly adversely affected, and will likely continue to adversely affect, global economic conditions, resulting in meaningful contraction in the global economy, substantial volatility in the financial markets, increased unemployment, increased credit and counterparty risk, and operational challenges such as the temporary closures of businesses, sheltering-in-place directives and increased remote work protocols. Governments and central banks around the world have reacted to the economic crisis caused by the pandemic by implementing stimulus and liquidity programs and cutting interest rates, though it is unclear whether these or future actions will be successful in countering the economic disruption. If the pandemic is prolonged or the actions of governments and central banks are unsuccessful, the adverse impact on the global economy will deepen, and our results of operations and financial condition in future quarters will be adversely affected.

As of April 2020, the COVID-19 pandemic has affected all of UBS AG's businesses, and these effects will likely be greater in future quarters if adverse conditions persist. These effects have included declines in asset prices, significantly increased volatility, lower or negative interest rates, widening of credit spreads and credit deterioration. These effects have resulted in decreases in the valuation of loans and commitments, an increase in the allowance for credit losses, lower valuations of certain classes of trading assets, and reduced net interest income due to lower interest rates. While these effects were offset by high levels of client trading activity in the first quarter of 2020, this level of activity may not persist in future quarters.

Should these global market conditions be prolonged or worsen, or the pandemic lead to additional market disruptions, UBS AG may experience reduced client activity and demand for its products and services, increased utilization of lending commitments, more client defaults, higher credit and valuation losses in our loan portfolios, loan commitments and other assets, and impairments of other financial assets. In addition, the sharp decline in interest rates will further decrease net interest margins. A decline in invested assets will also reduce recurring fee income in the Global Wealth Management and Asset Management businesses. These factors and other consequences of the COVID-19 pandemic may negatively affect UBS AG's financial condition, including possible constraints on capital and liquidity, as well as a higher cost of capital, and possible changes or downgrades to our credit ratings

Although UBS AG has moved a substantial portion of its workforce to work-from-home solutions, including client-facing and trading staff, if significant portions of its workforce, including key personnel, are unable to work effectively because of illness, government actions, or other restrictions in connection with the pandemic, the adverse effects of the pandemic on its businesses could be exacerbated. In addition, with most of its staff working from outside the offices, UBSAG faces new challenges and operational risks, including maintenance of supervisory and surveillance controls, as well as increased fraud and data security risks. While UBS AG has taken measures to manage these risks, such measures have never been tested on the scale or duration that UBS AG is currently experiencing, and there is risk that these measures will not be effective in the current unprecedented operating environment.

The extent to which the pandemic, and the related economic distress, affect UBS AG's businesses, results of operations and financial condition, as well as its regulatory capital and liquidity ratios, will depend on future developments that are highly uncertain and cannot be predicted, including the scope and duration of the pandemic and any recovery period, future actions taken by governmental authorities, central banks and other third parties in response to the pandemic, and the effects on UBS AG's customers, counterparties, employees and third-party service providers.

Refer to the "Recent developments" section of the First Quarter 2020 Report for more information.

***Performance in the financial services industry is affected by market conditions and the macroeconomic climate***

UBS AG's businesses are materially affected by market and macroeconomic conditions. Adverse changes in interest rates, credit spreads, securities prices, market volatility and liquidity, foreign exchange rates, commodity prices, and other market fluctuations, as well as changes in investor sentiment, can affect UBS AG's earnings and ultimately its financial and capital positions.

A market downturn and weak macroeconomic conditions can be precipitated by a number of factors, including geopolitical events, global trade disruption, changes in monetary or fiscal policy, changes in trade policies, natural disasters, pandemics, civil unrest, acts of violence, war or terrorism. Such developments can have unpredictable and destabilising effects and, because financial markets are global and highly interconnected, even local and regional events can have widespread effects well beyond the countries in which they occur. Any of these developments may adversely affect UBS AG's business or financial results.

If individual countries impose restrictions on cross-border payments, trade, or other exchange or capital controls, or change their currency (for example, if one or more countries should leave the eurozone), UBS AG could suffer losses from enforced default by counterparties, be unable to access its own assets, or be unable to effectively manage its risks.

Should the market experience significant volatility, a decrease in business and client activity and market volumes could result, which would adversely affect UBS AG's ability to generate transaction fees, commissions and margins, particularly in Global Wealth Management and the Investment Bank, as UBS AG experienced in the fourth quarter of 2018. A market downturn would likely reduce the volume and valuation of assets that UBS AG manages on behalf of clients, which would reduce recurring fee income that is charged based on invested assets in Global Wealth Management and Asset Management and performance-based fees in Asset Management. Such a downturn could also cause a decline in the value of assets that UBS AG owns and account for as investments or trading positions. In addition, reduced market liquidity or volatility may limit trading opportunities and may therefore reduce transaction-based income and may also impede UBS AG's ability to manage risks.

UBS AG could be materially affected if a crisis develops, regionally or globally, as a result of disruptions in markets due to macroeconomic or political developments, or as a result of the failure of a major market participant. Over time, UBS AG's strategic plans have become more heavily dependent on its ability to generate growth and revenue in emerging markets, including China, causing it to be more exposed to the risks associated with such markets.

Global Wealth Management derives revenues from all the principal regions, but has a greater concentration in Asia than many peers and a substantial presence in the US, unlike many European peers. The Investment Bank's business is more heavily weighted to Europe and Asia than its peers, while its derivatives business is more heavily weighted to structured products for wealth management clients, in particular with European and Asian underlyings. UBS AG's performance may therefore be more affected by political, economic and market developments in these regions and businesses, including the effects of the Covid-19 outbreak, than some other financial service providers.

***UBS AG's credit risk exposure to clients, trading counterparties and other financial institutions would increase under adverse economic conditions***

Credit risk is an integral part of many of UBS AG's activities, including lending, underwriting and derivatives activities. Adverse economic or market conditions may lead to impairments and defaults on these credit exposures. Losses may be exacerbated by declines in the value of collateral securing loans and other exposures. In UBS AG's prime brokerage, securities finance and Lombard lending businesses, UBS AG extends substantial amounts of credit against securities collateral, the value or liquidity of which may decline rapidly. UBS AG's Swiss mortgage and corporate lending portfolios are a large part of its overall lending. UBS AG is therefore exposed to the risk of adverse economic developments in Switzerland, including the strength of the Swiss franc and its effect on Swiss exports, prevailing negative interest rates by the Swiss National Bank, economic conditions within the eurozone or the EU, and the evolution of agreements between Switzerland and the EU or European Economic Area, which represent Switzerland's largest export market. In addition, under the IFRS 9 expected credit loss ("ECL") regime, credit loss expenses may increase rapidly at the onset of an economic downturn as a result of higher levels of credit impairments (stage 3), as well as higher ECL from stages 1 and 2, only

gradually diminishing once the economic outlook improves. Substantial increases in ECL could exceed expected loss for regulatory capital purposes and adversely affect UBS AG's CET1 capital and regulatory capital ratios.

Refer to the "*Recent developments*" section of the First Quarter 2020 Report for more information.

***Low and negative interest rates in Switzerland and the eurozone could continue to negatively affect UBS AG's net interest income***

The continuing low or negative interest rate environment may further erode interest margins and adversely affect the net interest income generated by the Personal & Corporate Banking and Global Wealth Management businesses. The Swiss National Bank permits Swiss banks to make deposits up to a threshold at zero interest and has recently increased this threshold. Any reduction in or limitation on the use of this exemption from the otherwise applicable negative interest rates could exacerbate the effect of negative interest rates in Switzerland on UBS AG's business.

Low and negative interest rates may also affect customer behavior and hence UBS AG's overall balance sheet structure. Mitigating actions that UBS AG has taken, or may take in the future, such as the introduction of selective deposit fees or minimum lending rates, have resulted and may further result in the loss of customer deposits (a key source of funding for UBS AG), net new money outflows and a declining market share in UBS AG's Swiss lending business.

UBS's shareholders' equity and capital are also affected by changes in interest rates. In particular, the calculation of UBS's Swiss pension plan's net defined benefit assets and liabilities is sensitive to the applied discount rate and to fluctuations in the value of pension plan assets. Any further reduction in interest rates may lower the discount rates and result in pension plan deficits as a result of the long duration of corresponding liabilities. This could lead to a corresponding reduction in UBS AG's equity and common equity tier 1 ("CET1") capital.

***UBS AG's plans to ensure uninterrupted business dealings as the UK withdraws from the EU may not be effective***

Plans that UBS has taken to ensure uninterrupted business dealings as the UK withdraws from the EU may not be effective if the UK and the EU do not reach a deal by the end of the transition period, scheduled to end on 31 December, 2020, resulting in disruptions across the financial sector.

To prepare UBS AG's business for the UK withdrawal from the EU, UBS completed a merger of UBS Limited, its UK-based subsidiary, into UBS Europe SE, its Germany-headquartered European subsidiary, which is under the direct supervision of the European Central Bank. All clients and counterparties of UBS Limited who would not be able to be serviced by UBS AG, London Branch following the exit of the UK from the EU have been transferred to UBS Europe SE.

Regulators in both the UK and Europe have taken measures to minimize business disruption in the financial sector in the event of a no-deal scenario, including the UK implementation of a temporary permissions regime so that firms currently using an EU passport for business into the UK can continue operating within the scope of their existing permissions, as well as the recognition by EU authorities of three UK-authorised central counterparties. However, the pace of the negotiations has been affected by the COVID-19 pandemic. An extension of the transition period is possible under the terms of the Withdrawal Agreement until 31 December 2021 or 31 December 2022 if the UK requests an extension before 30 June 2020. Nevertheless, significant risk of a disorderly exit of the UK from the EU remains and, should this risk materialize, it could cause significant disruption across the financial industry and, under extreme conditions, contribute to a weakening of the global economy.

***Currency fluctuation***

UBS AG is subject to currency fluctuation risks. Although UBS AG's change from the Swiss franc to the US dollar as its functional and presentation currency in 2018 reduces its exposure to currency fluctuation risks with respect to the Swiss franc, a substantial portion of its assets and liabilities are denominated in currencies other than the US dollar. Additionally, in order to hedge UBS AG's CET1 capital ratio, its CET1 capital must have foreign currency exposure, which leads to currency sensitivity. As a consequence, it is not possible to simultaneously fully hedge both the amount of capital and the capital ratio. Accordingly, changes in foreign exchange rates may continue to adversely affect UBS AG's profits, balance sheet and capital leverage and liquidity coverage ratios.

## **Regulatory and legal risks**

### ***Material legal and regulatory risks arise in the conduct of UBS AG's business***

As a global financial services firm operating in more than 50 countries, UBS AG is subject to many different legal, tax and regulatory regimes, including extensive regulatory oversight, and are exposed to significant liability risk. UBS AG is subject to a large number of claims, disputes, legal proceedings and government investigations, and UBS AG expects that its ongoing business activities will continue to give rise to such matters in the future. The extent of UBS AG's financial exposure to these and other matters is material and could substantially exceed the level of provisions that UBS AG has established. UBS AG is not able to predict the financial and non-financial consequences these matters may have when resolved.

UBS AG may be subject to adverse preliminary determinations or court decisions that may negatively affect public perception and its reputation, result in prudential actions from regulators, and cause it to record additional provisions for the matter even when it believes it has substantial defenses and expect to ultimately achieve a more favorable outcome. This risk is illustrated by the award of aggregate penalties and damages of EUR 4.5 billion by the court of first instance in France, which UBS AG and UBS (France) S.A. have appealed and will be retried in the Court of Appeal in June 2020.

Resolution of regulatory proceedings may require UBS AG to obtain waivers of regulatory disqualifications to maintain certain operations; may entitle regulatory authorities to limit, suspend or terminate licenses and regulatory authorisations; and may permit financial market utilities to limit, suspend or terminate UBS AG's participation in them. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorisations or participations, could have material adverse consequences for us.

UBS AG's settlements with governmental authorities in connection with foreign exchange, London Interbank Offered Rates ("**LIBOR**") and other benchmark interest rates starkly illustrate the significantly increased level of financial and reputational risk now associated with regulatory matters in major jurisdictions. In connection with investigations related to LIBOR and other benchmark rates and to foreign exchange and precious metals, very large fines and disgorgement amounts were assessed against UBS AG, and it was required to enter guilty pleas despite its full cooperation with the authorities in the investigations, and despite its receipt of conditional leniency or conditional immunity from anti-trust authorities in a number of jurisdictions, including the US and Switzerland.

Ever since UBS AG's material losses arising from the 2007–2009 financial crisis, it has been subject to a very high level of regulatory scrutiny and to certain regulatory measures that constrain its strategic flexibility. While UBS AG believes it has remediated the deficiencies that led to those losses, as well as to the unauthorised trading incident announced in September 2011, the effects on its reputation, as well as on relationships with regulatory authorities of the LIBOR-related settlements of 2012 and settlements with some regulators of matters related to its foreign exchange and precious metals business, as well as the extensive efforts required to implement new regulatory expectations, have resulted in continued scrutiny.

UBS AG is in active dialog with regulators concerning the actions it is taking to improve its operational risk management, risk control, anti-money laundering, data management and other frameworks, and otherwise seek to meet supervisory expectations, but there can be no assurance that its efforts will have the desired effects. As a result of this history, UBS AG's level of risk with respect to regulatory enforcement may be greater than that of some of its peers.

### ***Substantial changes in regulation may adversely affect UBS AG's businesses and its ability to execute its strategic plans***

UBS AG is subject to significant new regulatory requirements, including recovery and resolution planning, changes in capital and prudential standards, as well as new and revised market standards and fiduciary duties. Notwithstanding attempts by regulators to align their efforts, the measures adopted or proposed for banking regulation differ significantly across the major jurisdictions, making it increasingly difficult to manage a global institution. In addition, Swiss regulatory changes with regard to such matters as capital and liquidity have often proceeded more quickly than those in other major jurisdictions, and Switzerland's requirements for major international banks are among the strictest of the major financial centers. This could put Swiss banks, such as UBS AG, at a disadvantage when competing with peer financial institutions subject to more lenient regulation or with unregulated non-bank competitors.

UBS AG's implementation of additional regulatory requirements and changes in supervisory standards, as well as its compliance with existing laws and regulations, continue to receive heightened scrutiny from supervisors. If UBS AG does not meet supervisory expectations in relation to these or other matters, or if additional supervisory or regulatory issues arise, it would likely be subject to further regulatory scrutiny as well as measures that might further constrain its strategic flexibility.

*Resolvability and resolution and recovery planning:* UBS AG has moved significant operations into subsidiaries to improve resolvability and meet other regulatory requirements, and this has resulted in substantial implementation costs, increased its capital and funding costs and reduced operational flexibility. For example, UBS AG has transferred all of its US subsidiaries under a US intermediate holding company to meet US regulatory requirements, and have transferred substantially all the operations of Personal & Corporate Banking and Global Wealth Management booked in Switzerland to UBS Switzerland AG to improve resolvability.

These changes, particularly the transfer of operations to subsidiaries, require significant time and resources to implement, and create operational, capital, liquidity, funding and tax inefficiencies. In addition, they may increase UBS AG's aggregate credit exposure to counterparties as they transact with multiple entities within the Group. Furthermore, UBS AG's operations in subsidiaries are subject to local capital, liquidity, stable funding, capital planning and stress testing requirements. These requirements have resulted in increased capital and liquidity requirements in affected subsidiaries, which limit UBS AG's operational flexibility and negatively affect its ability to benefit from synergies between business units and to distribute earnings to the Group.

Under the Swiss too-big-to-fail ("**TBTF**") framework, UBS is required to put in place viable emergency plans to preserve the operation of systemically important functions in the event of a failure. Moreover, under this framework and similar regulations in the US, the UK, the EU and other jurisdictions in which UBS operates, it is required to prepare credible recovery and resolution plans detailing the measures that would be taken to recover in a significant adverse event or in the event of winding down the Group or the operations in a host country through resolution or insolvency proceedings. If a recovery or resolution plan that UBS produces is determined by the relevant authority to be inadequate or not credible, relevant regulation may permit the authority to place limitations on the scope or size of its business in that jurisdiction, or oblige it to hold higher amounts of capital or liquidity or to change its legal structure or business in order to remove the relevant impediments to resolution. In February 2020, FINMA published its assessment of the recovery and resolution plans and emergency plans for Swiss SRBs. FINMA confirmed that UBS's Swiss emergency plan is effective, subject to a further reduction of its joint and several liabilities. In addition, FINMA confirmed that UBS has completed important measures and made considerable progress with respect to its global resolvability. Refer to "*Recovery and resolution*" in the "*Regulation and supervision*" section of the Annual Report 2019 for more information regarding UBS's Swiss emergency plan.

*Capital and prudential standards:* As an internationally active Swiss systemically relevant bank (an "**SRB**"), UBS AG is subject to capital and total loss-absorbing capacity ("**TLAC**") requirements that are among the most stringent in the world. Moreover, many of UBS AG's subsidiaries must comply with minimum capital, liquidity and similar requirements and, as a result, UBS AG has contributed a significant portion of its capital and provides substantial liquidity to these subsidiaries. These funds are available to meet funding and collateral needs in the relevant entities, but are generally not readily available for use by the Group as a whole.

UBS AG expects its risk-weighted assets ("**RWA**") to further increase as the effective date for capital standards promulgated by the Basel Committee on Banking Supervision (the "**BCBS**") draws nearer. However, in response to the economic disruption caused by the COVID-19 pandemic, the BCBS has delayed the implementation deadline of Basel III rules by one year, to 1 January 2023. The accompanying transitional arrangement for the output floor has also been extended by one year, to 1 January 2028. Separately, the BCBS and the International Organization of Securities Commissions (IOSCO) have extended the final two implementation phases of the framework for margin requirements for non-centrally cleared derivatives by one year, to 1 September 2022. In addition, the Board of Governors of the Federal Reserve System had adopted two proposals previously regarding certain capital and liquidity requirements and enhanced prudential standards applicable to foreign banking organisations ("**FBOs**") with significant US operations. Under the proposal, it is expected that UBS Americas Holding LLC would continue to be subject to annual assessments of its capital plan through the Comprehensive Capital Analysis and Review ("**CCAR**") process, a supplementary leverage ratio, newly applicable liquidity coverage ratio requirements and new net stable funding ratio requirements. These additional increases in capital and liquidity standards could significantly curtail UBS AG's ability to pursue strategic opportunities and to distribute risk.

*Market regulation and fiduciary standards:* UBS AG's wealth and asset management businesses operate in an environment of increasing regulatory scrutiny and changing standards with respect to fiduciary and other standards of care and the focus on mitigating or eliminating conflicts of interest between a manager or advisor and the client, which require effective implementation across the global systems and processes of investment managers and other industry participants. For example, the SEC has adopted a new Regulation Best Interest that is intended to enhance and clarify the duties of brokers and investment advisers to retail customers. Regulation Best Interest will apply to a large portion of Global Wealth Management's business in the US, and UBS AG will likely be required to materially change business processes, policies and the terms on which it interacts with these clients in order to comply with these rules.

Previously, UBS AG has incurred substantial costs in implementing a compliance and monitoring framework in connection with the Volcker Rule under the Dodd–Frank Act and has modified its business activities both inside and outside the US to conform to the Volcker Rule's activity limitations. In 2019, US regulators have adopted amendments (the **"2019 Final Rule"**) to their regulations implementing the Volcker Rule prohibitions on proprietary trading and limitations on covered fund activities. The amendments were effective as of 1 January 2020 and compliance is mandatory from 1 January 2021. UBS AG may incur additional costs in the short term to implement the changes to the operation of its Volcker compliance program, required by the 2019 Final Rule. However, these changes may reduce the long-term burden on UBS AG's operations. UBS AG may also become subject to other similar regulations substantively limiting the types of activities in which it may engage or the way it conducts its operations.

Some of the regulations applicable to UBS AG as a registered swap dealer with the Commodity Futures Trading Commission ("**CFTC**") in the US, and certain regulations that will be applicable when UBS AG registers as a security-based swap dealer with the US Securities and Exchange Commission (the "**SEC**"), apply to UBS AG globally, including those relating to swap data reporting, record-keeping, compliance and supervision. As a result, in some cases, US rules duplicate or may conflict with legal requirements applicable to UBS AG elsewhere, including in Switzerland, and may place it at a competitive disadvantage to firms that are not required to register in the US with the SEC or CFTC.

In many instances, UBS AG provides services on a cross-border basis, and it is therefore sensitive to barriers restricting market access for third-country firms. In particular, efforts in the EU to harmonise the regime for third-country firms to access the European market may have the effect of creating new barriers that adversely affect its ability to conduct business in these jurisdictions from Switzerland. In addition, a number of jurisdictions are increasingly regulating cross-border activities based on determinations of equivalence of home country regulation, substituted compliance or similar principles of comity. A negative determination with respect to Swiss equivalence could limit UBS AG's access to the market in those jurisdictions and may negatively influence its ability to act as a global firm. For example, the EU declined to extend the equivalence determination for Swiss exchanges, which lapsed as of 30 June 2019. Reciprocally, the regulations that Switzerland adopted to prohibit trading of shares issued by Swiss incorporated companies on EU venues came into effect on 1 July 2019.

UBS AG experienced cross-border outflows over a number of years as a result of heightened focus by fiscal authorities on cross-border investment and fiscal amnesty programs, in anticipation of the implementation in Switzerland of the global automatic exchange of tax information, and as a result of the measures UBS AG has implemented in response to these changes. Further changes in local tax laws or regulations and their enforcement, the implementation of cross-border tax information exchange regimes, national tax amnesty or enforcement programs or similar actions may affect UBS AG's clients' ability or willingness to do business with it and could result in additional cross-border outflows.

***UBS AG's stated capital returns objective is based, in part, on capital ratios that are subject to regulatory change and may fluctuate significantly***

UBS AG plans to operate with a CET1 capital ratio of around 13% and a CET1 leverage ratio of around 3.7%. UBS AG's ability to maintain these ratios is subject to numerous risks, including the financial results of its businesses, the effect of changes to capital standards, methodologies and interpretations that may adversely affect the calculation of its CET1 ratios, the imposition of risk add-ons or capital buffers, and the application of additional capital, liquidity and similar requirements to subsidiaries. The results of UBS AG's businesses may be adversely affected by events arising from other factors described herein. In some cases, such as litigation and regulatory risk and operational risk events, losses may be sudden and large. These risks could reduce the amount of capital available for return to shareholders and hinder UBS AG's ability to achieve its capital returns target of a progressive cash dividend coupled with a share repurchase program.

Capital strength is a key component of UBS AG's business model. Capital strength enables UBS AG to grow its businesses, and absorb increases in regulatory and capital requirements. It reassures UBS AG's clients and stakeholders, forms the basis for its capital return policy and contributes to its credit ratings. UBS AG's capital ratios are driven primarily by RWA, the leverage ratio denominator and eligible capital, all of which may fluctuate based on a number of factors, some of which are outside its control.

UBS AG's eligible capital may be reduced by losses recognised within net profit or other comprehensive income. Eligible capital may also be reduced for other reasons, including acquisitions which change the level of goodwill, changes in temporary differences related to deferred tax assets included in capital, adverse currency movements affecting the value of equity, prudential adjustments that may be required due to the valuation uncertainty associated with certain types of positions, and changes in the value of certain pension fund assets and liabilities or in the interest rate and other assumptions used to calculate the changes in UBS AG's net defined benefit obligation recognised in other comprehensive income.

RWA are driven by UBS AG's business activities, by changes in the risk profile of its exposures, by changes in its foreign currency exposures and foreign exchange rates, and by regulation. For instance, substantial market volatility, a widening of credit spreads, adverse currency movements, increased counterparty risk, deterioration in the economic environment or increased operational risk could result in an increase in RWA. UBS AG has significantly reduced its market risk and credit risk RWA in recent years. However, increases in operational risk RWA, particularly those arising from litigation, regulatory and similar matters, and regulatory changes in the calculation of RWA, and regulatory add-ons to RWA, have offset a substantial portion of this reduction. Changes in the calculation of RWA, the imposition of additional supplemental RWA charges or multipliers applied to certain exposures and other methodology changes, as well as the implementation of the capital standards promulgated by the Basel Committee on Banking Supervision, which will take effect in 2022, could substantially increase UBS AG's RWA.

The leverage ratio is a balance sheet-driven measure and therefore limits balance sheet-intensive activities, such as lending, more than activities that are less balance sheet intensive, and it may constrain UBS AG's business even if it satisfies other risk-based capital requirements. UBS AG's leverage ratio denominator is driven by, among other things, the level of client activity, including deposits and loans, foreign exchange rates, interest rates and other market factors. Many of these factors are wholly or partly outside of UBS AG's control.

***The effect of taxes on UBS AG's financial results is significantly influenced by tax law changes and reassessments of its deferred tax assets***

UBS AG's effective tax rate is highly sensitive to its performance, its expectation of future profitability and statutory tax rates. Based on prior years' tax losses, UBS AG has recognised deferred tax assets ("DTAs") reflecting the probable recoverable level based on future taxable profit as informed by its business plans. If UBS AG's performance is expected to produce diminished taxable profit in future years, particularly in the US, it may be required to write down all or a portion of the currently recognised DTAs through the income statement in excess of anticipated amortisation. This would have the effect of increasing UBS AG's effective tax rate in the year in which any write-downs are taken. Conversely, if UBS AG expects the performance of entities in which it has unrecognised tax losses to improve, particularly in the US or the UK, it could potentially recognise additional DTAs. The effect of doing so would be to reduce UBS AG's effective tax rate in years in which additional DTAs are recognised and to increase its effective tax rate in future years. UBS AG's effective tax rate is also sensitive to any future reductions in statutory tax rates, particularly in the US, which would cause the expected future tax benefit from items such as tax loss carry-forwards in the affected locations to diminish in value. This, in turn, would cause a write-down of the associated DTAs. For example, the reduction in the US federal corporate tax rate to 21% from 35% introduced by the US Tax Cuts and Jobs Act ("TCJA") resulted in a USD 2.9 billion net write-down in the Group's DTAs in the fourth quarter of 2017.

UBS AG generally revalues its DTAs in the fourth quarter of the financial year based on a reassessment of future profitability taking into account its updated business plans. UBS AG considers the performance of its businesses and the accuracy of historical forecasts, tax rates and other factors in evaluating the recoverability of its DTAs, including the remaining tax loss carry-forward period and its assessment of expected future taxable profits over the life of DTAs. Estimating future profitability is inherently subjective and is particularly sensitive to future economic, market and other conditions, which are difficult to predict.

UBS AG's results in past years have demonstrated that changes in the recognition of DTAs can have a very significant effect on its reported results. Any future change in the manner in which UBS AG remeasures DTAs could affect UBS AG's effective tax rate, particularly in the year in which the change is made.

UBS AG's full-year effective tax rate could change if aggregate tax expenses in respect of profits from branches and subsidiaries without loss coverage differ from what is expected, or if branches and subsidiaries generate tax losses that UBS AG cannot benefit from through the income statement. In particular, losses at entities or branches that cannot offset for tax purposes taxable profits in other group entities, and which do not result in additional DTA recognition, may increase UBS AG's effective tax rate. In addition, tax laws or the tax authorities in countries where UBS AG has undertaken legal structure changes may prevent the transfer of tax losses incurred in one legal entity to newly organised or reorganised subsidiaries or affiliates or may impose limitations on the utilisation of tax losses that relate to businesses formerly conducted by the transferor. Were this to occur in situations where there were also limited planning opportunities to utilise the tax losses in the originating entity, the DTAs associated with such tax losses may be required to be written down through the income statement.

Changes in tax law may materially affect UBS AG's effective tax rate, and, in some cases, may substantially affect the profitability of certain activities. In addition, statutory and regulatory changes, as well as changes to the way in which courts and tax authorities interpret tax laws, including assertions that UBS AG is required to pay taxes in a jurisdiction as a result of activities connected to that jurisdiction constituting a permanent establishment or similar theory, and changes in its assessment of uncertain tax positions, could cause the amount of taxes it ultimately pays to materially differ from the amount accrued.

Refer to “*Regulatory and legal developments*” section of the Annual Report 2019 for more information.

***Discontinuance of, or changes to, benchmark rates may require adjustments to UBS AG's agreements with clients and other market participants, as well as to UBS AG's systems and processes***

Since April 2013, the UK Financial Conduct Authority (the “FCA”) has regulated LIBOR, and regulators in other jurisdictions have increased oversight of other interbank offered rates (“IBORs”) and similar benchmark rates. Efforts to transition from IBORs to alternative benchmark rates are underway in several jurisdictions. The FCA announced in July 2017 that it will not continue beyond 2021 to regulate LIBOR or take other actions to sustain LIBOR, and urged users to plan the transition to alternative reference rates (“ARRs”). As a result, there can be no guarantee that LIBOR will be determined after 2021 on the same basis as at present, if at all.

Liquidity and activity in ARRs continue to develop in markets globally, with work progressing to resolve certain issues associated with transitioning away from IBORs. Regulatory authorities continue to focus on transitioning to ARRs by the end of 2021. The Alternative Reference Rates Committee is considering potential legislative solutions that would mitigate legal risks related to legacy contracts in the event of IBOR discontinuation. In addition, in October 2019, the US Treasury Department and Internal Revenue Service published proposed regulations providing tax relief related to issues that may arise as a result of the modification of debt, derivative, and other financial contracts from LIBOR-based language to ARRs. The European Central Bank published the euro short-term rate, the risk-free rate for euro markets, for the first time on 2 October 2019, reflecting trading activity on 1 October 2019. The Bank of England Working Group on Sterling Risk-Free Reference Rates continues to be supportive of the development of a term (Sterling Overnight Index Average) reference rate.

UBS AG has a substantial number of contracts linked to IBORs. ARRs do not currently provide a term structure, which will require a change in the contractual terms of products currently indexed on terms other than overnight. In some cases, contracts may contain provisions intended to provide a fallback interest rate in the event of a brief unavailability of the relevant IBOR. These provisions may not be effective or may produce arbitrary results in the event of a permanent cessation of the relevant IBOR. In addition, numerous of UBS AG's internal systems, limits and processes make use of IBORs as reference rates. Transition to replacement reference rates will require significant investment and effort.

Refer to “*Developments related to the transition away from IBORs*” in the “*Regulatory and legal developments*” section of the Annual Report 2019 for more information.

***If UBS experiences financial difficulties, FINMA has the power to open restructuring or liquidation proceedings or impose protective measures in relation to UBS Group AG, UBS AG or UBS Switzerland AG, and such proceedings or measures may have a material adverse effect on UBS's shareholders and creditors***

Under the Swiss Banking Act, FINMA is able to exercise broad statutory powers with respect to Swiss banks and Swiss parent companies of financial groups, such as UBS Group AG, UBS AG and UBS Switzerland AG, if there is justified concern that the entity is over-indebted, has serious liquidity problems or, after the expiration of any relevant deadline, no longer fulfills capital adequacy requirements. Such powers include ordering protective



measures, instituting restructuring proceedings (and exercising any Swiss resolution powers in connection therewith), and instituting liquidation proceedings, all of which may have a material adverse effect on shareholders and creditors or may prevent UBS Group AG, UBS AG or UBS Switzerland AG from paying dividends or making payments on debt obligations.

UBS would have limited ability to challenge any such protective measures, and creditors and shareholders would have no right under Swiss law or in Swiss courts to reject them, seek their suspension, or challenge their imposition, including measures that require or result in the deferment of payments.

If restructuring proceedings are opened with respect to UBS Group AG, UBS AG or UBS Switzerland AG, the resolution powers that FINMA may exercise include the power to: (i) transfer all or some of the assets, debt and other liabilities, and contracts of the entity subject to proceedings to another entity; (ii) stay for a maximum of two business days (a) the termination of, or the exercise of rights to terminate, netting rights, (b) rights to enforce or dispose of certain types of collateral or (c) rights to transfer claims, liabilities or certain collateral, under contracts to which the entity subject to proceedings is a party; and/or (iii) partially or fully write down the equity capital and, if such equity capital is fully written down, convert into equity or write down the capital and other debt instruments of the entity subject to proceedings. Shareholders and creditors would have no right to reject, or to seek the suspension of, any restructuring plan pursuant to which such resolution powers are exercised. They would have only limited rights to challenge any decision to exercise resolution powers or to have that decision reviewed by a judicial or administrative process or otherwise.

Upon full or partial write-down of the equity and debt of the entity subject to restructuring proceedings, the relevant shareholders and creditors would receive no payment in respect of the equity and debt that is written down, the write-down would be permanent, and the investors would not, at such time or at any time thereafter, receive any shares or other participation rights, or be entitled to any write-up or any other compensation in the event of a potential recovery of the debtor. If FINMA orders the conversion of debt of the entity subject to restructuring proceedings into equity, the securities received by the investors may be worth significantly less than the original debt and may have a significantly different risk profile, and such conversion would also dilute the ownership of existing shareholders. In addition, creditors receiving equity would be effectively subordinated to all creditors of the restructured entity in the event of a subsequent winding up, liquidation or dissolution of the restructured entity, which would increase the risk that investors would lose all or some of their investment.

FINMA has significant discretion in the exercise of its powers in connection with restructuring proceedings. Furthermore, certain categories of debt obligations, such as certain types of deposits, are subject to preferential treatment. As a result, holders of obligations of an entity subject to a Swiss restructuring proceeding may have their obligations written down or converted into equity even though obligations ranking on par with or junior to such obligations are not written down or converted.

***UBS AG's financial results may be negatively affected by changes to assumptions and valuations, as well as changes to accounting standards***

UBS AG prepares its consolidated financial statements in accordance with International Financial Reporting Standards ("IFRS"). The application of these accounting standards requires the use of judgment based on estimates and assumptions that may involve significant uncertainty at the time they are made. This is the case, for example, with respect to the measurement of fair value of financial instruments, the recognition of deferred tax assets, the assessment of the impairment of goodwill, expected credit losses and estimation of provisions for contingencies, including litigation, regulatory and similar matters. Such judgments, including the underlying estimates and assumptions, which encompass historical experience, expectations of the future and other factors, are regularly evaluated to determine their continuing relevance based on current conditions. Using different assumptions could cause the reported results to differ. Changes in assumptions, or failure to make the changes necessary to reflect evolving market conditions, may have a significant effect on the financial statements in the periods when changes occur. Estimates of provisions for contingencies may be subject to a wide range of potential outcomes and significant uncertainty. For example, the broad range of potential outcomes in UBS AG's proceeding in France increases the uncertainty associated with assessing the appropriate provision. If the estimates and assumptions in future periods deviate from the current outlook, UBS AG's financial results may also be negatively affected.

Changes to IFRS or interpretations thereof may cause future reported results and financial position to differ from current expectations, or historical results to differ from those previously reported due to the adoption of accounting standards on a retrospective basis. Such changes may also affect UBS AG's regulatory capital and ratios. For example, UBS AG adopted IFRS 9 effective 1 January 2018, which required it to change the accounting treatment of financial instruments measured at amortised cost and certain other positions, to record loans from inception net of expected credit loss ("ECL") allowances and provisions instead of recording credit losses on an in-

curred loss basis. This may result in a significant increase in recognised credit loss allowances in the future and greater volatility in the income statement as ECL changes in response to developments in the credit cycle and composition of UBS AG's loan portfolio. The effect may be more pronounced in a deteriorating economic environment. Refer to the “*Critical accounting estimates and judgments*” section and “*Note 1 Summary of significant accounting policies*” in the “UBS Group AG consolidated financial statements” section of the Annual Report 2019, as well as to the “*Note 1 Basis of Accounting*” section of the First Quarter 2020 Report for more information.

### **Strategy, management and operations risks**

#### ***UBS AG may not be successful in the ongoing execution of its strategic plans***

UBS AG has transformed its business to focus on its Global Wealth Management business and its universal bank in Switzerland, complemented by Asset Management and a significantly smaller and more capital-efficient Investment Bank; it has substantially reduced the risk-weighted assets and leverage ratio denominator usage in Corporate Center; and made significant cost reductions. Risk remains that going forward UBS AG may not succeed in executing its strategy or achieving its performance targets, or may be delayed in doing so. Macroeconomic conditions, geopolitical uncertainty, changes to regulatory requirements and the continuing costs of meeting these requirements have prompted UBS AG to adapt its targets and ambitions in the past and it may need to do so again in the future.

To achieve its strategic plans, UBS AG expects to continue to make significant expenditures on technology and infrastructure to improve client experience, improve and further enable digital offerings and increase efficiency. UBS AG's investments in new technology may not fully achieve its objectives or improve its ability to attract and retain customers. In addition, UBS AG will likely face competition in providing digitally enabled offerings from both existing competitors and new financial service providers in various portions of the value chain. For example, technological advances and the growth of e-commerce have made it possible for e-commerce firms and other companies to offer products and services that were traditionally offered only by banks. These advances have also allowed financial institutions and other companies to provide digitally based financial solutions, including electronic securities trading, payments processing and online automated algorithmic-based investment advice at a low cost to their customers. UBS AG may have to lower its prices, or risk losing customers as a result. UBS AG's ability to develop and implement competitive digitally enabled offerings and processes will be an important factor in its ability to compete.

As part of its strategy, UBS AG seeks to improve its operating efficiency, in part by controlling its costs. UBS AG may not be able to identify feasible cost reduction opportunities that are consistent with its business goals and cost reductions may be realised later or may be smaller than it anticipates. Higher temporary and permanent regulatory costs and higher business demand than anticipated have partly offset cost reductions and delayed the achievement of UBS AG's past cost reduction targets, and it could continue to be challenged in the execution of its ongoing efforts to improve operating efficiency.

Changes in UBS AG's workforce as a result of outsourcing, nearshoring, offshoring, insourcing or staff reductions may introduce new operational risks that, if not effectively addressed, could affect its ability to achieve cost and other benefits from such changes, or could result in operational losses.

As UBS AG implements effectiveness and efficiency programs, it may also experience unintended consequences, such as the unintended loss or degradation of capabilities that it needs in order to maintain its competitive position, achieve its targeted returns or meet existing or new regulatory requirements and expectations.

Refer to the “*Our strategy*” section of the Annual Report 2019 for more information.

#### ***Operational risks affect UBS AG's business***

UBS AG's businesses depend on its ability to process a large number of transactions, many of which are complex, across multiple and diverse markets in different currencies, to comply with requirements of many different legal and regulatory regimes to which it is subject and to prevent, or promptly detect and stop, unauthorised, fictitious or fraudulent transactions. UBS AG also relies on access to, and on the functioning of, systems maintained by third parties, including clearing systems, exchanges, information processors and central counterparties. Any failure of UBS AG's or third-party systems could have an adverse effect on UBS AG. UBS AG's operational risk management and control systems and processes are designed to help ensure that the risks associated with its activities – including those arising from process error, failed execution, misconduct, unauthorised trading, fraud, system failures, financial crime, cyberattacks, breaches of information security, inadequate or ineffective access controls and failure of security and physical protection – are appropriately controlled. If UBS AG's internal con-

trols fail or prove ineffective in identifying and remedying these risks, it could suffer operational failures that might result in material losses, such as the substantial loss it incurred from the unauthorised trading incident announced in September 2011.

UBS AG uses automation as part of its efforts to improve efficiency, reduce the risk of error and improve its client experience. UBS AG intends to expand the use of robotic processing, machine learning and artificial intelligence to further these goals. Use of these tools presents their own risks, including the need for effective design and testing; the quality of the data used for development and operation of machine learning and artificial intelligence tools may adversely affect their functioning and result in errors and other operational risks.

UBS AG and other financial services firms have been subject to breaches of security and to cyber- and other forms of attack, some of which are sophisticated and targeted attacks intended to gain access to confidential information or systems, disrupt service or destroy data. These attacks may be attempted through the introduction of viruses or malware, phishing and other forms of social engineering, distributed denial of service attacks and other means. These attempts may occur directly, or using equipment or security passwords of UBS AG's employees, third-party service providers or other users. In addition to external attacks, UBS AG has experienced loss of client data from failure by employees and others to follow internal policies and procedures and from misappropriation of its data by employees and others. UBS AG may not be able to anticipate, detect or recognise threats to its systems or data and its preventative measures may not be effective to prevent an attack or a security breach. In the event of a security breach, notwithstanding its preventative measures, UBS AG may not immediately detect a particular breach or attack. Once a particular attack is detected, time may be required to investigate and assess the nature and extent of the attack. A successful breach or circumvention of security of UBS AG's systems or data could have significant negative consequences for it, including disruption of its operations, misappropriation of confidential information concerning it or its customers, damage to its systems, financial losses for it or its customers, violations of data privacy and similar laws, litigation exposure and damage to its reputation.

UBS AG is subject to complex and frequently changing laws and regulations governing the protection of client and personal data, such as the EU General Data Protection Regulation. Ensuring that UBS AG complies with applicable laws and regulations when it collects, uses and transfers personal information requires substantial resources and may affect the ways in which it conducts its business. In the event that UBS AG fails to comply with applicable laws, it may be exposed to regulatory fines and penalties and other sanctions. UBS AG may also incur such penalties if its vendors or other service providers or clients or counterparties fail to comply with these laws or to maintain appropriate controls over protected data. In addition, any loss or exposure of client or other data may adversely damage UBS AG's reputation and adversely affect its business.

A major focus of US and other countries' governmental policies relating to financial institutions in recent years has been on fighting money laundering and terrorist financing. UBS AG is required to maintain effective policies, procedures and controls to detect, prevent and report money laundering and terrorist financing, and to verify the identity of its clients under the laws of many of the countries in which it operates. UBS AG is also subject to laws and regulations related to corrupt and illegal payments to government officials by others, such as the US Foreign Corrupt Practices Act and the UK Bribery Act. UBS AG has implemented policies, procedures and internal controls that are designed to comply with such laws and regulations. Notwithstanding this, US regulators have found deficiencies in the design and operation of anti-money laundering programs in UBS AG Group's US operations. UBS AG Group has undertaken a significant program to address these regulatory findings with the objective of fully meeting regulatory expectations for its programs. Failure to maintain and implement adequate programs to combat money laundering, terrorist financing or corruption, or any failure of UBS AG Group's programs in these areas, could have serious consequences both from legal enforcement action and from damage to its reputation. Frequent changes in sanctions imposed and increasingly complex sanctions imposed on countries, entities and individuals increase UBS AG Group's cost of monitoring and complying with sanctions requirements and increase the risk that it will not identify in a timely manner previously permissible client activity that is subject to a sanction.

As a result of new and changed regulatory requirements and the changes UBS AG has made in its legal structure, the volume, frequency and complexity of its regulatory and other reporting has significantly increased. Regulators have also significantly increased expectations regarding UBS AG's internal reporting and data aggregation, as well as management reporting. UBS AG has incurred and continues to incur significant costs to implement infrastructure to meet these requirements. Failure to meet external reporting requirements accurately and in a timely manner or failure to meet regulatory expectations of internal reporting, data aggregation and management reporting could result in enforcement action or other adverse consequences for UBS AG.

Certain types of operational control weaknesses and failures could also adversely affect UBS AG's ability to prepare and publish accurate and timely financial reports.

In addition, despite the contingency plans that UBS AG has in place, its ability to conduct business may be adversely affected by a disruption in the infrastructure that supports its businesses and the communities in which it operates. This may include a disruption due to natural disasters, pandemics, civil unrest, war or terrorism and involve electrical, communications, transportation or other services that UBS AG uses or that are used by third parties with whom it conducts business.

***UBS AG may not be successful in implementing changes in its wealth management businesses to meet changing market, regulatory and other conditions***

In recent years, inflows from lower-margin segments and markets have been replacing outflows from higher-margin segments and markets, in particular for cross-border clients. This dynamic, combined with changes in client product preferences as a result of which low-margin products account for a larger share of UBS AG's revenues than in the past, has put downward pressure on Global Wealth Management's margins.

As the discussion above indicates, UBS AG is exposed to possible outflows of client assets in its asset-gathering businesses and to changes affecting the profitability of Global Wealth Management, in particular. Initiatives that UBS may implement to overcome the effects of changes in the business environment on its profitability, balance sheet and capital positions may not succeed in counteracting those effects and may cause net new money outflows and reductions in client deposits, as happened with its balance sheet and capital optimisation program in 2015. There is no assurance that UBS AG will be successful in its efforts to offset the adverse effect of these or similar trends and developments.

***UBS AG may be unable to identify or capture revenue or competitive opportunities, or retain and attract qualified employees***

The financial services industry is characterised by intense competition, continuous innovation, restrictive, detailed, and sometimes fragmented regulation and ongoing consolidation. UBS AG faces competition at the level of local markets and individual business lines, and from global financial institutions that are comparable to it in their size and breadth. Barriers to entry in individual markets and pricing levels are being eroded by new technology. UBS AG expects these trends to continue and competition to increase. UBS AG's competitive strength and market position could be eroded if it is unable to identify market trends and developments, does not respond to such trends and developments by devising and implementing adequate business strategies, does not adequately develop or update its technology including its digital channels and tools, or is unable to attract or retain the qualified people needed.

The amount and structure of UBS AG's employee compensation is affected not only by its business results, but also by competitive factors and regulatory considerations.

In recent years, in response to the demands of various stakeholders, including regulatory authorities and shareholders, and in order to better align the interests of its staff with other stakeholders, UBS AG has increased average deferral periods for stock awards, expanded forfeiture provisions and, to a more limited extent, introduced clawback provisions for certain awards linked to business performance. UBS AG has also introduced individual caps on the proportion of fixed to variable pay for the Group Executive Board ("**GEB**") members, as well as certain other employees.

Constraints on the amount or structure of employee compensation, higher levels of deferral, performance conditions and other circumstances triggering the forfeiture of unvested awards may adversely affect UBS AG's ability to retain and attract key employees. The loss of key staff and the inability to attract qualified replacements could seriously compromise UBS AG's ability to execute its strategy and to successfully improve its operating and control environment, and could affect its business performance. Swiss law requires that shareholders approve the compensation of the Board of Directors (the "**BoD**") and the GEB each year. If UBS's shareholders fail to approve the compensation for the GEB or the BoD, this could have an adverse effect on its ability to retain experienced directors and its senior management.

***UBS AG depends on its risk management and control processes to avoid or limit potential losses in its businesses***

Controlled risk-taking is a major part of the business of a financial services firm. Some losses from risk-taking activities are inevitable, but to be successful over time, UBS AG must balance the risks it takes against the returns generated. Therefore UBS AG must diligently identify, assess, manage and control its risks, not only in

normal market conditions but also as they might develop under more extreme, stressed conditions, when concentrations of exposures can lead to severe losses.

As seen during the financial crisis of 2007–2009, UBS AG has not always been able to prevent serious losses arising from extreme or sudden market events that are not anticipated by its risk measures and systems. UBS AG's risk measures, concentration controls and the dimensions in which it aggregated risk to identify correlated exposures proved inadequate in a historically severe deterioration in financial markets. As a result, UBS AG recorded substantial losses on fixed income trading positions, particularly in 2008 and 2009. UBS AG has substantially revised and strengthened its risk management and control framework and increased the capital that it holds relative to the risks that it takes. Nonetheless, UBS AG could suffer further losses in the future if, for example:

- a) it does not fully identify the risks in its portfolio, in particular risk concentrations and correlated risks;
- b) its assessment of the risks identified, or its response to negative trends, proves to be untimely, inadequate, insufficient or incorrect;
- c) markets move in ways that UBS AG does not expect – in terms of their speed, direction, severity or correlation – and its ability to manage risks in the resulting environment is, therefore, affected;
- d) third parties to whom it has credit exposure or whose securities it holds are severely affected by events and it suffers defaults and impairments beyond the level implied by its risk assessment; or
- e) collateral or other security provided by its counterparties proves inadequate to cover their obligations at the time of default.

UBS AG has exposures related to real estate in various countries, including a substantial Swiss mortgage portfolio. Although UBS AG believes this portfolio is prudently managed, it could nevertheless be exposed to losses if a substantial deterioration in the Swiss real estate market were to occur. UBS AG also holds legacy risk positions, primarily in Corporate Center, that, in many cases, are illiquid and may again deteriorate in value.

UBS AG also manages risk on behalf of its clients. The performance of assets UBS AG holds for its clients may be adversely affected by the same factors mentioned above. If clients suffer losses or the performance of their assets held with UBS AG is not in line with relevant benchmarks against which clients assess investment performance, UBS AG may suffer reduced fee income and a decline in assets under management, or withdrawal of mandates.

Investment positions, such as equity investments made as part of strategic initiatives and seed investments made at the inception of funds that UBS AG manages, may also be affected by market risk factors. These investments are often not liquid and generally are intended or required to be held beyond a normal trading horizon. Deteriorations in the fair value of these positions would have a negative effect on UBS AG's earnings.

***UBS AG's operating results, financial condition and ability to pay its obligations in the future may be affected by funding, dividends and other distributions received from UBS Switzerland AG, UBS Americas Holding LLC, UBS Europe SE and other subsidiaries, which may be subject to restrictions***

UBS AG's ability to pay its obligations in the future may be affected by the level of funding, dividends and other distributions, if any, received from UBS Switzerland AG and other subsidiaries. The ability of such subsidiaries to make loans or distributions, directly or indirectly, to UBS AG may be restricted as a result of several factors, including restrictions in financing agreements and the requirements of applicable law and regulatory, fiscal or other restrictions. In particular, UBS AG's direct and indirect subsidiaries, including UBS Switzerland AG, UBS Americas Holding LLC and UBS Europe SE, are subject to laws and regulations that restrict dividend payments, authorise regulatory bodies to block or reduce the flow of funds from those subsidiaries to UBS AG, or could affect their ability to repay any loans made to, or other investments in, such subsidiary by UBS AG or another member of the Group. For example, the US Comprehensive Capital Analysis and Review process requires that UBS's US intermediate holding company demonstrate that it can continue to meet minimum capital standards over a hypothetical nine-quarter severely adverse economic scenario. If it fails to meet the quantitative capital requirements, or the Federal Reserve Board's qualitative assessment of the capital planning process is adverse, UBS's US intermediate holding company would be prohibited from paying dividends or making distributions. Restrictions and regulatory actions of this kind could impede access to funds that UBS AG may need to meet its

obligations. In addition, UBS AG's right to participate in a distribution of assets upon a subsidiary's liquidation or reorganisation is subject to all prior claims of the subsidiary's creditors.

Furthermore, UBS AG may guarantee some of the payment obligations of certain of its subsidiaries from time to time. These guarantees may require UBS AG to provide substantial funds or assets to subsidiaries or their creditors or counterparties at a time when UBS AG is in need of liquidity to fund its own obligations.

### ***UBS AG's reputation is critical to its success***

UBS AG's reputation is critical to the success of its strategic plans, business and prospects. Reputational damage is difficult to reverse, and improvements tend to be slow and difficult to measure. UBS AG's reputation has been adversely affected by its losses during the financial crisis, investigations into its cross-border private banking services, criminal resolutions of LIBOR-related and foreign exchange matters, as well as other matters. UBS AG believes that reputational damage as a result of these events was an important factor in its loss of clients and client assets across its asset-gathering businesses. New events that cause reputational damage could have a material adverse effect on UBS AG's results of operation and financial condition, as well as its ability to achieve its strategic goals and financial targets.

### **Liquidity and funding risk**

#### ***Liquidity and funding management are critical to UBS AG's ongoing performance***

The viability of UBS AG's business depends on the availability of funding sources, and its success depends on its ability to obtain funding at times, in amounts, for tenors and at rates that enable it to efficiently support its asset base in all market conditions. UBS AG's funding sources have generally been stable, but could change in the future because of, among other things, general market disruptions or widening credit spreads, which could also influence the cost of funding. A substantial part of UBS AG's liquidity and funding requirements are met using short-term unsecured funding sources, including retail and wholesale deposits and the regular issuance of money market securities. A change in the availability of short-term funding could occur quickly.

Moreover, more stringent capital and liquidity and funding requirements will likely lead to increased competition for both secured funding and deposits as a stable source of funding, and to higher funding costs. The addition of loss-absorbing debt as a component of capital requirements, the regulatory requirements to maintain minimum TLAC at UBS AG's holding company and at subsidiaries, as well as the power of resolution authorities to bail in TLAC and other debt obligations, and uncertainty as to how such powers will be exercised, will increase UBS AG's cost of funding and could potentially increase the total amount of funding required, in the absence of other changes in its business.

Reductions in UBS AG's credit ratings may adversely affect the market value of the securities and other obligations and increase its funding costs, in particular with regard to funding from wholesale unsecured sources, and could affect the availability of certain kinds of funding. In addition, as experienced in connection with Moody's downgrade of UBS AG's long-term debt rating in June 2012, rating downgrades can require UBS AG to post additional collateral or make additional cash payments under trading agreements. UBS AG's credit ratings, together with its capital strength and reputation, also contribute to maintaining client and counterparty confidence, and it is possible that rating changes could influence the performance of some of its businesses.

The requirement to maintain a liquidity coverage ratio of high-quality liquid assets to estimated stressed short-term net cash outflows, and other similar liquidity and funding requirements, oblige UBS AG to maintain high levels of overall liquidity, limit its ability to optimise interest income and expense, make certain lines of business less attractive and reduce its overall ability to generate profits. The liquidity coverage ratio and net stable funding ratio requirements are intended to ensure that UBS AG is not overly reliant on short-term funding and that it has sufficient long-term funding for illiquid assets. The relevant calculations make assumptions about the relative likelihood and amount of outflows of funding and available sources of additional funding in market-wide and firm-specific stress situations. There can be no assurance that in an actual stress situation UBS AG's funding outflows would not exceed the assumed amounts.

## **APPENDIX 3**

### **EXTRACT OF THE UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS OF UBS AG AND ITS SUBSIDIARIES FOR THE FIRST QUARTER ENDED 31 MARCH 2020**

# UBS AG interim consolidated financial statements (unaudited)

## Income statement

USD million	Note	For the quarter ended		
		31.3.20	31.12.19	31.3.19
Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income	3	2,457	2,570	2,674
Interest expense from financial instruments measured at amortized cost	3	(1,406)	(1,600)	(1,912)
Net interest income from financial instruments measured at fair value through profit or loss		262	274	339
Net interest income	3	1,313	1,244	1,101
Other net income from financial instruments measured at fair value through profit or loss		1,775	1,376	1,936
Credit loss (expense) / recovery	9	(268)	(8)	(20)
Fee and commission income	4	5,481	4,861	4,566
Fee and commission expense	4	(456)	(458)	(409)
Net fee and commission income	4	5,025	4,403	4,157
Other income	5	164	130	169
Total operating income		8,009	7,145	7,343
Personnel expenses	6	3,710	3,323	3,468
General and administrative expenses	7	2,080	2,456	2,026
Depreciation and impairment of property, equipment and software		405	428	379
Amortization and impairment of goodwill and intangible assets		16	125	16
Total operating expenses		6,210	6,332	5,890
Operating profit / (loss) before tax		1,799	814	1,454
Tax expense / (benefit)	8	375	186	387
Net profit / (loss)		1,424	628	1,067
Net profit / (loss) attributable to non-controlling interests		3	6	(2)
Net profit / (loss) attributable to shareholders		1,421	622	1,069



**Statement of comprehensive income**

	For the quarter ended		
USD million	31.3.20	31.12.19	31.3.19
<b>Comprehensive income attributable to shareholders</b>			
Net profit / (loss)	1,421	622	1,069
<b>Other comprehensive income that may be reclassified to the income statement</b>			
<b>Foreign currency translation</b>			
Foreign currency translation movements related to net assets of foreign operations, before tax	(274)	715	(151)
Effective portion of changes in fair value of hedging instruments designated as net investment hedges, before tax	136	(349)	26
Foreign currency translation differences on foreign operations reclassified to the income statement	0	3	1
Effective portion of changes in fair value of hedging instruments designated as net investment hedges reclassified to the income statement	(8)	(2)	0
Income tax relating to foreign currency translations, including the impact of net investment hedges	0	(1)	1
Subtotal foreign currency translation, net of tax	(147)	367	(122)
<b>Financial assets measured at fair value through other comprehensive income</b>			
Net unrealized gains / (losses), before tax	208	(12)	81
Realized gains reclassified to the income statement from equity	(9)	(4)	(1)
Realized losses reclassified to the income statement from equity	0	0	0
Income tax relating to net unrealized gains / (losses)	(51)	4	(17)
Subtotal financial assets measured at fair value through other comprehensive income, net of tax	147	(11)	62
<b>Cash flow hedges of interest rate risk</b>			
Effective portion of changes in fair value of derivative instruments designated as cash flow hedges, before tax	1,953	(545)	588
Net (gains) / losses reclassified to the income statement from equity	(103)	(82)	(21)
Income tax relating to cash flow hedges	(345)	121	(107)
Subtotal cash flow hedges, net of tax	1,505	(506)	459
<b>Fair value hedges of foreign currency risk</b>			
Change in fair value of cost of hedging, before tax	6		
Amortization of initial cost of hedging to the income statement	2		
Income tax relating to cost of hedging	0		
Subtotal cost of hedging, net of tax	8		
<b>Total other comprehensive income that may be reclassified to the income statement, net of tax</b>	<b>1,514</b>	<b>(150)</b>	<b>399</b>
<b>Other comprehensive income that will not be reclassified to the income statement</b>			
<b>Defined benefit plans</b>			
Gains / (losses) on defined benefit plans, before tax	104 <sup>1</sup>	(1,447)	(160)
Income tax relating to defined benefit plans	124	265	(16)
Subtotal defined benefit plans, net of tax	228	(1,181)	(176)
<b>Own credit on financial liabilities designated at fair value</b>			
Gains / (losses) from own credit on financial liabilities designated at fair value, before tax	1,156	(147)	(326)
Income tax relating to own credit on financial liabilities designated at fair value	(223)	0	8
Subtotal own credit on financial liabilities designated at fair value, net of tax	934	(147)	(318)
<b>Total other comprehensive income that will not be reclassified to the income statement, net of tax</b>	<b>1,161</b>	<b>(1,329)</b>	<b>(494)</b>
<b>Total other comprehensive income</b>	<b>2,675</b>	<b>(1,479)</b>	<b>(94)</b>
<b>Total comprehensive income attributable to shareholders</b>	<b>4,097</b>	<b>(857)</b>	<b>974</b>

## Statement of comprehensive income (continued)

	For the quarter ended		
USD million	31.3.20	31.12.19	31.3.19
<b>Comprehensive income attributable to non-controlling interests</b>			
Net profit / (loss)	3	6	(2)
<b>Other comprehensive income that will not be reclassified to the income statement</b>			
Foreign currency translation movements, before tax	(5)	4	4
Income tax relating to foreign currency translation movements	0	0	0
Subtotal foreign currency translation, net of tax	(5)	4	4
<b>Total other comprehensive income that will not be reclassified to the income statement, net of tax</b>	<b>(5)</b>	<b>4</b>	<b>4</b>
<b>Total comprehensive income attributable to non-controlling interests</b>	<b>(2)</b>	<b>10</b>	<b>2</b>
<b>Total comprehensive income</b>			
Net profit / (loss)	1,424	628	1,067
Other comprehensive income	2,671	(1,475)	(90)
of which: other comprehensive income that may be reclassified to the income statement	1,514	(150)	399
of which: other comprehensive income that will not be reclassified to the income statement	1,157	(1,325)	(489)
<b>Total comprehensive income</b>	<b>4,095</b>	<b>(847)</b>	<b>977</b>

<sup>†</sup> Includes a net pre-tax OCI gain of USD 247 million related to UK defined benefit plans (driven by a decrease in the defined benefit obligation mainly resulting from a higher discount rate), largely offset by a net pre-tax OCI loss of USD 148 million related to the Swiss pension plan (driven by an extraordinary employer contribution of USD 143 million that increased the gross plan assets, but led to an OCI loss as no net pension asset could be recognized on the balance sheet as of 31 March 2020 due to the asset ceiling). Refer to "Note 29 Pension and other post-employment benefit plans" in the "Consolidated financial statements" section of the Annual Report 2019 for more information about the effects from changes to the Swiss pension plan and the measures to mitigate them.

**Balance sheet**

<i>USD million</i>	Note	31.3.20	31.12.19
<b>Assets</b>			
Cash and balances at central banks		139,258	107,068
Loans and advances to banks		16,893	12,379
Receivables from securities financing transactions		89,648	84,245
Cash collateral receivables on derivative instruments	11	39,549	23,289
Loans and advances to customers	9	339,946	327,992
Other financial assets measured at amortized cost	12	23,907	23,012
<b>Total financial assets measured at amortized cost</b>		<b>649,202</b>	<b>577,985</b>
Financial assets at fair value held for trading	10	90,686	127,695
<i>of which: assets pledged as collateral that may be sold or repledged by counterparties</i>		<i>31,192</i>	<i>41,285</i>
Derivative financial instruments	10, 11	212,986	121,843
Brokerage receivables	10	20,319	18,007
Financial assets at fair value not held for trading	10	82,490	83,636
<b>Total financial assets measured at fair value through profit or loss</b>		<b>406,482</b>	<b>351,181</b>
<b>Financial assets measured at fair value through other comprehensive income</b>	10	<b>7,653</b>	<b>6,345</b>
Investments in associates		1,042	1,051
Property, equipment and software		11,812	11,826
Goodwill and intangible assets		6,407	6,469
Deferred tax assets		9,289	9,513
Other non-financial assets	12	7,299	7,547
<b>Total assets</b>		<b>1,099,185</b>	<b>971,916</b>

## Balance sheet (continued)

USD million	Note	31.3.20	31.12.19
<b>Liabilities</b>			
Amounts due to banks		18,822	6,570
Payables from securities financing transactions		12,867	7,778
Cash collateral payables on derivative instruments	11	45,649	31,416
Customer deposits		468,422	450,591
Funding from UBS Group AG and its subsidiaries		49,192	47,866
Debt issued measured at amortized cost	14	66,479	62,835
Other financial liabilities measured at amortized cost	12	10,462	10,373
<b>Total financial liabilities measured at amortized cost</b>		<b>671,893</b>	<b>617,429</b>
Financial liabilities at fair value held for trading	10	32,572	30,591
Derivative financial instruments	10, 11	206,654	120,880
Brokerage payables designated at fair value	10	37,652	37,233
Debt issued designated at fair value	10, 13	53,040	66,592
Other financial liabilities designated at fair value	10, 12	31,794	36,157
<b>Total financial liabilities measured at fair value through profit or loss</b>		<b>361,713</b>	<b>291,452</b>
Provisions	15	2,530	2,938
Other non-financial liabilities	12	5,065	6,168
<b>Total liabilities</b>		<b>1,041,201</b>	<b>917,988</b>
<b>Equity</b>			
Share capital		338	338
Share premium		24,663	24,659
Retained earnings		25,994	23,451
Other comprehensive income recognized directly in equity, net of tax		6,820	5,306
<b>Equity attributable to shareholders</b>		<b>57,814</b>	<b>53,754</b>
Equity attributable to non-controlling interests		169	174
<b>Total equity</b>		<b>57,983</b>	<b>53,928</b>
<b>Total liabilities and equity</b>		<b>1,099,185</b>	<b>971,916</b>

## Statement of changes in equity

<i>USD million</i>	Share capital	Share premium	Retained earnings
<b>Balance as of 1 January 2019 before the adoption of IFRIC 23</b>	<b>338</b>	<b>24,655</b>	<b>23,317</b>
Effect of adoption of IFRIC 23			(11)
<b>Balance as of 1 January 2019 after the adoption of IFRIC 23</b>	<b>338</b>	<b>24,655</b>	<b>23,306</b>
Issuance of share capital			
Premium on shares issued and warrants exercised			
Tax (expense) / benefit		2	
Dividends			
Translation effects recognized directly in retained earnings			4
New consolidations / (deconsolidations) and other increases / (decreases)		(6)	
Total comprehensive income for the period			575
<i>of which: net profit / (loss)</i>			1,069
<i>of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax</i>			
<i>of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans</i>			(176)
<i>of which: OCI that will not be reclassified to the income statement, net of tax – own credit</i>			(318)
<i>of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation</i>			
<b>Balance as of 31 March 2019</b>	<b>338</b>	<b>24,651</b>	<b>23,886</b>
<b>Balance as of 1 January 2020</b>	<b>338</b>	<b>24,659</b>	<b>23,451</b>
Issuance of share capital			
Premium on shares issued and warrants exercised			
Tax (expense) / benefit		4	
Dividends			
Translation effects recognized directly in retained earnings			0
Share of changes in retained earnings of associates and joint ventures			(40)
New consolidations / (deconsolidations) and other increases / (decreases)		0	
Total comprehensive income for the period			2,583
<i>of which: net profit / (loss)</i>			1,421
<i>of which: other comprehensive income (OCI) that may be reclassified to the income statement, net of tax</i>			
<i>of which: OCI that will not be reclassified to the income statement, net of tax – defined benefit plans</i>			228
<i>of which: OCI that will not be reclassified to the income statement, net of tax – own credit</i>			934
<i>of which: OCI that will not be reclassified to the income statement, net of tax – foreign currency translation</i>			
<b>Balance as of 31 March 2020</b>	<b>338</b>	<b>24,663</b>	<b>25,994</b>

<sup>1</sup> Excludes other comprehensive income related to defined benefit plans and own credit that is recorded directly in Retained earnings.

Other comprehensive income recognized directly in equity, net of tax <sup>1</sup>	of which: foreign currency translation	of which: financial assets measured at fair value through OCI	of which: cash flow hedges	of which: fair value hedges of foreign currency risk	Total equity attributable to shareholders	Non-controlling interests	Total equity
3,946	3,940	(103)	109		52,256	176	52,432
					(11)		(11)
3,946	3,940	(103)	109		52,245	176	52,421
					0		0
					0		0
					2		2
					0	(4)	(4)
(4)			(4)		0		0
					(6)	0	(7)
399	(122)	62	459		974	2	977
					1,069	(2)	1,067
399	(122)	62	459		399		399
					(176)		(176)
					(318)		(318)
					0	4	4
4,341	3,818	(40)	564		53,216	173	53,389
5,306	4,032	14	1,260		53,754	174	53,928
					0		0
					0		0
					4		4
					0	(3)	(3)
0		0	0		0		0
					(40)		(40)
					0	0	0
1,514	(147)	147	1,505	8	4,097	(2)	4,095
					1,421	3	1,424
1,514	(147)	147	1,505	8	1,514		1,514
					228		228
					934		934
					0	(5)	(5)
6,820	3,885	162	2,765	8	57,814	169	57,983

**Statement of cash flows**

	Year-to-date	
<i>USD million</i>	<b>31.3.20</b>	31.3.19
<b>Cash flow from / (used in) operating activities</b>		
Net profit / (loss)	<b>1,424</b>	1,067
<b>Non-cash items included in net profit and other adjustments:</b>		
Depreciation and impairment of property, equipment and software	<b>405</b>	379
Amortization and impairment of intangible assets	<b>16</b>	16
Credit loss expense / (recovery)	<b>268</b>	20
Share of net profits of associates / joint ventures and impairment of associates	<b>(16)</b>	(15)
Deferred tax expense / (benefit)	<b>192</b>	228
Net loss / (gain) from investing activities	<b>84</b>	(73)
Net loss / (gain) from financing activities	<b>(12,586)</b>	4,272
Other net adjustments	<b>(275)</b>	178
<b>Net change in operating assets and liabilities:</b>		
Loans and advances to banks / amounts due to banks	<b>12,436</b>	(1,696)
Securities financing transactions	<b>(439)</b>	(9,997)
Cash collateral on derivative instruments	<b>(2,034)</b>	(131)
Loans and advances to customers	<b>(12,379)</b>	(1,570)
Customer deposits	<b>18,522</b>	9,797
Financial assets and liabilities at fair value held for trading and derivative financial instruments	<b>35,457</b>	1,697
Brokerage receivables and payables	<b>(1,903)</b>	1,473
Financial assets at fair value not held for trading, other financial assets and liabilities	<b>(2,399)</b>	(1,266)
Provisions, other non-financial assets and liabilities	<b>(1,690)</b>	(639)
Income taxes paid, net of refunds	<b>(258)</b>	(204)
<b>Net cash flow from / (used in) operating activities</b>	<b>34,823</b>	3,535
<b>Cash flow from / (used in) investing activities</b>		
Purchase of subsidiaries, associates and intangible assets	<b>(1)</b>	(1)
Disposal of subsidiaries, associates and intangible assets	<b>0</b>	27
Purchase of property, equipment and software	<b>(327)</b>	(314)
Disposal of property, equipment and software	<b>3</b>	2
Purchase of financial assets measured at fair value through other comprehensive income	<b>(1,835)</b>	(1,033)
Disposal and redemption of financial assets measured at fair value through other comprehensive income	<b>674</b>	610
Net (purchase) / redemption of debt securities measured at amortized cost	<b>38</b>	629
<b>Net cash flow from / (used in) investing activities</b>	<b>(1,449)</b>	(79)

## Statement of cash flows (continued)

	Year-to-date	
<i>USD million</i>	<b>31.3.20</b>	31.3.19
<b>Cash flow from / (used in) financing activities</b>		
Net short-term debt issued / (repaid)	5,751	(6,858)
Repayment of lease liabilities <sup>1</sup>	(135)	
Issuance of long-term debt, including debt issued designated at fair value	21,268	14,704
Repayment of long-term debt, including debt issued designated at fair value	(22,703)	(10,263)
Funding from UBS Group AG and its subsidiaries <sup>2</sup>	530	2,938
Net changes in non-controlling interests	(8)	(4)
<b>Net cash flow from / (used in) financing activities</b>	<b>4,703</b>	515
<b>Total cash flow</b>		
<b>Cash and cash equivalents at the beginning of the period</b>	<b>119,804</b>	125,853
Net cash flow from / (used in) operating, investing and financing activities	38,078	3,972
Effects of exchange rate differences on cash and cash equivalents	(172)	(1,292)
<b>Cash and cash equivalents at the end of the period<sup>3</sup></b>	<b>157,711</b>	128,534
<i>of which: cash and balances at central banks<sup>4</sup></i>	<i>139,155</i>	<i>110,514</i>
<i>of which: loans and advances to banks</i>	<i>16,009</i>	<i>15,735</i>
<i>of which: money market paper<sup>5</sup></i>	<i>2,547</i>	<i>2,285</i>

## Additional information

### Net cash flow from / (used in) operating activities includes:

Interest received in cash <sup>6</sup>	3,461	3,925
Interest paid in cash <sup>6</sup>	2,923	3,404
Dividends on equity investments, investment funds and associates received in cash	727	1,238

<sup>1</sup> In 2019 cash payments for the principal portion of the lease liability were classified within operating activities under Financial assets at fair value not held for trading, other financial assets and liabilities.  
<sup>2</sup> Includes funding from UBS Group AG and its subsidiaries measured at amortized cost (recognized in Funding from UBS Group AG and its subsidiaries in the balance sheet) and measured at fair value (recognized in Other financial liabilities designated at fair value in the balance sheet). <sup>3</sup> USD 4,370 million and USD 4,678 million of cash and cash equivalents (mainly reflected in Loans and advances to banks) were restricted as of 31 March 2020 and 31 March 2019, respectively. Refer to "Note 26 Restricted and transferred financial assets" in the "Consolidated financial statements" section of the Annual Report 2019 for more information. <sup>4</sup> Includes only balances with an original maturity of three months or less. <sup>5</sup> Money market paper is included in the balance sheet under Financial assets at fair value held for trading (31 March 2020: USD 402 million; 31 March 2019: USD 649 million), Financial assets at fair value not held for trading (31 March 2020: USD 1,729 million; 31 March 2019: USD 1,475 million), Other financial assets measured at amortized cost (31 March 2020: USD 397 million; 31 March 2019: USD 155 million) and Financial assets measured at fair value through other comprehensive income (31 March 2020: USD 19 million; 31 March 2019: USD 5 million). <sup>6</sup> Interest received and paid in cash for the quarter ended 31 March 2019 include the total of interest on financial instruments measured at amortized cost / fair value through other comprehensive income (USD 2,637 million interest received and USD 2,082 million interest paid) and interest on financial instruments measured at fair value through profit or loss (USD 1,288 million interest received and USD 1,322 million interest paid). Refer to the Statement of cash flows in the "Consolidated financial statements" section of the Annual Report 2019.



# Notes to the UBS AG interim consolidated financial statements (unaudited)

## Note 1 Basis of accounting

### Basis of preparation

The consolidated financial statements (the financial statements) of UBS AG and its subsidiaries (together, UBS AG) are prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (the IASB), and are presented in US dollars (USD), which is also the functional currency of: UBS AG's Head Office; UBS AG, London Branch; and UBS AG's US-based operations. These interim financial statements are prepared in accordance with IAS 34, *Interim Financial Reporting*.

In preparing these interim financial statements, the same accounting policies and methods of computation have been applied as in the UBS AG consolidated annual financial statements for the period ended 31 December 2019, except for the changes described in this Note. These interim financial statements are unaudited and should be read in conjunction with UBS AG's audited consolidated financial statements included in the Annual Report 2019. In the opinion of management, all necessary adjustments were made for a fair presentation of UBS AG's financial position, results of operations and cash flows.

Preparation of these interim financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, income, expenses and disclosures of contingent assets and liabilities. These estimates and assumptions are based on the best available information. Actual results in the future could differ from such estimates and such differences may be material to the financial statements. Revisions to estimates, based on regular reviews, are recognized in the period in which they occur. For more information about areas of estimation uncertainty that are considered to require critical judgment, refer to "Note 1a Significant accounting policies" in the "Consolidated financial statements" section of the Annual Report 2019.

### Critical accounting estimates and judgments affected by the COVID-19 pandemic

UBS AG has considered the statement made by the IASB on 27 March 2020 on accounting for expected credit losses under IFRS 9, *Financial Instruments*, given the uncertainty resulting from the COVID-19 pandemic. UBS AG has continued to comply with the requirements of IFRS 9 in arriving at an unbiased, probability-weighted estimate of expected credit losses. Appropriate judgment has been applied when determining the effects of COVID-19, given the significant uncertainty that exists, in particular when assessing future macroeconomic conditions and whether a significant increase in credit risk has occurred. In addition, effects arising from the various government support measures have been considered.

→ Refer to Note 9 for more information

### Presentation of interest income and expense from financial instruments measured at fair value through profit or loss

Effective from 1 January 2020, UBS AG presents interest income and interest expense from financial instruments measured at fair value through profit or loss on a net basis in its income statement, in line with how UBS AG assesses and manages interest and in accordance with IFRS. This presentation change has no effect on *Net interest income* or on *Net profit* attributable to shareholders. Prior periods have been aligned with this change in presentation. Further information about net interest income from financial instruments measured at fair value through profit or loss is provided in Note 3.

### Segment reporting

Effective from 1 January 2020, UBS AG only reports total operating expenses for each business division and no longer discloses a detailed cost breakdown by financial statement line item within its segment reporting disclosures provided in Note 2. This change streamlines reporting, ensures alignment with how UBS AG manages its cost base and has no effect on the income statement, or on the net profit of any business division.

In addition, UBS AG has renamed Corporate Center, including Group Treasury, Non-core and Legacy Portfolio and Group services and other, to Group Functions in order to better reflect the nature of the activities it performs.

## Note 1 Basis of accounting (continued)

### Adoption of hedge accounting requirements of IFRS 9, *Financial Instruments*

#### Application and transition effect

Effective from 1 January 2020, UBS AG has prospectively adopted the hedge accounting requirements of IFRS 9, *Financial Instruments*, for all of its existing hedge accounting programs, except for fair value hedges of portfolio interest rate risk, which, as permitted under IFRS 9, continue to be accounted for under IAS 39, *Financial Instruments: Recognition and Measurement*.

IFRS 9's hedge accounting model further aligns accounting with risk management practices, amends hedge effectiveness requirements and prohibits voluntary de-designations. IFRS 9 permits the designation of certain additional hedged items, including layer components, net positions, and aggregated exposures, such as a combination of a non-derivative and derivative. IFRS 9 also introduces the concept of "cost of hedging," under which the time value of an option contract, the forward element of a forward contract or foreign currency basis spread in a cross-currency swap can be deferred in other comprehensive income and, depending on the nature of the hedged transaction, released to the income statement either when the hedged item affects the income statement or over the term of the hedged item.

The adoption of these requirements had no financial impact on UBS AG's financial statements. However, the adoption allows UBS AG to designate more effective hedge accounting relationships, including fair value hedges of foreign currency risk using cross-currency swaps, and to reduce income statement volatility caused by foreign currency basis spread.

Starting from 1 January 2020, UBS AG has been utilizing the concept of "cost of hedging" in its newly designated fair value hedge program of foreign currency debt using cross-currency swaps. The hedged risk is determined as changes in the value of the hedged items arising solely from changes in spot foreign exchange rates. The foreign currency basis spread in cross-currency swaps is excluded from the hedge designation and accounted for through other comprehensive income as a cost of hedging. As of 31 March 2020, the notional of hedging instruments and hedged items designated in the program amounted to USD 13.1 billion, with a gain of USD 8 million deferred in other comprehensive income as a cost of hedging.

Update to significant accounting policy – Hedge accounting (disclosed in "Note 1a item 3j Hedge accounting" in the financial statements 2019 included in the Annual Report 2019)

#### Hedge accounting under IFRS 9

UBS AG applies hedge accounting requirements of IFRS 9, *Financial Instruments*, for fair value hedges of interest rate risk related to debt instruments, fair value hedges of foreign exchange risk related to debt instruments, cash flow hedges of forecast transactions and hedges of net investments in foreign operations.

At the time a financial instrument is designated in a hedge relationship, UBS AG formally documents the relationship between the hedging instrument(s) and hedged item(s), including the risk management objectives and strategy in undertaking the hedge transaction, the nature of risk being hedged and the methods that will be used to assess whether the hedge effectiveness criteria are met. As part of effectiveness testing, UBS AG assesses, both at the inception of the hedge and on an ongoing basis, whether there is an economic relationship between the hedged item and the hedging instrument, including whether the relationship is dominated by the effect of credit risk and whether the appropriate hedge ratio is being used. In the case of hedging forecast transactions, the forecast transaction must be highly probable to occur. UBS AG discontinues hedge accounting when: (i) the hedge effectiveness criteria have ceased to be met; (ii) the derivative expires or is sold, terminated or exercised; (iii) the hedged item matures, is sold or repaid; (iv) forecast transactions are no longer deemed to meet the highly probable criteria; or (v) the risk management objective on the basis of which the hedge relationship was designated changes. Voluntary discontinuation of hedge accounting is not permitted.

Hedge ineffectiveness represents the amount by which the changes in the fair value of the hedging instrument differ from changes in the fair value of the hedged item attributable to the hedged risk, or the amount by which changes in the present value of future cash flows of the hedging instrument exceed changes in the present value of expected cash flows of the hedged item. Such ineffectiveness is recorded in *Other net income from financial instruments measured at fair value through profit or loss*.

#### Fair value hedges of interest rate risk related to debt instruments

In fair value hedges of interest rate risk, the fair value change of the hedged item attributable to the hedged risk is reflected as an adjustment to the carrying value of the hedged item and recognized in the income statement along with the change in the fair value of the hedging instrument. If the hedge accounting relationship is terminated for reasons other than derecognition of the hedged item, the adjustment to the carrying value is amortized to the income statement over the remaining term to maturity of the hedged item using the effective interest rate method.

## Note 1 Basis of accounting (continued)

### *Fair value hedges of foreign exchange risk related to debt instruments*

In fair value hedges of foreign currency risk, the fair value change of the hedged item attributable to the hedged risk is reflected in the measurement of the hedged item and recognized in the income statement along with the change in the fair value of the hedging instrument. The foreign currency basis spread of cross-currency swaps designated as hedging derivatives is excluded from the designation of fair value hedges of foreign currency risk. UBS AG has chosen to account for the foreign currency basis as a cost of hedging with amounts deferred in *Other comprehensive income* within *Equity*. These amounts are released to the income statement over the term of the hedged item or upon discontinuation of the hedge relationship.

### *Cash flow hedges of forecast transactions*

Fair value gains or losses associated with the effective portion of derivatives designated as cash flow hedges for cash flow repricing risk are recognized initially in *Other comprehensive income* within *Equity*. When the hedged forecast cash flows affect profit or loss, the associated gains or losses on the hedging derivatives are reclassified from *Equity* to the income statement and are presented in *Interest income from derivative instruments designated as cash flow hedges* within *Interest income from financial instruments measured at amortized cost and fair value through other comprehensive income*.

If a cash flow hedge of forecast transactions is no longer considered effective, or if the hedge relationship is terminated, the cumulative gains or losses on the hedging derivatives previously reported in *Other comprehensive income* within *Equity* remain there until the committed or forecast transactions occur and affect profit or loss. If the forecast transactions are no longer expected to occur, the deferred gains or losses are immediately reclassified to the income statement.

### *Hedges of net investments in foreign operations*

Hedges of net investments in foreign operations are accounted for similarly to cash flow hedges. Gains or losses on the hedging instrument relating to the effective portion of the hedge are

recognized directly in *Other comprehensive income* within *Equity*, whilst any gains or losses relating to the ineffective and/or undesignated portion (for example, the interest element of a forward contract) are recognized in the income statement. Upon disposal or partial disposal of the foreign operation, the cumulative value of any such gains or losses recognized in *Equity* associated with the entity is reclassified to *Other income*.

### *Hedge accounting under IAS 39*

As permitted under IFRS 9, UBS AG continues to apply hedge accounting requirements of IAS 39 to fair value hedges of portfolio interest rate risk related to loans. As a result, the hedge accounting policy set out in the UBS AG consolidated financial statements included in the Annual Report 2019 continues to apply to this program.

### **Conceptual Framework**

Effective from 1 January 2020, UBS AG has adopted the revised version of the Conceptual Framework for Financial Reporting (the Framework), issued by the IASB in March 2018. The Framework sets out the fundamental concepts of financial reporting and acts for UBS AG as a point of reference when developing accounting policies in rare instances where a particular business transaction is not covered by existing IFRS standards. The adoption of the Framework by UBS AG had no effect on UBS AG's financial statements.

### **Amendments to IFRS 3, Business Combinations**

As of 1 January 2020, UBS AG has adopted *Definition of a Business* (Amendments to IFRS 3) for transactions with an acquisition date on or after this date. The amendments clarify the definition of a business, with the objective of assisting in the determination of whether a transaction should be accounted for as a business combination or an asset acquisition. The adoption of these amendments on 1 January 2020 had no effect on UBS AG's financial statements.

## Note 2 Segment reporting

UBS AG's businesses are organized globally into four business divisions: Global Wealth Management, Personal & Corporate Banking, Asset Management and the Investment Bank. All four business divisions are supported by Group Functions and qualify as reportable segments for the purpose of segment reporting. Together with Group Functions they reflect the management structure of UBS AG.

→ Refer to "Note 1a Significant accounting policies item 2" and "Note 2 Segment reporting" in the "Consolidated financial statements" section of the Annual Report 2019 for more information about UBS AG's reporting segments

As outlined in Note 1, beginning with the first quarter 2020 report, UBS AG no longer discloses operating expenses by financial statement line item for each of its business divisions within its segment reporting disclosures. In addition, UBS AG has renamed Corporate Center to Group Functions in order to better reflect the nature of the activities it performs.

→ Refer to Note 1 for more information

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	UBS AG
<b>For the quarter ended 31 March 2020</b>						
Net interest income	1,031	511	(4)	(95)	(130)	1,313
Non-interest income	3,569	470	518	2,652	(245)	6,964
Income	4,600	981	514	2,557	(376)	8,277
Credit loss (expense) / recovery	(53)	(77)	0	(122)	(16)	(268)
Total operating income	4,547	904	514	2,436	(391)	8,009
Total operating expenses	3,347	569	357	1,757	181	6,210
<b>Operating profit / (loss) before tax</b>	<b>1,201</b>	<b>335</b>	<b>157</b>	<b>679</b>	<b>(572)</b>	<b>1,799</b>
Tax expense / (benefit)						375
<b>Net profit / (loss)</b>						<b>1,424</b>
<b>As of 31 March 2020</b>						
<b>Total assets</b>	<b>309,877</b>	<b>211,550</b>	<b>29,265</b>	<b>396,149</b>	<b>152,344</b>	<b>1,099,185</b>

USD million	Global Wealth Management	Personal & Corporate Banking	Asset Management	Investment Bank	Group Functions	UBS AG
<b>For the quarter ended 31 March 2019</b>						
Net interest income	1,009	494	(7)	(188)	(207)	1,101
Non-interest income	2,994	462	453	1,975	379	6,262
Income	4,003	956	446	1,787	172	7,363
Credit loss (expense) / recovery	1	2	0	(22)	0	(20)
Total operating income	4,004	958	446	1,764	172	7,343
Total operating expenses	3,156	571	343	1,577	242	5,890
<b>Operating profit / (loss) before tax</b>	<b>848</b>	<b>386</b>	<b>103</b>	<b>187</b>	<b>(71)</b>	<b>1,454</b>
Tax expense / (benefit)						387
<b>Net profit / (loss)</b>						<b>1,067</b>
<b>As of 31 December 2019</b>						
<b>Total assets</b>	<b>309,766</b>	<b>209,512</b>	<b>34,565</b>	<b>316,058</b>	<b>102,017</b>	<b>971,916</b>

**Note 3 Net interest income**

	For the quarter ended		
USD million	31.3.20	31.12.19	31.3.19
<b>Net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income</b>			
Interest income from loans and deposits <sup>1</sup>	1,870	1,919	2,028
Interest income from securities financing transactions <sup>2</sup>	367	440	498
Interest income from other financial instruments measured at amortized cost	89	94	96
Interest income from debt instruments measured at fair value through other comprehensive income	17	37	26
Interest income from derivative instruments designated as cash flow hedges	113	80	26
<b>Total interest income from financial instruments measured at amortized cost and fair value through other comprehensive income</b>	<b>2,457</b>	<b>2,570</b>	<b>2,674</b>
Interest expense on loans and deposits <sup>3</sup>	893	1,032	1,137
Interest expense on securities financing transactions <sup>4</sup>	219	255	288
Interest expense on debt issued	267	284	457
Interest expense on lease liabilities	27	29	30
<b>Total interest expense from financial instruments measured at amortized cost</b>	<b>1,406</b>	<b>1,600</b>	<b>1,912</b>
<b>Total net interest income from financial instruments measured at amortized cost and fair value through other comprehensive income</b>	<b>1,051</b>	<b>970</b>	<b>762</b>
<b>Net interest income from financial instruments measured at fair value through profit or loss</b>			
Net interest income from financial instruments at fair value held for trading	202	241	434
Net interest income from brokerage balances	137	127	77
Net interest income from securities financing transactions at fair value not held for trading <sup>5</sup>	33	36	30
Interest income from other financial instruments at fair value not held for trading	202	222	220
Interest expense on other financial instruments designated at fair value	(311)	(351)	(423)
<b>Total net interest income from financial instruments measured at fair value through profit or loss</b>	<b>262</b>	<b>274</b>	<b>339</b>
<b>Total net interest income</b>	<b>1,313</b>	<b>1,244</b>	<b>1,101</b>

<sup>1</sup> Consists of interest income from cash and balances at central banks, loans and advances to banks and customers, cash collateral receivables on derivative instruments, and negative interest on amounts due to banks and customer deposits. <sup>2</sup> Includes interest income on receivables from securities financing transactions and negative interest, including fees, on payables from securities financing transactions. <sup>3</sup> Consists of interest expense on amounts due to banks, cash collateral payables on derivative instruments, customer deposits, funding from UBS Group AG and its subsidiaries, and negative interest on cash and balances at central banks, loans and advances to banks. <sup>4</sup> Includes interest expense on payables from securities financing transactions and negative interest, including fees, on receivables from securities financing transactions. <sup>5</sup> Includes interest expense on securities financing transactions designated at fair value.

## Note 4 Net fee and commission income

USD million	For the quarter ended		
	31.3.20	31.12.19	31.3.19
<b>Fee and commission income</b>			
Underwriting fees	203	196	180
<i>of which: equity underwriting fees</i>	106	122	48
<i>of which: debt underwriting fees</i>	97	74	132
M&A and corporate finance fees	218	158	117
Brokerage fees	1,245	794	828
Investment fund fees	1,295	1,286	1,177
Portfolio management and related services	2,059	1,978	1,804
Other	462	448	460
<b>Total fee and commission income<sup>1</sup></b>	<b>5,481</b>	<b>4,861</b>	<b>4,566</b>
<i>of which: recurring</i>	<i>3,341</i>	<i>3,216</i>	<i>2,998</i>
<i>of which: transaction-based</i>	<i>2,102</i>	<i>1,546</i>	<i>1,541</i>
<i>of which: performance-based</i>	<i>39</i>	<i>99</i>	<i>27</i>
<b>Fee and commission expense</b>			
Brokerage fees paid	86	74	79
Distribution fees paid	156	159	142
Other	214	225	187
<b>Total fee and commission expense</b>	<b>456</b>	<b>458</b>	<b>409</b>
<b>Net fee and commission income</b>	<b>5,025</b>	<b>4,403</b>	<b>4,157</b>
<i>of which: net brokerage fees</i>	<i>1,158</i>	<i>720</i>	<i>748</i>

<sup>1</sup> Reflects third-party fee and commission income for the first quarter of 2020 of USD 3,384 million for Global Wealth Management (fourth quarter of 2019: USD 2,943 million; first quarter of 2019: USD 2,817 million), USD 354 million for Personal & Corporate Banking (fourth quarter of 2019: USD 322 million; first quarter of 2019: USD 325 million), USD 702 million for Asset Management (fourth quarter of 2019: USD 749 million; first quarter of 2019: USD 619 million), USD 1,008 million for the Investment Bank (fourth quarter of 2019: USD 814 million; first quarter of 2019: USD 783 million) and USD 33 million for Group Functions (fourth quarter of 2019: USD 32 million; first quarter of 2019: USD 22 million).

## Note 5 Other income

USD million	For the quarter ended		
	31.3.20	31.12.19	31.3.19
<b>Associates, joint ventures and subsidiaries</b>			
Net gains / (losses) from acquisitions and disposals of subsidiaries <sup>1</sup>	8	(1)	1
Net gains / (losses) from disposals of investments in associates	0	0	4
Share of net profits of associates and joint ventures	16	13	15
<b>Total</b>	<b>25</b>	<b>12</b>	<b>19</b>
Net gains / (losses) from disposals of financial assets measured at fair value through other comprehensive income	9	4	1
Income from properties <sup>2</sup>	7	6	7
Net gains / (losses) from properties held for sale	0	(27)	0
Income from shared services provided to UBS Group AG or its subsidiaries	106	111	120
Other	17	23	22
<b>Total other income</b>	<b>164</b>	<b>130</b>	<b>169</b>

<sup>1</sup> Includes foreign exchange gains / (losses) reclassified from other comprehensive income related to the disposal or closure of foreign operations. <sup>2</sup> Includes rent received from third parties.

**Note 6 Personnel expenses**

	For the quarter ended		
<i>USD million</i>	<b>31.3.20</b>	31.12.19	31.3.19
Salaries and variable compensation	<b>2,132</b>	1,831	2,027
Financial advisor compensation <sup>1</sup>	<b>1,094</b>	1,049	960
Contractors	<b>28</b>	39	36
Social security	<b>164</b>	149	170
Pension and other post-employment benefit plans	<b>177</b>	129	170
Other personnel expenses	<b>113</b>	125	105
<b>Total personnel expenses</b>	<b>3,710</b>	3,323	3,468

<sup>1</sup> Financial advisor compensation consists of grid-based compensation based directly on compensable revenues generated by financial advisors and supplemental compensation calculated on the basis of financial advisor productivity, firm tenure, assets and other variables. It also includes expenses related to compensation commitments with financial advisors entered into at the time of recruitment that are subject to vesting requirements.

**Note 7 General and administrative expenses**

	For the quarter ended		
<i>USD million</i>	<b>31.3.20</b>	31.12.19	31.3.19
Occupancy	<b>88</b>	89	89
Rent and maintenance of IT and other equipment	<b>89</b>	93	87
Communication and market data services	<b>124</b>	126	131
Administration	<b>1,395</b>	1,437	1,269
<i>of which: shared services costs charged by UBS Group AG or its subsidiaries</i>	<b>1,250</b>	1,238	1,136
<i>of which: UK and German bank levies</i>	<b>15</b>	61	15
Marketing and public relations	<b>39</b>	84	50
Travel and entertainment	<b>58</b>	84	77
Professional fees	<b>138</b>	246	156
Outsourcing of IT and other services	<b>127</b>	172	146
Litigation, regulatory and similar matters <sup>1</sup>	<b>6</b>	104	(8)
Other	<b>18</b>	20	29
<b>Total general and administrative expenses</b>	<b>2,080</b>	2,456	2,026

<sup>1</sup> Reflects the net increase in / (release of) provisions for litigation, regulatory and similar matters recognized in the income statement. Refer to Note 15 for more information. Also includes recoveries from third parties (first quarter of 2020: USD 1 million; fourth quarter of 2019: USD 1 million; first quarter of 2019: USD 7 million).

**Note 8 Income taxes**

UBS AG recognized income tax expenses of USD 375 million for the first quarter of 2020, representing an effective tax rate of 20.8%, compared with USD 387 million for the first quarter of 2019.

Current tax expenses were USD 182 million, compared with USD 159 million, and related to taxable profits of UBS Switzerland AG and other entities.

Deferred tax expenses were USD 192 million, compared with USD 228 million. These primarily reflect the amortization of deferred tax assets (DTAs) previously recognized in relation to tax losses carried forward and deductible temporary differences, including the amortization of US tax loss DTAs at the level of UBS Americas Inc.

## Note 9 Expected credit loss measurement

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### a) Expected credit losses in the period

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Total net credit loss expenses were USD 268 million during the first quarter of 2020, compared with USD 20 million during the first quarter of 2019, reflecting net expenses of USD 89 million related to stages 1 and 2 positions and net expenses of USD 179 million related to credit-impaired (stage 3) positions.

Stages 1 and 2 net credit loss expenses of USD 89 million include: (i) USD 63 million expenses that result from certain lending positions to industries and sectors that were adversely affected by COVID-19 and other market effects, in particular from energy-related exposures (USD 26 million) and securities financing transactions with a number of real estate investment trusts (USD 15 million); and (ii) USD 26 million expenses from systemic changes in scenarios and scenario weights.

Stage 3 net credit loss expenses of USD 179 million were recognized across Personal & Corporate Banking (USD 62 million), the Investment Bank (USD 60 million), Global Wealth Management (USD 41 million) and Group Functions (USD 16 million). Stage 3 expenses in Personal & Corporate Banking predominantly stem from a deterioration in the recoveries expected from loans to corporate counterparties that were already credit-impaired at year-end 2019. Stage 3 expenses in the Investment Bank include a number of credit-impaired positions from energy-related exposures (USD 44 million) and securities financing transactions with a number of real estate investment trusts (USD 16 million). Stage 3 expenses in Global Wealth Management primarily relate to a small number of collateralized lending positions. Stage 3 expenses in Group Functions arose from an energy-related exposure in the Non-core and Legacy Portfolio.



**Note 9 Expected credit loss measurement (continued)****b) Changes to ECL models, scenarios, scenario weights and key inputs**

The rapid spread of COVID-19 and the unprecedented measures taken by governments across the globe to contain the pandemic have resulted in a high degree of uncertainty regarding the economic consequences of these events. Management has assessed the situation and has exercised judgment in the absence of historic precedent, as explained below. Management has also carefully considered guidance issued by supervisory authorities concerning the interpretation of key elements of IFRS 9, *Financial instruments*, in the context of COVID-19. The guidance covers three main areas: (i) identification of appropriate forecasts, (ii) giving due consideration to various government support measures and (iii) identifying a significant increase in credit risk, in particular when payment holidays or other concessions may have been granted.

**Identification of appropriate forecasts, scenarios and scenario weights**

In the first quarter of 2020, the four scenarios and related macroeconomic factors that were applied at the end of 2019 were reviewed in light of the economic and political conditions prevailing at quarter-end through a series of extraordinary governance meetings, with input from UBS AG risk and finance experts across the regions and business divisions.

The key aspects of the narratives for the scenarios are summarized below.

- The baseline scenario was updated for 31 March 2020 and assumes a deterioration of GDP in relevant markets, especially in the US and in Switzerland, increasing unemployment, including a sharp increase in the US in the first half of 2020 to previously unseen levels, lower equity prices and higher market volatility. House prices are assumed to be largely flat in Switzerland over 2020 but to decrease in the US. Overall, modest economic improvements are expected to take place from the second half of 2020. There is, however, substantial uncertainty regarding the extent to which the baseline scenario narrative reliably captures the effects of government measures to mitigate the health and economic effects of the pandemic crisis. Consequently, there is substantial uncertainty regarding the extent to which the baseline scenario, as applied in UBS AG's models, can reliably predict the effects of the pandemic crisis on UBS AG's credit portfolio across divisions and regions.

- The hypothetical scenarios, in particular the upside and mild downside scenarios, are now less plausible. Given the considerable uncertainties associated with the economic conditions, an exceptional interim redesign of these scenarios was not deemed appropriate. In addition, having multiple scenarios would be speculative and compete with the probability weight estimation for the baseline and severe downside scenario. Therefore, management agreed that the upside and the mild downside narratives should not be changed at this point in time, but their probability weights should be set to zero (see further information below).
- The narrative for the severe downside scenario covers a severe recessionary phase affecting all major economies, with a wide-ranging slowdown, mainly caused by global trade tensions and debt sustainability concerns in Europe. Trade and business confidence are also affected, in particular in the key export markets for Swiss industry. The severe downside scenario is still considered appropriate in light of COVID-19, given the recessionary impacts it covers, even though the narrative is based on a different trigger for a global recession.

As a consequence of the exceptional circumstances and prevailing uncertainties at the end of the first quarter of 2020, the weight allocation between the four scenarios has shifted significantly. The upside and mild downside scenarios have been temporarily weighted with a 0% probability, with the baseline scenario weighted at 70% and the severe downside scenario at 30% to best reflect management's current sentiment regarding the boundaries of economic outcomes. The weight allocated to the severe downside scenario is substantially higher than the 15% weight applied in the fourth quarter of 2019, as there is significant uncertainty as to whether the pandemic can be contained sufficiently early and effectively. If not, a longer-term economic shock is expected, which could not be sufficiently counteracted by government measures, or, alternatively, could lead to potentially unstable fiscal positions with far-reaching consequences. With interest rates at their current level – and further lowered in some countries – there is extremely limited room for central banks to stimulate the economy. In such a severe downside scenario, the risk significantly increases that firms, while temporarily kept afloat with liquidity lines, will encounter a deteriorating credit standing or solvency problems.

## Note 9 Expected credit loss measurement (continued)

### Economic scenarios and weights applied

ECL scenario	Assigned weights in %	
	31.3.20	31.12.19
Upside	0.0	7.5
Baseline	70.0	42.5
Mild downside	0.0	35.0
Severe downside	30.0	15.0

ECL is sensitive to changing scenario weights, in particular if narratives and parameters are selected that are not close to the baseline scenario, highlighting the non-linearity of credit losses. UBS AG reported USD 429 million ECL allowances and provisions for stages 1 and 2 positions at the end of the first quarter 2020. If UBS AG had applied a 100% weight to the baseline scenario or 100% weight to the global crisis scenario, ECL allowances and provisions would have been approximately USD 400 million and USD 600 million, respectively. If all stage 1 and 2 positions across the portfolio had been measured for lifetime ECLs irrespective of their actual SICR status with a 70% weight applied to the baseline and 30% to the severe downside scenario, ECL allowances and provisions for positions not subject to credit-impairment would have been approximately USD 900 million.

### Consideration regarding the various government support measures

The effects of government support measures to address national health and economic concerns arising from the pandemic, including the provision of guaranteed credit for liquidity purposes in order to allow small and medium-sized entities and certain heavily impacted larger corporations to restart operations and to restructure damaged balance sheets, represent unknowns, given the lack of precedence and data available from a similar historical crisis. Accordingly, their effects on UBS AG's narratives and models are difficult to quantify with any degree of confidence. UBS AG has, however, followed guidance from

regulators and standard setters, who have indicated that, while government support measures should be incorporated in forward looking information, banks should not automatically move positions from stage 1 to stage 2. UBS AG has addressed these unmodelled effects where appropriate through the use of management overlays.

At the end of the first quarter, UBS AG recognized USD 1.2 billion of irrevocable loan commitments under the new Swiss government-backed facilities. No material ECL was recognized on these commitments, given the guarantee in place. However, UBS AG will closely monitor the situation, as these clients may, in the longer term, face increased pressures, affecting their ability to repay.

### Identification of SICR and stage allocation

UBS AG has considered both quantitative and qualitative indicators over the expected life of an instrument, including the expected effect of government programs to support borrowers, to determine whether there is any significant increase in credit risk.

At the end of the first quarter of 2020, UBS AG was not aware of a material number of requests for payment holidays or other forbearance measures that were outside the firm's risk appetite, and UBS AG will continue to monitor this situation closely in future quarters. UBS AG has appropriately distinguished between: borrowers with business models that are expected to be sustainable in the longer term and recover post COVID-19; clients not yet in financial difficulties, but which may face longer-term challenges and have therefore been placed on the watch list and moved to stage 2; and those which are impaired and consequently have been moved to stage 3.

- Refer to "Note 1a Significant accounting policies item 3g" and "Note 23 Expected credit loss measurement" in the "Consolidated financial statements" section of the Annual Report 2019 for more information
- Refer to Note 18 for more information about UBS AG's ECL

**Note 9 Expected credit loss measurement (continued)****c) ECL-relevant balance sheet and off-balance sheet positions including ECL allowances and provisions**

The tables on the following pages provide information about financial instruments and certain non-financial instruments that are subject to ECL. For amortized-cost instruments, the carrying amount represents the maximum exposure to credit risk, taking into account the allowance for credit losses. Financial assets measured at fair value through other comprehensive income (FVOCI) are also subject to ECL; however, unlike amortized-cost instruments, the allowance for credit losses for FVOCI

instruments does not reduce the carrying value of these financial assets. Rather, the carrying value of financial assets measured at FVOCI represents the maximum exposure to credit risk.

In addition to on-balance sheet financial assets, certain off-balance sheet and other credit lines are also subject to ECL. The maximum exposure to credit risk for off-balance sheet financial instruments is calculated based on the maximum contractual amounts.

USD million	31.3.20							
	Carrying amount <sup>1</sup>				ECL allowance			
Financial instruments measured at amortized cost	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Cash and balances at central banks	139,258	139,258	0	0	0	0	0	0
Loans and advances to banks	16,893	16,815	78	0	(6)	(4)	(1)	(1)
Receivables from securities financing transactions	89,648	88,394	449	804	(34)	(2)	(15)	(16)
Cash collateral receivables on derivative instruments	39,549	39,549	0	0	0	0	0	0
Loans and advances to customers	339,946	323,136	14,896	1,914	(936)	(101)	(164)	(671)
of which: Private clients with mortgages	134,759	126,633	7,168	957	(111)	(17)	(55)	(39)
of which: Real estate financing	39,097	33,876	5,205	16	(49)	(6)	(39)	(4)
of which: Large corporate clients	15,343	14,328	849	166	(191)	(21)	(35)	(134)
of which: SME clients	11,943	10,453	1,036	455	(358)	(18)	(20)	(320)
of which: Lombard	114,401	114,144	0	258	(56)	(10)	0	(46)
of which: Credit cards	1,317	985	308	23	(34)	(7)	(14)	(14)
of which: Commodity trade finance	2,801	2,778	13	10	(82)	(5)	0	(77)
Other financial assets measured at amortized cost	23,907	22,961	410	536	(143)	(31)	(15)	(97)
of which: Loans to financial advisors	2,699	2,198	303	198	(112)	(25)	(13)	(73)
Total financial assets measured at amortized cost	649,202	630,114	15,833	3,255	(1,120)	(139)	(195)	(786)
Financial assets measured at fair value through other comprehensive income	7,653	7,653	0	0	0	0	0	0
Total on-balance sheet financial assets in scope of ECL requirements	656,855	637,767	15,833	3,255	(1,120)	(139)	(195)	(786)
	Total exposure				ECL provision			
Off-balance sheet (in scope of ECL)	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
Guarantees	17,830	17,387	361	83	(76)	(8)	(1)	(66)
of which: Large corporate clients	3,742	3,471	244	26	(33)	(1)	0	(32)
of which: SME clients	1,308	1,185	67	56	(28)	0	0	(27)
of which: Financial intermediaries and hedge funds	7,965	7,949	16	0	(5)	(5)	0	0
of which: Lombard	603	603	0	0	(7)	0	0	(7)
of which: Commodity trade finance	1,967	1,951	16	0	(1)	(1)	0	0
Irrevocable loan commitments	28,334	27,701	550	84	(46)	(34)	(13)	0
of which: Large corporate clients	18,224	17,712	453	59	(33)	(26)	(7)	0
Forward starting reverse repurchase and securities borrowing agreements	5,123	5,123	0	0	0	0	0	0
Committed unconditionally revocable credit lines	36,374	35,396	942	35	(36)	(20)	(16)	0
of which: Real estate financing	4,989	4,679	310	0	(16)	(3)	(12)	0
of which: Large corporate clients	3,784	3,697	70	17	(2)	(1)	0	0
of which: SME clients	4,644	4,492	133	18	(10)	(9)	(1)	0
of which: Lombard	7,649	7,649	0	0	0	(1)	0	0
of which: Credit cards	8,295	7,923	371	0	(5)	(4)	(2)	0
Irrevocable committed prolongation of existing loans	4,040	4,038	0	2	(4)	(4)	0	0
Total off-balance sheet financial instruments and other credit lines	91,701	89,644	1,852	204	(162)	(66)	(29)	(66)
Total allowances and provisions					(1,282)	(205)	(225)	(852)

<sup>1</sup> The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

## Note 9 Expected credit loss measurement (continued)

USD million	31.12.19							
	Carrying amount <sup>1</sup>				ECL allowance			
	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
<b>Financial instruments measured at amortized cost</b>								
Cash and balances at central banks	107,068	107,068	0	0	0	0	0	0
Loans and advances to banks	12,379	12,298	80	0	(6)	(4)	(1)	(1)
Receivables from securities financing transactions	84,245	84,245	0	0	(2)	(2)	0	0
Cash collateral receivables on derivative instruments	23,289	23,289	0	0	0	0	0	0
Loans and advances to customers	327,992	310,705	15,538	1,749	(764)	(82)	(123)	(559)
of which: Private clients with mortgages	132,646	124,063	7,624	959	(110)	(15)	(55)	(41)
of which: Real estate financing	38,481	32,932	5,532	17	(43)	(5)	(34)	(4)
of which: Large corporate clients	9,703	9,184	424	94	(117)	(15)	(4)	(98)
of which: SME clients	11,786	9,817	1,449	521	(303)	(17)	(15)	(271)
of which: Lombard	112,893	112,796	0	98	(22)	(4)	0	(18)
of which: Credit cards	1,661	1,314	325	22	(35)	(8)	(14)	(13)
of which: Commodity trade finance	2,844	2,826	8	10	(81)	(5)	0	(77)
Other financial assets measured at amortized cost	23,012	21,985	451	576	(143)	(35)	(13)	(95)
of which: Loans to financial advisors	2,877	2,341	334	202	(109)	(29)	(11)	(70)
<b>Total financial assets measured at amortized cost</b>	<b>577,985</b>	<b>559,590</b>	<b>16,069</b>	<b>2,326</b>	<b>(915)</b>	<b>(124)</b>	<b>(137)</b>	<b>(655)</b>
Financial assets measured at fair value through other comprehensive income	6,345	6,345	0	0	0	0	0	0
<b>Total on-balance sheet financial assets in scope of ECL requirements</b>	<b>584,329</b>	<b>565,935</b>	<b>16,069</b>	<b>2,326</b>	<b>(915)</b>	<b>(124)</b>	<b>(137)</b>	<b>(655)</b>
	Total exposure				ECL provision			
	Total	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3
<b>Off-balance sheet (in scope of ECL)</b>								
Guarantees	18,142	17,757	304	82	(42)	(8)	(1)	(33)
of which: Large corporate clients	3,687	3,461	203	24	(10)	(1)	0	(9)
of which: SME clients	1,180	1,055	67	58	(24)	0	0	(23)
of which: Financial intermediaries and hedge funds	7,966	7,950	16	0	(5)	(4)	0	0
of which: Lombard	622	622	0	0	(1)	0	0	(1)
of which: Commodity trade finance	2,334	2,320	13	0	(1)	(1)	0	0
Irrevocable loan commitments	27,547	27,078	419	50	(35)	(30)	(5)	0
of which: Large corporate clients	18,735	18,349	359	27	(27)	(24)	(3)	0
Forward starting reverse repurchase and securities borrowing agreements	1,657	1,657	0	0	0	0	0	0
Committed unconditionally revocable credit lines	36,979	35,735	1,197	46	(34)	(17)	(17)	0
of which: Real estate financing	5,242	4,934	307	0	(16)	(3)	(13)	0
of which: Large corporate clients	4,274	4,188	69	17	(1)	(1)	0	0
of which: SME clients	4,787	4,589	171	27	(9)	(8)	(1)	0
of which: Lombard	7,976	7,975	0	1	0	0	0	0
of which: Credit cards	7,890	7,535	355	0	(6)	(4)	(2)	0
of which: Commodity trade finance	344	344	0	0	0	0	0	0
Irrevocable committed prolongation of existing loans	3,289	3,285	0	4	(3)	(3)	0	0
<b>Total off-balance sheet financial instruments and other credit lines</b>	<b>87,614</b>	<b>85,513</b>	<b>1,920</b>	<b>182</b>	<b>(114)</b>	<b>(58)</b>	<b>(23)</b>	<b>(33)</b>
<b>Total allowances and provisions</b>					<b>(1,029)</b>	<b>(181)</b>	<b>(160)</b>	<b>(688)</b>

<sup>1</sup> The carrying amount of financial assets measured at amortized cost represents the total gross exposure net of the respective ECL allowances.

## Note 10 Fair value measurement

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This Note provides fair value measurement information for both financial and non-financial instruments and should be read in conjunction with "Note 24 Fair value measurement" in the "Consolidated financial statements" section of the Annual Report 2019, which provides more information about valuation principles, valuation governance, fair value hierarchy classification, valuation adjustments, valuation techniques and inputs, sensitivity of fair value measurements, and methods applied to calculate fair values for financial instruments not measured at fair value.

All financial and non-financial assets and liabilities measured or disclosed at fair value are categorized into one of three fair value hierarchy levels. In certain cases, the inputs used to measure fair value may fall within different levels of the fair value hierarchy. For disclosure purposes, the level in the hierarchy within which the instrument is classified in its entirety is based on the lowest level input that is significant to the position's fair value measurement:

- Level 1: quoted prices (unadjusted) in active markets for identical assets and liabilities;
- Level 2: valuation techniques for which all significant inputs are, or are based on, observable market data; or
- Level 3: valuation techniques for which significant inputs are not based on observable market data.

During the first quarter of 2020, the significant levels of market activity, reflecting the effects of the COVID-19 pandemic, resulted in a number of notable quarter-on-quarter variances. The main movements were the following:

*Financial assets at fair value held for trading* decreased by USD 37 billion, mainly in the Investment Bank, primarily reflecting a reduction in inventory levels to increase funding available for its business activities as well as market-driven movements.

Derivative financial assets increased by USD 91 billion and derivative financial liabilities increased by USD 86 billion, in a volatile market environment, primarily reflecting market-driven movements in foreign exchange and equity / index contracts in our Derivatives & Solutions and Financing businesses in the Investment Bank.

*Debt issued designated at fair value* decreased by USD 14 billion, reflecting market-driven movements and a significant widening of UBS AG's credit spreads.

## Note 10 Fair value measurement (continued)

### a) Fair value hierarchy

The fair value hierarchy classification of financial and non-financial assets and liabilities measured at fair value is summarized in the table below.

#### Determination of fair values from quoted market prices or valuation techniques<sup>1</sup>

USD million	31.3.20				31.12.19			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>Financial assets measured at fair value on a recurring basis</b>								
Financial assets at fair value held for trading	73,687	14,982	2,018	90,686	113,635	12,248	1,812	127,695
of which:								
Equity instruments	54,960	535	185	55,680	96,162	400	226	96,788
Government bills / bonds	11,017	2,826	9	13,852	9,630	1,770	64	11,464
Investment fund units	7,077	1,556	21	8,654	7,088	1,729	50	8,867
Corporate and municipal bonds	618	8,432	498	9,549	755	6,796	542	8,093
Loans	0	1,205	1,120	2,325	0	1,180	791	1,971
Asset-backed securities	16	428	184	628	0	372	140	512
Derivative financial instruments	1,193	209,349	2,445	212,986	356	120,224	1,264	121,843
of which:								
Foreign exchange contracts	635	94,070	26	94,731	240	52,228	8	52,476
Interest rate contracts	20	55,402	418	55,839	6	42,288	263	42,558
Equity / index contracts	4	53,989	1,301	55,294	7	22,220	597	22,825
Credit derivative contracts	0	1,574	669	2,243	0	1,612	394	2,007
Commodity contracts	0	3,909	6	3,915	0	1,820	0	1,821
Brokerage receivables	0	20,319	0	20,319	0	18,007	0	18,007
Financial assets at fair value not held for trading	39,666	39,125	3,699	82,490	40,608	39,065	3,962	83,636
of which:								
Financial assets for unit-linked investment contracts	22,826	0	0	22,826	27,568	118	0	27,686
Corporate and municipal bonds	655	19,753	0	20,408	653	18,732	0	19,385
Government bills / bonds	15,954	3,853	0	19,808	12,089	3,700	0	15,790
Loans	0	8,390	1,081	9,470	0	10,206	1,231	11,438
Securities financing transactions	0	6,909	147	7,056	0	6,148	147	6,294
Auction rate securities	0	0	1,393	1,393	0	0	1,536	1,536
Investment fund units	138	132	107	378	194	140	98	432
Equity instruments	93	3	454	549	103	4	451	559
Other	0	84	518	602	0	16	499	515
<b>Financial assets measured at fair value through other comprehensive income on a recurring basis</b>								
Financial assets measured at fair value through other comprehensive income	1,651	6,002	0	7,653	1,906	4,439	0	6,345
of which:								
Asset-backed securities	0	5,507	0	5,507	0	3,955	0	3,955
Government bills / bonds	1,613	92	0	1,705	1,859	16	0	1,875
Corporate and municipal bonds	38	404	0	441	47	468	0	515
<b>Non-financial assets measured at fair value on a recurring basis</b>								
Precious metals and other physical commodities	4,050	0	0	4,050	4,597	0	0	4,597
<b>Non-financial assets measured at fair value on a non-recurring basis</b>								
Other non-financial assets <sup>2</sup>	0	0	202	202	0	0	199	199
<b>Total assets measured at fair value</b>	<b>120,247</b>	<b>289,776</b>	<b>8,364</b>	<b>418,386</b>	<b>161,102</b>	<b>193,983</b>	<b>7,237</b>	<b>362,322</b>

**Note 10 Fair value measurement (continued)****Determination of fair values from quoted market prices or valuation techniques (continued)<sup>1</sup>**

USD million	31.3.20				31.12.19			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
<b>Financial liabilities measured at fair value on a recurring basis</b>								
Financial liabilities at fair value held for trading	26,965	5,464	143	32,572	25,791	4,726	75	30,591
of which:								
Equity instruments	22,289	283	26	22,599	22,526	149	59	22,734
Corporate and municipal bonds	22	3,921	74	4,018	40	3,606	16	3,661
Government bills / bonds	3,880	710	0	4,590	2,820	646	0	3,466
Investment fund units	774	532	43	1,349	404	294	0	698
Derivative financial instruments	1,246	201,775	3,633	206,654	385	118,498	1,996	120,880
of which:								
Foreign exchange contracts	636	92,516	65	93,218	248	53,705	60	54,013
Interest rate contracts	6	49,780	892	50,678	7	36,434	130	36,571
Equity / index contracts	4	53,968	1,557	55,528	3	24,171	1,293	25,468
Credit derivative contracts	0	1,875	1,065	2,940	0	2,448	512	2,960
Commodity contracts	0	3,437	0	3,438	0	1,707	0	1,707
<b>Financial liabilities designated at fair value on a recurring basis</b>								
Brokerage payables designated at fair value	0	37,652	0	37,652	0	37,233	0	37,233
Debt issued designated at fair value	0	46,013	7,027	53,040	0	56,943	9,649	66,592
Other financial liabilities designated at fair value	0	30,309	1,485	31,794	0	35,119	1,039	36,157
of which:								
Financial liabilities related to unit-linked investment contracts	0	23,150	0	23,150	0	28,145	0	28,145
Securities financing transactions	0	5,992	0	5,992	0	5,742	0	5,742
Over-the-counter debt instruments	0	1,159	1,138	2,297	0	1,231	791	2,022
<b>Total liabilities measured at fair value</b>	<b>28,211</b>	<b>321,213</b>	<b>12,289</b>	<b>361,713</b>	<b>26,176</b>	<b>252,518</b>	<b>12,759</b>	<b>291,452</b>

<sup>1</sup> Bifurcated embedded derivatives are presented on the same balance sheet lines as their host contracts and are not included in this table. The fair value of these derivatives was not material for the periods presented. <sup>2</sup> Other non-financial assets primarily consist of properties and other non-current assets held for sale, which are measured at the lower of their net carrying amount or fair value less costs to sell.

**b) Valuation adjustments****Deferred day-1 profit or loss reserves**

The table below summarizes the changes in deferred day-1 profit or loss reserves during the relevant period.

Deferred day-1 profit or loss is generally released into *Other net income from financial instruments measured at fair value through profit or loss* when pricing of equivalent products or the underlying parameters become observable or when the transaction is closed out.

**Deferred day-1 profit or loss reserves**

USD million	For the quarter ended		
	31.3.20	31.12.19	31.3.19
Reserve balance at the beginning of the period	146	131	255
Profit / (loss) deferred on new transactions	118	48	33
(Profit) / loss recognized in the income statement	(69)	(33)	(126)
Foreign currency translation	(1)	0	(1)
<b>Reserve balance at the end of the period</b>	<b>194</b>	<b>146</b>	<b>161</b>



## Note 10 Fair value measurement (continued)

### Own credit

The valuation of financial liabilities designated at fair value requires consideration of the own credit component of fair value. Own credit risk is reflected in the valuation of UBS AG's fair value option liabilities where this component is considered relevant for valuation purposes by UBS AG's counterparties and other market participants. However, own credit risk is not reflected in the valuation of UBS AG's liabilities that are fully collateralized or for other obligations for which it is established market practice to not include an own credit component.

The description of UBS AG's methodology to estimate own credit and the related accounting principles is included in "Note 24 Fair value measurement" in the "Consolidated financial statements" section of the Annual Report 2019.

In the first quarter of 2020, other comprehensive income related to own credit on financial liabilities designated at fair value was positive USD 1,156 million, primarily due to a significant widening of UBS's credit spreads driven by economic effects of the COVID-19 pandemic.

### Own credit adjustments on financial liabilities designated at fair value

	For the quarter ended Included in Other comprehensive income		
USD million	31.3.20	31.12.19	31.3.19
<b>Recognized during the period:</b>			
Realized gain / (loss)	1	2	0
Unrealized gain / (loss)	1,156	(149)	(326)
<b>Total gain / (loss), before tax</b>	<b>1,156</b>	<b>(147)</b>	<b>(326)</b>

  

	As of		
USD million	31.3.20	31.12.19	31.3.19
<b>Recognized on the balance sheet as of the end of the period:</b>			
Unrealized life-to-date gain / (loss)	1,069	(88)	(6)

### Credit, funding, debit and other valuation adjustments

A description of UBS AG's methodology for estimating credit valuation adjustments (CVAs), funding valuation adjustments (FVAs), debit valuation adjustments (DVAs) and other valuation adjustments is included in "Note 24 Fair value measurement" in the "Consolidated financial statements" section of the Annual Report 2019.

In the first quarter of 2020, life-to-date losses for CVAs and FVAs increased due to higher credit and funding spreads as a result of the adverse economic developments and the sharp decline in market valuations driven by the COVID-19 pandemic. Other valuation adjustments for liquidity and model uncertainty also increased due to higher volatility risk as a result of market uncertainty.

### Valuation adjustments on financial instruments

	As of	
Life-to-date gain / (loss), USD million	31.3.20	31.12.19
<b>Credit valuation adjustments<sup>1</sup></b>	<b>(92)</b>	<b>(48)</b>
<b>Funding valuation adjustments<sup>2</sup></b>	<b>(378)</b>	<b>(93)</b>
<b>Debit valuation adjustments</b>	<b>2</b>	<b>1</b>
<b>Other valuation adjustments</b>	<b>(879)</b>	<b>(566)</b>
of which: liquidity	(536)	(300)
of which: model uncertainty	(343)	(266)

<sup>1</sup> Amounts do not include reserves against defaulted counterparties. <sup>2</sup> Includes FVAs on structured financing transactions of USD 194 million as of 31 March 2020 and USD 43 million as of 31 December 2019.

### c) Transfers between Level 1 and Level 2

The amounts disclosed in this section reflect transfers between Level 1 and Level 2 for instruments that were held for the entire reporting period.

Assets and liabilities transferred from Level 2 to Level 1 during the first quarter of 2020 or from Level 1 to Level 2 during the first quarter of 2020 were not material.



**Note 10 Fair value measurement (continued)****d) Level 3 instruments: valuation techniques and inputs**

The table below presents significant Level 3 assets and liabilities together with the valuation techniques used to measure fair value, the significant inputs used in the valuation technique that are considered unobservable and a range of values for those unobservable inputs.

The range of values represents the highest- and lowest-level input used in the valuation techniques. Therefore, the range does not reflect the level of uncertainty regarding a particular input, but rather the different underlying characteristics of the relevant assets and liabilities. The ranges will therefore vary from period to period and parameter to parameter based on characteristics of the instruments held at each balance sheet date. Furthermore, the ranges and weighted averages of unobservable inputs may differ

across other financial institutions due to the diversity of the products in each firm's inventory.

The significant unobservable inputs disclosed in the table below are consistent with those included in "Note 24 Fair value measurement" in the "Consolidated financial statements" section of the Annual Report 2019. A description of the potential effect that a change in each unobservable input in isolation may have on a fair value measurement, including information to facilitate an understanding of factors that give rise to the input ranges shown, is also provided in "Note 24 Fair value measurement" in the "Consolidated financial statements" section of the Annual Report 2019.

**Valuation techniques and inputs used in the fair value measurement of Level 3 assets and liabilities**

USD billion	Fair value				Valuation technique(s)	Significant unobservable input(s) <sup>1</sup>	Range of inputs						unit <sup>1</sup>
	Assets		Liabilities				31.3.20			31.12.19			
	31.3.20	31.12.19	31.3.20	31.12.19			low	high	weighted average <sup>2</sup>	low	high	weighted average <sup>2</sup>	
Financial assets and liabilities at fair value held for trading and Financial assets at fair value not held for trading													
Corporate and municipal bonds	0.5	0.5	0.1	0.0	Relative value to market comparable	Bond price equivalent	0	143	94	0	143	101	points
Traded loans, loans designated at fair value, loan commitments and guarantees	2.6	2.4	0.1	0.0	Relative value to market comparable	Loan price equivalent	0	100	99	0	101	99	points
					Discounted expected cash flows	Credit spread	250	1,000		225	530		basis points
					Market comparable and securitization model	Discount margin	1	15	3	0	14	2	%
Auction rate securities	1.4	1.5			Relative value to market comparable	Bond price equivalent	79	91	80	79	98	88	points
Investment fund units <sup>3</sup>	0.1	0.1	0.0	0.0	Relative value to market comparable	Net asset value							
Equity instruments <sup>3</sup>	0.6	0.7	0.0	0.1	Relative value to market comparable	Price							
Debt issued designated at fair value <sup>4</sup>			7.0	9.6									
Other financial liabilities designated at fair value			1.5	1.0	Discounted expected cash flows	Funding spread	45	175		44	175		basis points
Derivative financial instruments													
Interest rate contracts	0.4	0.3	0.9	0.1	Option model	Volatility of interest rates	42	90		15	63		basis points
Credit derivative contracts	0.7	0.4	1.1	0.5	Discounted expected cash flows	Credit spreads	(10)	688		1	700		basis points
						Bond price equivalent	0	100		0	100		points
Equity / index contracts	1.3	0.6	1.6	1.3	Option model	Equity dividend yields	0	20		0	14		%
						Volatility of equity stocks, equity and other indices	4	130		4	105		%
						Equity-to-FX correlation	(45)	71		(45)	71		%
						Equity-to-equity correlation	(17)	99		(17)	98		%

<sup>1</sup> The ranges of significant unobservable inputs are represented in points, percentages and basis points. Points are a percentage of par (e.g., 100 points would be 100% of par). <sup>2</sup> Weighted averages are provided for non-derivative financial instruments and were calculated by weighting inputs based on the fair values of the respective instruments. Weighted averages are not provided for inputs related to derivative contracts as this would not be meaningful. <sup>3</sup> The range of inputs is not disclosed as there is a dispersion of values given the diverse nature of the investments. <sup>4</sup> Valuation techniques, significant unobservable inputs and the respective input ranges for Debt issued designated at fair value are the same as the equivalent derivative instruments presented elsewhere in this table.

## Note 10 Fair value measurement (continued)

### e) Level 3 instruments: sensitivity to changes in unobservable input assumptions

The table below summarizes those financial assets and liabilities classified as Level 3 for which a change in one or more of the unobservable inputs to reflect reasonably possible alternative assumptions would change fair value significantly, and the estimated effect thereof.

The table shown presents the favorable and unfavorable effects for each class of financial assets and liabilities for which the potential change in fair value is considered significant. The sensitivity of fair value measurements for debt issued designated at fair value and over-the-counter debt instruments designated at fair value is reported with the equivalent derivative or structured financing instrument within the table below.

The sensitivity data shown below presents an estimation of valuation uncertainty based on reasonably possible alternative values for Level 3 inputs at the balance sheet date and does not represent the estimated effect of stress scenarios. Typically, these financial assets and liabilities are sensitive to a combination of inputs from Levels 1–3. Although well-defined interdependencies may exist between Levels 1–2 and Level 3 parameters (e.g., between interest rates, which are generally Level 1 or Level 2, and prepayments, which are generally Level 3), these have not been incorporated in the table. Furthermore, direct interrelationships between the Level 3 parameters are not a significant element of the valuation uncertainty.

#### Sensitivity of fair value measurements to changes in unobservable input assumptions

USD million	31.3.20		31.12.19	
	Favorable changes	Unfavorable changes	Favorable changes	Unfavorable changes
Traded loans, loans designated at fair value, loan commitments and guarantees	165	(209)	46	(21)
Securities financing transactions	35	(33)	11	(11)
Auction rate securities	105	(105)	87	(87)
Asset-backed securities	42	(51)	35	(40)
Equity instruments	150	(82)	140	(80)
Interest rate derivative contracts, net	16	(20)	8	(17)
Credit derivative contracts, net	34	(38)	31	(35)
Foreign exchange derivative contracts, net	15	(13)	12	(8)
Equity / index derivative contracts, net	362	(429)	183	(197)
Other	48	(50)	47	(51)
<b>Total</b>	<b>972</b>	<b>(1,028)</b>	<b>600</b>	<b>(547)</b>

### f) Level 3 instruments: movements during the period

#### Significant changes in Level 3 instruments

The table on the following pages presents additional information about significant Level 3 assets and liabilities measured at fair value on a recurring basis. Level 3 assets and liabilities may be hedged with instruments classified as Level 1 or Level 2 in the fair value hierarchy and, as a result, realized and unrealized gains

and losses included in the table may not comprise the effect of related hedging activity. Furthermore, the realized and unrealized gains and losses presented within the table are not limited solely to those arising from Level 3 inputs, as valuations are generally derived from both observable and unobservable parameters.

## Note 10 Fair value measurement (continued)

Movements of Level 3 instruments<sup>1</sup>

USD billion	Balance as of 31 December 2018	Net gains / losses included in income <sup>2</sup>	Total gains / losses included in comprehensive income <i>of which: related to Level 3 instruments held at the end of the reporting period</i>	Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation	Balance as of 31 March 2019
<b>Financial assets at fair value held for trading</b>	<b>2.0</b>	<b>(0.1)</b>	<b>0.0</b>	<b>0.2</b>	<b>(0.9)</b>	<b>1.2</b>	<b>0.0</b>	<b>0.2</b>	<b>(0.2)</b>	<b>0.0</b>	<b>2.3</b>
<i>of which:</i>											
Investment fund units	0.4	0.0	0.0	0.0	(0.2)	0.0	0.0	0.1	(0.1)	0.0	0.2
Corporate and municipal bonds	0.7	0.0	0.0	0.1	(0.2)	0.0	0.0	0.0	(0.1)	0.0	0.4
Loans	0.7	0.0	0.0	0.1	(0.5)	1.2	0.0	0.0	0.0	0.0	1.5
Other	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
<b>Derivative financial instruments – assets</b>	<b>1.4</b>	<b>(0.1)</b>	<b>(0.1)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.4</b>	<b>(0.3)</b>	<b>0.0</b>	<b>(0.1)</b>	<b>0.0</b>	<b>1.4</b>
<i>of which:</i>											
Interest rate contracts	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4
Equity / index contracts	0.5	(0.1)	(0.1)	0.0	0.0	0.2	(0.1)	0.0	(0.1)	0.0	0.4
Credit derivative contracts	0.5	0.0	0.0	0.0	0.0	0.2	(0.1)	0.0	0.0	0.0	0.5
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Financial assets at fair value not held for trading</b>	<b>4.4</b>	<b>0.1</b>	<b>0.2</b>	<b>0.5</b>	<b>(0.4)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>(0.9)</b>	<b>0.0</b>	<b>3.7</b>
<i>of which:</i>											
Loans	1.8	0.1	0.1	0.4	(0.3)	0.0	0.0	0.0	(0.9)	0.0	1.1
Auction rate securities	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Equity instruments	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Other	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
<b>Financial assets measured at fair value through other comprehensive income</b>											
<b>Derivative financial instruments – liabilities</b>	<b>2.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>(0.3)</b>	<b>0.0</b>	<b>(0.2)</b>	<b>0.0</b>	<b>2.1</b>
<i>of which:</i>											
Interest rate contracts	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Equity / index contracts	1.4	0.1	0.1	0.0	0.0	0.2	(0.2)	0.0	(0.2)	0.0	1.3
Credit derivative contracts	0.5	0.0	0.0	0.0	0.0	0.1	(0.1)	0.0	0.0	0.0	0.6
Other	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
<b>Debt issued designated at fair value</b>	<b>11.0</b>	<b>0.4</b>	<b>0.4</b>	<b>0.0</b>	<b>0.0</b>	<b>2.7</b>	<b>(1.0)</b>	<b>0.2</b>	<b>(1.0)</b>	<b>0.0</b>	<b>12.4</b>
<b>Other financial liabilities designated at fair value</b>	<b>1.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>(0.5)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.7</b>

<sup>1</sup> In the first quarter of 2020, UBS AG has enhanced its disclosure of Level 3 movements by excluding from the table the impacts of instruments purchased during the period and sold prior to the end of the period. Prior-period comparatives have been restated accordingly. <sup>2</sup> Net gains / losses included in comprehensive income are comprised of Net interest income, Other net income from financial instruments measured at fair value through profit or loss and Other income. <sup>3</sup> Total Level 3 assets as of 31 March 2020 were USD 8.4 billion (31 December 2019: USD 7.2 billion). Total Level 3 liabilities as of 31 March 2020 were USD 12.3 billion (31 December 2019: USD 12.8 billion).

## Note 10 Fair value measurement (continued)

Balance as of 31 December 2019 <sup>3</sup>	Total gains / losses included in comprehensive income		Purchases	Sales	Issuances	Settlements	Transfers into Level 3	Transfers out of Level 3	Foreign currency translation	Balance as of 31 March 2020 <sup>3</sup>
	Net gains / losses included in income <sup>2</sup>	<i>of which: related to Level 3 instruments held at the end of the reporting period</i>								
<b>1.8</b>	<b>(0.1)</b>	<b>(0.1)</b>	<b>0.4</b>	<b>(1.1)</b>	<b>0.8</b>	<b>0.0</b>	<b>0.2</b>	<b>(0.1)</b>	<b>0.0</b>	<b>2.0</b>
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.0	0.0	0.1	(0.3)	0.0	0.0	0.2	0.0	0.0	0.5
0.8	0.0	(0.1)	0.1	(0.5)	0.8	0.0	0.0	0.0	0.0	1.1
0.4	0.0	0.0	0.2	(0.2)	0.0	0.0	0.1	0.0	0.0	0.4
<b>1.3</b>	<b>0.5</b>	<b>0.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.9</b>	<b>(0.3)</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>2.4</b>
0.3	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4
0.6	0.4	0.4	0.0	0.0	0.5	(0.1)	0.0	0.0	0.0	1.3
0.4	0.1	0.1	0.0	0.0	0.3	(0.2)	0.0	0.0	0.0	0.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>4.0</b>	<b>(0.2)</b>	<b>(0.2)</b>	<b>0.3</b>	<b>(0.3)</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>3.7</b>
1.2	(0.1)	(0.1)	0.3	(0.3)	0.0	0.0	0.0	0.0	0.0	1.1
1.5	(0.1)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
0.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	(0.1)	0.0	0.8
<b>2.0</b>	<b>1.0</b>	<b>1.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>(0.2)</b>	<b>0.8</b>	<b>(0.1)</b>	<b>(0.1)</b>	<b>3.6</b>
0.1	0.5	0.5	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.9
1.3	0.3	0.3	0.0	0.0	0.2	(0.2)	0.0	0.0	0.0	1.6
0.5	0.2	0.2	0.0	0.0	0.1	(0.1)	0.4	(0.1)	0.0	1.1
0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
<b>9.6</b>	<b>(1.0)</b>	<b>(1.0)</b>	<b>0.0</b>	<b>0.0</b>	<b>2.1</b>	<b>(3.2)</b>	<b>0.3</b>	<b>(0.8)</b>	<b>(0.1)</b>	<b>7.0</b>
<b>1.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.5</b>

**Note 10 Fair value measurement (continued)**

Assets and liabilities transferred into or out of Level 3 are presented as if those assets or liabilities had been transferred at the beginning of the year.

Assets transferred into and out of Level 3 in the first three months of 2020 totaled USD 0.3 billion and USD 0.1 billion, respectively. Transfers into Level 3 mainly consisted of corporate and municipal bonds, reflecting decreased observability of the relevant valuation inputs.

Liabilities transferred into and out of Level 3 in the first three months of 2020 totaled USD 1.0 billion and USD 0.9 billion, respectively. Transfers into Level 3 mainly consisted of credit and interest rate derivative contracts due to decreased observability of the relevant valuation inputs. Transfers out of Level 3 mainly consisted of debt issued designated at fair value, primarily equity-linked issued debt instruments, due to increased observability of the embedded derivative inputs.

**g) Financial instruments not measured at fair value**

The table below reflects the estimated fair values of financial instruments not measured at fair value.

**Financial instruments not measured at fair value**

USD billion	31.3.20		31.12.19	
	Carrying amount	Fair value	Carrying amount	Fair value
<b>Assets</b>				
Cash and balances at central banks	139.3	139.3	107.1	107.1
Loans and advances to banks	16.9	16.9	12.4	12.4
Receivables from securities financing transactions	89.6	89.7	84.2	84.2
Cash collateral receivables on derivative instruments	39.5	39.5	23.3	23.3
Loans and advances to customers	339.9	341.8	328.0	330.3
Other financial assets measured at amortized cost	23.9	24.7	23.0	23.3
<b>Liabilities</b>				
Amounts due to banks	18.8	18.8	6.6	6.6
Payables from securities financing transactions	12.9	12.9	7.8	7.8
Cash collateral payables on derivative instruments	45.6	45.6	31.4	31.4
Customer deposits	468.4	468.5	450.6	450.7
Funding from UBS Group AG and its subsidiaries	49.2	46.6	47.9	49.6
Debt issued measured at amortized cost	66.5	66.7	62.8	64.3
Other financial liabilities measured at amortized cost <sup>1</sup>	6.7	6.7	6.5	6.5

<sup>1</sup> Excludes lease liabilities.

The fair values included in the table above have been calculated for disclosure purposes only. The fair value valuation techniques and assumptions relate only to the fair value of UBS AG's financial instruments not measured at fair value. Other

institutions may use different methods and assumptions for their fair value estimation, and therefore such fair value disclosures cannot necessarily be compared from one financial institution to another.

## Note 11 Derivative instruments

### a) Derivative instruments

	Derivative financial assets	Notional values related to derivative financial assets <sup>3</sup>	Derivative financial liabilities	Notional values related to derivative financial liabilities <sup>3</sup>	Other notional values <sup>4</sup>
<i>As of 31.3.20, USD billion</i>					
<b>Derivative financial instruments<sup>1,2</sup></b>					
Interest rate contracts	55.8	971	50.7	924	12,095
Credit derivative contracts	2.2	81	2.9	68	0
Foreign exchange contracts	94.7	3,413	93.2	3,221	2
Equity / index contracts	55.3	422	55.5	487	111
Commodity contracts	3.9	73	3.4	70	11
Unsettled purchases of non-derivative financial instruments <sup>5</sup>	0.4	38	0.4	16	
Unsettled sales of non-derivative financial instruments <sup>5</sup>	0.5	39	0.5	22	
<b>Total derivative financial instruments, based on IFRS netting<sup>6</sup></b>	<b>213.0</b>	<b>5,037</b>	<b>206.7</b>	<b>4,807</b>	<b>12,219</b>
Further netting potential not recognized on the balance sheet <sup>7</sup>	(193.2)		(186.6)		
of which: netting of recognized financial liabilities / assets	(160.7)		(160.7)		
of which: netting with collateral received / pledged	(32.5)		(25.9)		
<b>Total derivative financial instruments, after consideration of further netting potential</b>	<b>19.8</b>		<b>20.1</b>		
<i>As of 31.12.19, USD billion</i>					
<b>Derivative financial instruments<sup>1,2</sup></b>					
Interest rate contracts	42.6	1,007	36.6	961	11,999
Credit derivative contracts	2.0	70	3.0	70	0
Foreign exchange contracts	52.5	3,174	54.0	2,994	1
Equity / index contracts	22.8	420	25.5	534	122
Commodity contracts	1.8	56	1.7	60	13
Unsettled purchases of non-derivative financial instruments <sup>5</sup>	0.1	17	0.1	7	
Unsettled sales of non-derivative financial instruments <sup>5</sup>	0.1	15	0.1	10	
<b>Total derivative financial instruments, based on IFRS netting<sup>6</sup></b>	<b>121.8</b>	<b>4,759</b>	<b>120.9</b>	<b>4,635</b>	<b>12,135</b>
Further netting potential not recognized on the balance sheet <sup>7</sup>	(110.7)		(106.1)		
of which: netting of recognized financial liabilities / assets	(89.3)		(89.3)		
of which: netting with collateral received / pledged	(21.4)		(16.8)		
<b>Total derivative financial instruments, after consideration of further netting potential</b>	<b>11.1</b>		<b>14.8</b>		

<sup>1</sup> Derivative financial liabilities as of 31 March 2020 include USD 43 million related to derivative loan commitments (31 December 2019: USD 17 million). No notional amounts related to these commitments are included in this table, but they are disclosed in Note 16 under Loan commitments. <sup>2</sup> Includes certain forward starting repurchase and reverse repurchase agreements that are classified as measured at fair value through profit or loss and are recognized within derivative instruments. The fair value of these derivative instruments was not material as of 31 March 2020 or 31 December 2019. No notional amounts related to these instruments are included in this table, but they are disclosed within Note 16 under Forward starting transactions. <sup>3</sup> In cases where derivative financial instruments are presented on a net basis on the balance sheet, the respective notional values of the netted derivative financial instruments are still presented on a gross basis. <sup>4</sup> Other notional values relate to derivatives that are cleared through either a central counterparty or an exchange. The fair value of these derivatives is presented on the balance sheet net of the corresponding cash margin under Cash collateral receivables on derivative instruments and Cash collateral payables on derivative instruments and was not material for all periods presented. <sup>5</sup> Changes in the fair value of purchased and sold non-derivative financial instruments between trade date and settlement date are recognized as derivative financial instruments. <sup>6</sup> Financial assets and liabilities are presented net on the balance sheet if UBS AG has the unconditional and legally enforceable right to offset the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of the entity and all of the counterparties, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. <sup>7</sup> Reflects the netting potential in accordance with enforceable master netting and similar arrangements where not all criteria for a net presentation on the balance sheet have been met. Refer to "Note 25 Offsetting financial assets and financial liabilities" in the "Consolidated financial statements" section of the Annual Report 2019 for more information.

**Note 11 Derivative instruments (continued)****b) Cash collateral on derivative instruments**

<i>USD billion</i>	<b>Receivables 31.3.20</b>	<b>Payables 31.3.20</b>	Receivables 31.12.19	Payables 31.12.19
Cash collateral on derivative instruments, based on IFRS netting <sup>1</sup>	<b>39.5</b>	<b>45.6</b>	23.3	31.4
Further netting potential not recognized on the balance sheet <sup>2</sup>	<b>(21.7)</b>	<b>(24.2)</b>	(14.4)	(18.1)
<i>of which: netting of recognized financial liabilities / assets</i>	<b>(19.6)</b>	<b>(21.8)</b>	(13.3)	(16.5)
<i>of which: netting with collateral received / pledged</i>	<b>(2.1)</b>	<b>(2.4)</b>	(1.1)	(1.7)
<b>Cash collateral on derivative instruments, after consideration of further netting potential</b>	<b>17.9</b>	<b>21.5</b>	8.9	13.3

<sup>1</sup> Financial assets and liabilities are presented net on the balance sheet if UBS AG has the unconditional and legally enforceable right to offset the recognized amounts, both in the normal course of business and in the event of default, bankruptcy or insolvency of UBS AG or its counterparties, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously. <sup>2</sup> Reflects the netting potential in accordance with enforceable master netting and similar arrangements where not all criteria for a net presentation on the balance sheet have been met. Refer to "Note 25 Offsetting financial assets and financial liabilities" in the "Consolidated financial statements" section of the Annual Report 2019 for more information.

**Note 12 Other assets and liabilities****a) Other financial assets measured at amortized cost**

<i>USD million</i>	<b>31.3.20</b>	31.12.19
Debt securities	<b>14,118</b>	14,141
<i>of which: government bills / bonds</i>	<b>8,458</b>	8,492
Loans to financial advisors <sup>1</sup>	<b>2,699</b>	2,877
Fee- and commission-related receivables	<b>2,084</b>	1,520
Finance lease receivables	<b>1,386</b>	1,444
Settlement and clearing accounts	<b>893</b>	587
Accrued interest income	<b>625</b>	742
Other	<b>2,102</b>	1,701
<b>Total other financial assets measured at amortized cost</b>	<b>23,907</b>	23,012

<sup>1</sup> Related to financial advisors in the US and Canada.

**b) Other non-financial assets**

<i>USD million</i>	<b>31.3.20</b>	31.12.19
Precious metals and other physical commodities	<b>4,050</b>	4,597
Bail deposit <sup>1</sup>	<b>1,273</b>	1,293
Prepaid expenses	<b>787</b>	687
VAT and other tax receivables	<b>336</b>	436
Properties and other non-current assets held for sale	<b>202</b>	199
Other	<b>651</b>	335
<b>Total other non-financial assets</b>	<b>7,299</b>	7,547

<sup>1</sup> Refer to item 1 in Note 15b for more information.

## Note 12 Other assets and liabilities (continued)

### c) Other financial liabilities measured at amortized cost

USD million	31.3.20	31.12.19
Other accrued expenses	1,639	1,697
Accrued interest expenses	1,083	1,596
Settlement and clearing accounts	1,827	1,368
Lease liabilities	3,744	3,858
Other	2,168	1,854
<b>Total other financial liabilities measured at amortized cost</b>	<b>10,462</b>	<b>10,373</b>

### d) Other financial liabilities designated at fair value

USD million	31.3.20	31.12.19
Financial liabilities related to unit-linked investment contracts	23,150	28,145
Securities financing transactions	5,992	5,742
Over-the-counter debt instruments	2,297	2,022
Funding from UBS Group AG and its subsidiaries	259	217
Other	96	31
<b>Total other financial liabilities designated at fair value</b>	<b>31,794</b>	<b>36,157</b>
<i>of which: life-to-date own credit (gain) / loss</i>	<i>(328)</i>	<i>6</i>

### e) Other non-financial liabilities

USD million	31.3.20	31.12.19
Compensation-related liabilities	2,656	4,296
<i>of which: financial advisor compensation plans</i>	<i>1,188</i>	<i>1,459</i>
<i>of which: other compensation plans</i>	<i>371</i>	<i>1,750</i>
<i>of which: net defined benefit pension and post-employment liabilities</i>	<i>624</i>	<i>629</i>
<i>of which: other compensation-related liabilities <sup>1</sup></i>	<i>473</i>	<i>458</i>
Deferred tax liabilities	800	311
Current tax liabilities	649	780
VAT and other tax payables	502	445
Deferred income	213	134
Other	245	202
<b>Total other non-financial liabilities</b>	<b>5,065</b>	<b>6,168</b>

<sup>1</sup> Includes liabilities for payroll taxes and untaken vacation.



**Note 13 Debt issued designated at fair value**

<i>USD million</i>	<b>31.3.20</b>	31.12.19
<b>Issued debt instruments</b>		
Equity-linked <sup>1</sup>	<b>32,927</b>	41,722
Rates-linked	<b>12,898</b>	16,318
Credit-linked	<b>1,682</b>	1,916
Fixed-rate	<b>3,797</b>	4,636
Commodity-linked	<b>1,249</b>	1,567
Other	<b>488</b>	432
<b>Total debt issued designated at fair value</b>	<b>53,040</b>	66,592
<i>of which: life-to-date own credit (gain) / loss</i>	<b>(741)</b>	82

<sup>1</sup> Includes investment fund unit-linked instruments issued.

**Note 14 Debt issued measured at amortized cost**

<i>USD million</i>	<b>31.3.20</b>	31.12.19
Certificates of deposit	<b>9,246</b>	5,190
Commercial paper	<b>15,453</b>	14,413
Other short-term debt	<b>2,468</b>	2,235
<b>Short-term debt<sup>1</sup></b>	<b>27,167</b>	21,837
Senior unsecured debt	<b>20,590</b>	22,356
Covered bonds	<b>2,570</b>	2,633
Subordinated debt	<b>7,551</b>	7,431
<i>of which: low-trigger loss-absorbing tier 2 capital instruments</i>	<b>7,017</b>	6,892
<i>of which: non-Basel III-compliant tier 2 capital instruments</i>	<b>534</b>	540
Debt issued through the Swiss central mortgage institutions	<b>8,597</b>	8,574
Other long-term debt	<b>3</b>	4
<b>Long-term debt<sup>2</sup></b>	<b>39,312</b>	40,998
<b>Total debt issued measured at amortized cost<sup>3</sup></b>	<b>66,479</b>	62,835

<sup>1</sup> Debt with an original contractual maturity of less than one year. <sup>2</sup> Debt with an original maturity greater than or equal to one year. The classification of debt issued into short-term and long-term does not consider any early redemption features. <sup>3</sup> Net of bifurcated embedded derivatives, the fair value of which was not material for the periods presented.

## Note 15 Provisions and contingent liabilities

### a) Provisions

The table below presents an overview of total provisions.

<i>USD million</i>	<b>31.3.20</b>	31.12.19
Provisions other than provisions for expected credit losses	<b>2,368</b>	2,825
Provisions for expected credit losses	<b>162</b>	114
<b>Total provisions</b>	<b>2,530</b>	2,938

The following table presents additional information for provisions other than provisions for expected credit losses.

<i>USD million</i>	<b>Operational risks<sup>1</sup></b>	<b>Litigation, regulatory and similar matters<sup>2</sup></b>	<b>Restructuring</b>	<b>Real estate</b>	<b>Employee benefits<sup>5</sup></b>	<b>Other</b>	<b>Total</b>
<b>Balance as of 31 December 2019</b>	41	2,475	99	92	54	64	2,825
Increase in provisions recognized in the income statement	8	13	74	0	1	1	<b>99</b>
Release of provisions recognized in the income statement	0	(6)	(4)	(3)	(2)	0	<b>(16)</b>
Provisions used in conformity with designated purpose	(9)	(472)	(36)	0	0	(5)	<b>(522)</b>
Capitalized reinstatement costs	0	0	0	(1)	0	0	<b>(1)</b>
Foreign currency translation / unwind of discount	0	(12)	(2)	(1)	(2)	0	<b>(16)</b>
<b>Balance as of 31 March 2020</b>	<b>41</b>	<b>1,998</b>	<b>132<sup>3</sup></b>	<b>87<sup>4</sup></b>	<b>52</b>	<b>59</b>	<b>2,368</b>

<sup>1</sup> Comprises provisions for losses resulting from security risks and transaction processing risks. <sup>2</sup> Comprises provisions for losses resulting from legal, liability and compliance risks. <sup>3</sup> Primarily consists of personnel-related restructuring provisions of USD 68 million as of 31 March 2020 (31 December 2019: USD 33 million) and provisions for onerous contracts of USD 59 million as of 31 March 2020 (31 December 2019: USD 61 million). <sup>4</sup> Consists of reinstatement costs for leasehold improvements of USD 80 million as of 31 March 2020 (31 December 2019: USD 82 million) and provisions for onerous contracts of USD 7 million as of 31 March 2020 (31 December 2019: USD 10 million). <sup>5</sup> Includes provisions for sabbatical and anniversary awards.

Restructuring provisions primarily relate to severance payments and onerous contracts. Severance-related provisions are used within a short time period, usually within six months, but potential changes in amount may be triggered when natural staff attrition reduces the number of people affected by a restructuring event and therefore the estimated costs. Onerous contracts for property are recognized when UBS AG is

committed to pay for non-lease components, such as utilities, service charges, taxes and maintenance, when a property is vacated or not fully recovered from sub-tenants.

Information about provisions and contingent liabilities in respect of litigation, regulatory and similar matters, as a class, is included in Note 15b. There are no material contingent liabilities associated with the other classes of provisions.

## Note 15 Provisions and contingent liabilities (continued)

### b) Litigation, regulatory and similar matters

UBS operates in a legal and regulatory environment that exposes it to significant litigation and similar risks arising from disputes and regulatory proceedings. As a result, UBS (which for purposes of this Note may refer to UBS AG and/or one or more of its subsidiaries, as applicable) is involved in various disputes and legal proceedings, including litigation, arbitration, and regulatory and criminal investigations.

Such matters are subject to many uncertainties, and the outcome and the timing of resolution are often difficult to predict, particularly in the earlier stages of a case. There are also situations where UBS may enter into a settlement agreement. This may occur in order to avoid the expense, management distraction or reputational implications of continuing to contest liability, even for those matters for which UBS believes it should be exonerated. The uncertainties inherent in all such matters affect the amount and timing of any potential outflows for both matters with respect to which provisions have been established and other contingent liabilities. UBS makes provisions for such matters brought against it when, in the opinion of management after seeking legal advice, it is more likely than not that UBS has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required, and the amount can be reliably estimated. Where these factors are otherwise satisfied, a provision may be established for claims that have not yet been asserted against UBS, but are nevertheless expected to be, based on UBS's experience with similar asserted claims. If any of those conditions is not met, such matters result in contingent liabilities. If the amount of an obligation cannot be reliably estimated, a liability exists that is not recognized even if an outflow of resources is probable. Accordingly, no provision is established even if the potential outflow of resources with respect to such matters could be significant. Developments relating to a matter that occur after the relevant reporting period, but prior to the issuance of financial statements, which affect management's assessment of the provision for such matter (because, for example, the developments provide evidence of conditions that

existed at the end of the reporting period), are adjusting events after the reporting period under IAS 10 and must be recognized in the financial statements for the reporting period.

Specific litigation, regulatory and other matters are described below, including all such matters that management considers to be material and others that management believes to be of significance due to potential financial, reputational and other effects. The amount of damages claimed, the size of a transaction or other information is provided where available and appropriate in order to assist users in considering the magnitude of potential exposures.

In the case of certain matters below, we state that we have established a provision, and for the other matters, we make no such statement. When we make this statement and we expect disclosure of the amount of a provision to prejudice seriously our position with other parties in the matter because it would reveal what UBS believes to be the probable and reliably estimable outflow, we do not disclose that amount. In some cases we are subject to confidentiality obligations that preclude such disclosure. With respect to the matters for which we do not state whether we have established a provision, either: (a) we have not established a provision, in which case the matter is treated as a contingent liability under the applicable accounting standard; or (b) we have established a provision but expect disclosure of that fact to prejudice seriously our position with other parties in the matter because it would reveal the fact that UBS believes an outflow of resources to be probable and reliably estimable.

With respect to certain litigation, regulatory and similar matters for which we have established provisions, we are able to estimate the expected timing of outflows. However, the aggregate amount of the expected outflows for those matters for which we are able to estimate expected timing is immaterial relative to our current and expected levels of liquidity over the relevant time periods.

## Note 15 Provisions and contingent liabilities (continued)

The aggregate amount provisioned for litigation, regulatory and similar matters as a class is disclosed in the "Provisions" table in Note 15a above. It is not practicable to provide an aggregate estimate of liability for our litigation, regulatory and similar matters as a class of contingent liabilities. Doing so would require us to provide speculative legal assessments as to claims and proceedings that involve unique fact patterns or novel legal theories, that have not yet been initiated or are at early stages of adjudication, or as to which alleged damages have not been quantified by the claimants. Although we therefore cannot provide a numerical estimate of the future losses that could arise from litigation, regulatory and similar matters, we believe that the aggregate amount of possible future losses from this class that are more than remote substantially exceeds the level of current provisions.

Litigation, regulatory and similar matters may also result in non-monetary penalties and consequences. For example, the non-prosecution agreement described in item 5 of this Note, which we entered into with the US Department of Justice (DOJ), Criminal Division, Fraud Section in connection with our submissions of benchmark interest rates, including, among others, the British Bankers' Association London Interbank

Offered Rate (LIBOR), was terminated by the DOJ based on its determination that we had committed a US crime in relation to foreign exchange matters. As a consequence, UBS AG pleaded guilty to one count of wire fraud for conduct in the LIBOR matter, paid a fine and was subject to probation, which ended in January 2020.

A guilty plea to, or conviction of, a crime could have material consequences for UBS. Resolution of regulatory proceedings may require us to obtain waivers of regulatory disqualifications to maintain certain operations, may entitle regulatory authorities to limit, suspend or terminate licenses and regulatory authorizations, and may permit financial market utilities to limit, suspend or terminate our participation in such utilities. Failure to obtain such waivers, or any limitation, suspension or termination of licenses, authorizations or participations, could have material consequences for UBS.

The risk of loss associated with litigation, regulatory and similar matters is a component of operational risk for purposes of determining our capital requirements. Information concerning our capital requirements and the calculation of operational risk for this purpose is included in the "Capital management" section of the UBS Group first quarter 2020 report.

### Provisions for litigation, regulatory and similar matters by business division and in Group Functions<sup>1</sup>

<i>USD million</i>	Global Wealth Manage- ment	Personal & Corporate Banking	Asset Manage- ment	Investment Bank	Group Functions	UBS
<b>Balance as of 31 December 2019</b>	782	113	0	255	1,325	2,475
Increase in provisions recognized in the income statement	13	0	0	0	1	13
Release of provisions recognized in the income statement	(5)	0	0	(1)	(1)	(6)
Provisions used in conformity with designated purpose	(34)	0	0	(44)	(394)	(472)
Reclassifications	0	0	0	(3)	3	0
Foreign currency translation / unwind of discount	(9)	(1)	0	(2)	0	(12)
<b>Balance as of 31 March 2020</b>	<b>747</b>	<b>112</b>	<b>0</b>	<b>205</b>	<b>934</b>	<b>1,998</b>

<sup>1</sup> Provisions, if any, for matters described in this disclosure are recorded in Global Wealth Management (item 3 and item 4) and Group Functions (item 2). Provisions, if any, for the matters described in items 1 and 6 of this disclosure are allocated between Global Wealth Management and Personal & Corporate Banking, and provisions, if any, for the matters described in this disclosure in item 5 are allocated between the Investment Bank and Group Functions.

## Note 15 Provisions and contingent liabilities (continued)

### 1. Inquiries regarding cross-border wealth management businesses

Tax and regulatory authorities in a number of countries have made inquiries, served requests for information or examined employees located in their respective jurisdictions relating to the cross-border wealth management services provided by UBS and other financial institutions. It is possible that the implementation of automatic tax information exchange and other measures relating to cross-border provision of financial services could give rise to further inquiries in the future. UBS has received disclosure orders from the Swiss Federal Tax Administration (FTA) to transfer information based on requests for international administrative assistance in tax matters. The requests concern a number of UBS account numbers pertaining to current and former clients and are based on data from 2006 and 2008. UBS has taken steps to inform affected clients about the administrative assistance proceedings and their procedural rights, including the right to appeal. The requests are based on data received from the German authorities, who seized certain data related to UBS clients booked in Switzerland during their investigations and have apparently shared this data with other European countries. UBS expects additional countries to file similar requests.

The Swiss Federal Administrative Court ruled in 2016 that, in the administrative assistance proceedings related to a French bulk request, UBS has the right to appeal all final FTA client data disclosure orders. On 30 July 2018, the Swiss Federal Administrative Court granted UBS's appeal by holding the French administrative assistance request inadmissible. The FTA filed a final appeal with the Swiss Federal Supreme Court. On 26 July 2019, the Supreme Court reversed the decision of the Federal Administrative Court. In December 2019, the court released its written decision. The decision requires the FTA to obtain confirmation from the French authorities that transmitted data will be used only for the purposes stated in their request before transmitting any data. The stated purpose of the original request was to obtain information relating to taxes owed by account holders. Accordingly, any information transferred to the French authorities must not be passed to criminal authorities or used in connection with the ongoing case against UBS discussed in this item.

Since 2013, UBS (France) S.A., UBS AG and certain former employees have been under investigation in France for alleged complicity in unlawful solicitation of clients on French territory, regarding the laundering of proceeds of tax fraud, and banking and financial solicitation by unauthorized persons. In connection with this investigation, the investigating judges ordered UBS AG to provide bail ("*caution*") of EUR 1.1 billion and UBS (France) S.A. to post bail of EUR 40 million, which was reduced on appeal to EUR 10 million.

A trial in the court of first instance took place from 8 October 2018 until 15 November 2018. On 20 February 2019, the court announced a verdict finding UBS AG guilty of unlawful solicitation of clients on French territory and aggravated

laundering of the proceeds of tax fraud, and UBS (France) S.A. guilty of aiding and abetting unlawful solicitation and laundering the proceeds of tax fraud. The court imposed fines aggregating EUR 3.7 billion on UBS AG and UBS (France) S.A. and awarded EUR 800 million of civil damages to the French state. UBS has appealed the decision. Under French law, the judgment is suspended while the appeal is pending. UBS has been informed that the trial in the Court of Appeal that was scheduled for June 2020 has been postponed and a scheduling conference will be held in early June. The Court of Appeal will retry the case de novo as to both the law and the facts, and the fines and penalties can be greater than or less than those imposed by the court of first instance. A subsequent appeal to the Cour de Cassation, France's highest court, is possible with respect to questions of law.

UBS believes that based on both the law and the facts the judgment of the court of first instance should be reversed. UBS believes it followed its obligations under Swiss and French law as well as the European Savings Tax Directive. Even assuming liability, which it contests, UBS believes the penalties and damage amounts awarded greatly exceed the amounts that could be supported by the law and the facts. In particular, UBS believes the court incorrectly based the penalty on the total regularized assets rather than on any unpaid taxes on those assets for which a fraud has been characterized and further incorrectly awarded damages based on costs that were not proven by the civil party. Notwithstanding that UBS believes it should be acquitted, our balance sheet at 31 March 2020 reflected provisions with respect to this matter in an amount of EUR 450 million (USD 505 million at 31 March 2020). The wide range of possible outcomes in this case contributes to a high degree of estimation uncertainty. The provision reflected on our balance sheet at 31 March 2020 reflects our best estimate of possible financial implications, although it is reasonably possible that actual penalties and civil damages could exceed the provision amount.

In 2016, UBS was notified by the Belgian investigating judge that it is under formal investigation ("*inculpé*") regarding the laundering of proceeds of tax fraud, of banking and financial solicitation by unauthorized persons, and of serious tax fraud. In 2018, tax authorities and a prosecutor's office in Italy asserted that UBS is potentially liable for taxes and penalties as a result of its activities in Italy from 2012 to 2017. In June 2019, UBS entered into a settlement agreement with the Italian tax authorities under which it paid EUR 101 million to resolve the claims asserted by the authority related to UBS AG's potential permanent establishment in Italy. In October 2019, the Judge of Preliminary Investigations of the Milan Court approved an agreement with the Milan prosecutor under Article 63 of Italian Administrative Law 231 under which UBS AG, UBS Switzerland AG and UBS Monaco have paid an aggregate of EUR 10.3 million to resolve claims premised on the alleged inadequacy of historical internal controls. No admission of wrongdoing was required in connection with this resolution.

## Note 15 Provisions and contingent liabilities (continued)

Our balance sheet at 31 March 2020 reflected provisions with respect to matters described in this item 1 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

### 2. Claims related to sales of residential mortgage-backed securities and mortgages

From 2002 through 2007, prior to the crisis in the US residential loan market, UBS was a substantial issuer and underwriter of US residential mortgage-backed securities (RMBS) and was a purchaser and seller of US residential mortgages.

*Lawsuits related to contractual representations and warranties concerning mortgages and RMBS:* Certain RMBS trusts filed an action in the US District Court for the Southern District of New York seeking to enforce UBS RESI's obligation to repurchase loans in the collateral pools for three RMBS securitizations issued and underwritten by UBS. In the first quarter of 2020 the court approved the settlement UBS agreed with the trustee in July 2018 and UBS paid the USD 850 million settlement amount. A significant portion of this amount was borne by other parties that indemnified UBS. Proceedings to determine how the settlement funds will be distributed to RMBS holders are ongoing. UBS considers claims relating to substantially all loan repurchase demands to be resolved and believes that new demands to repurchase US residential mortgage loans are time-barred under a decision rendered by the New York Court of Appeals.

*Mortgage-related regulatory matters:* Since 2014, the US Attorney's Office for the Eastern District of New York has sought information from UBS pursuant to the Financial Institutions Reform, Recovery and Enforcement Act of 1989 (FIRREA), related to UBS's RMBS business from 2005 through 2007. On 8 November 2018, the DOJ filed a civil complaint in the District Court for the Eastern District of New York. The complaint seeks unspecified civil monetary penalties under FIRREA related to UBS's issuance, underwriting and sale of 40 RMBS transactions in 2006 and 2007. UBS moved to dismiss the civil complaint on 6 February 2019. On 10 December 2019, the district court denied UBS's motion to dismiss.

Our balance sheet at 31 March 2020 reflected a provision with respect to matters described in this item 2 in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of this matter cannot be determined with certainty

based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

### 3. Madoff

In relation to the Bernard L. Madoff Investment Securities LLC (BMIS) investment fraud, UBS AG, UBS (Luxembourg) S.A. (now UBS Europe SE, Luxembourg branch) and certain other UBS subsidiaries have been subject to inquiries by a number of regulators, including the Swiss Financial Market Supervisory Authority (FINMA) and the Luxembourg Commission de Surveillance du Secteur Financier. Those inquiries concerned two third-party funds established under Luxembourg law, substantially all assets of which were with BMIS, as well as certain funds established in offshore jurisdictions with either direct or indirect exposure to BMIS. These funds faced severe losses, and the Luxembourg funds are in liquidation. The documentation establishing both funds identifies UBS entities in various roles, including custodian, administrator, manager, distributor and promoter, and indicates that UBS employees serve as board members.

In 2009 and 2010, the liquidators of the two Luxembourg funds filed claims against UBS entities, non-UBS entities and certain individuals, including current and former UBS employees, seeking amounts totaling approximately EUR 2.1 billion, which includes amounts that the funds may be held liable to pay the trustee for the liquidation of BMIS (BMIS Trustee).

A large number of alleged beneficiaries have filed claims against UBS entities (and non-UBS entities) for purported losses relating to the Madoff fraud. The majority of these cases have been filed in Luxembourg, where decisions that the claims in eight test cases were inadmissible have been affirmed by the Luxembourg Court of Appeal, and the Luxembourg Supreme Court has dismissed a further appeal in one of the test cases.

In the US, the BMIS Trustee filed claims against UBS entities, among others, in relation to the two Luxembourg funds and one of the offshore funds. The total amount claimed against all defendants in these actions was not less than USD 2 billion. In 2014, the US Supreme Court rejected the BMIS Trustee's motion for leave to appeal decisions dismissing all claims except those for the recovery of approximately USD 125 million of payments alleged to be fraudulent conveyances and preference payments. In 2016, the bankruptcy court dismissed these claims against the UBS entities. In February 2019, the Court of Appeals reversed the dismissal of the BMIS Trustee's remaining claims. In August 2019, the defendants, including UBS, filed a petition to the US Supreme Court requesting that it review the Court of Appeals' decision. The bankruptcy proceedings have been stayed pending a decision with respect to the defendants' petition.

## Note 15 Provisions and contingent liabilities (continued)

### 4. Puerto Rico

Declines since 2013 in the market prices of Puerto Rico municipal bonds and of closed-end funds (funds) that are sole-managed and co-managed by UBS Trust Company of Puerto Rico and distributed by UBS Financial Services Incorporated of Puerto Rico (UBS PR) have led to multiple regulatory inquiries, as well as customer complaints and arbitrations with aggregate claimed damages of USD 3.4 billion, of which claims with aggregate claimed damages of USD 2.5 billion have been resolved through settlements, arbitration or withdrawal of the claim. The claims have been filed by clients in Puerto Rico who own the funds or Puerto Rico municipal bonds and/or who used their UBS account assets as collateral for UBS non-purpose loans; customer complaint and arbitration allegations include fraud, misrepresentation and unsuitability of the funds and of the loans.

A shareholder derivative action was filed in 2014 against various UBS entities and current and certain former directors of the funds, alleging hundreds of millions of US dollars in losses in the funds. In 2015, defendants' motion to dismiss was denied and a request for permission to appeal that ruling was denied by the Puerto Rico Supreme Court. In 2014, a federal class action complaint also was filed against various UBS entities, certain members of UBS PR senior management and the co-manager of certain of the funds, seeking damages for investor losses in the funds during the period from May 2008 through May 2014. Following denial of the plaintiffs' motion for class certification, the case was dismissed in October 2018.

In 2014 and 2015, UBS entered into settlements with the Office of the Commissioner of Financial Institutions for the Commonwealth of Puerto Rico, the US Securities and Exchange Commission (SEC) and the Financial Industry Regulatory Authority in relation to their examinations of UBS's operations.

In 2011, a purported derivative action was filed on behalf of the Employee Retirement System of the Commonwealth of Puerto Rico (System) against over 40 defendants, including UBS PR, which was named in connection with its underwriting and consulting services. Plaintiffs alleged that defendants violated their purported fiduciary duties and contractual obligations in connection with the issuance and underwriting of USD 3 billion of bonds by the System in 2008 and sought damages of over USD 800 million. In 2016, the court granted the System's request to join the action as a plaintiff, but ordered that plaintiffs must file an amended complaint. In 2017, the court denied defendants' motion to dismiss the amended complaint.

Beginning in 2015, and continuing through 2017, certain agencies and public corporations of the Commonwealth of Puerto Rico (Commonwealth) defaulted on certain interest payments on Puerto Rico bonds. In 2016, US federal legislation created an oversight board with power to oversee Puerto Rico's finances and to restructure its debt. The oversight board has imposed a stay on the exercise of certain creditors' rights. In 2017, the oversight board placed certain of the bonds into a bankruptcy-like proceeding under the supervision of a Federal District Judge. These events, further defaults or any further legislative action to create a legal means of restructuring Commonwealth obligations or to impose additional oversight on the Commonwealth's finances, or any restructuring of the Commonwealth's obligations, may increase the number of claims against UBS concerning Puerto Rico securities, as well as potential damages sought.

In May 2019, the oversight board filed complaints in Puerto Rico federal district court bringing claims against financial, legal and accounting firms that had participated in Puerto Rico municipal bond offerings, including UBS, seeking a return of underwriting and swap fees paid in connection with those offerings. UBS estimates that it received approximately USD 125 million in fees in the relevant offerings.

In August 2019 and February 2020, three US insurance companies that insured issues of Puerto Rico municipal bonds sued UBS and seven other underwriters of Puerto Rico municipal bonds. The actions collectively seek recovery of an aggregate of USD 955 million in damages from the defendants. The plaintiffs in these cases claim that defendants failed to reasonably investigate financial statements in the offering materials for the insured Puerto Rico bonds issued between 2002 and 2007, which plaintiffs argue they relied upon in agreeing to insure the bonds notwithstanding that they had no contractual relationship with the underwriters.

Our balance sheet at 31 March 2020 reflected provisions with respect to matters described in this item 4 in amounts that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provisions that we have recognized.



## Note 15 Provisions and contingent liabilities (continued)

### 5. Foreign exchange, LIBOR and benchmark rates, and other trading practices

*Foreign exchange-related regulatory matters:* Beginning in 2013, numerous authorities commenced investigations concerning possible manipulation of foreign exchange markets and precious metals prices. As a result of these investigations, UBS entered into resolutions with the UK Financial Conduct Authority (FCA), the US Commodity Futures Trading Commission (CFTC), FINMA, the Board of Governors of the Federal Reserve System (Federal Reserve Board) and the Connecticut Department of Banking, the DOJ's Criminal Division and the European Commission. UBS has ongoing obligations under the Cease and Desist Order of the Federal Reserve Board and the Office of the Comptroller of the Currency (as successor to the Connecticut Department of Banking), and to cooperate with relevant authorities and to undertake certain remediation measures. UBS has also been granted conditional immunity by the Antitrust Division of the DOJ and by authorities in other jurisdictions in connection with potential competition law violations relating to foreign exchange and precious metals businesses. Investigations relating to foreign exchange matters by certain authorities remain ongoing notwithstanding these resolutions.

*Foreign exchange-related civil litigation:* Putative class actions have been filed since 2013 in US federal courts and in other jurisdictions against UBS and other banks on behalf of putative classes of persons who engaged in foreign currency transactions with any of the defendant banks. UBS has resolved US federal court class actions relating to foreign currency transactions with the defendant banks and persons who transacted in foreign exchange futures contracts and options on such futures under a settlement agreement that provides for UBS to pay an aggregate of USD 141 million and provide cooperation to the settlement classes. Certain class members have excluded themselves from that settlement and have filed individual actions in US and English courts against UBS and other banks, alleging violations of US and European competition laws and unjust enrichment.

In 2015, a putative class action was filed in federal court against UBS and numerous other banks on behalf of persons and businesses in the US who directly purchased foreign currency from the defendants and alleged co-conspirators for their own end use. In March 2017, the court granted UBS's (and the other banks') motions to dismiss the complaint. The plaintiffs filed an amended complaint in August 2017. In March 2018, the court denied the defendants' motions to dismiss the amended complaint.

In 2017, two putative class actions were filed in federal court in New York against UBS and numerous other banks on behalf of persons and entities who had indirectly purchased foreign exchange instruments from a defendant or co-conspirator in the US, and a consolidated complaint was filed in June 2017. In March 2018, the court dismissed the consolidated complaint. In October 2018, the court granted plaintiffs' motion seeking leave to file an amended complaint. In January 2020, UBS and 11 other banks agreed in principle with the plaintiffs to settle the class action for a total of USD 10 million. The settlement is subject to final documentation and court approval.

*LIBOR and other benchmark-related regulatory matters:* Numerous government agencies, including the SEC, the CFTC, the DOJ, the FCA, the UK Serious Fraud Office, the Monetary Authority of Singapore, the Hong Kong Monetary Authority, FINMA, various state attorneys general in the US and competition authorities in various jurisdictions, have conducted investigations regarding potential improper attempts by UBS, among others, to manipulate LIBOR and other benchmark rates at certain times. UBS reached settlements or otherwise concluded investigations relating to benchmark interest rates with the investigating authorities. UBS has ongoing obligations to cooperate with the authorities with whom we have reached resolutions and to undertake certain remediation measures with respect to benchmark interest rate submissions. UBS has been granted conditional leniency or conditional immunity from authorities in certain jurisdictions, including the Antitrust Division of the DOJ and the Swiss Competition Commission (WEKO), in connection with potential antitrust or competition law violations related to certain rates. However, UBS has not reached a final settlement with WEKO, as the Secretariat of WEKO has asserted that UBS does not qualify for full immunity.

*LIBOR and other benchmark-related civil litigation:* A number of putative class actions and other actions are pending in the federal courts in New York against UBS and numerous other banks on behalf of parties who transacted in certain interest rate benchmark-based derivatives. Also pending in the US and in other jurisdictions are a number of other actions asserting losses related to various products whose interest rates were linked to LIBOR and other benchmarks, including adjustable rate mortgages, preferred and debt securities, bonds pledged as collateral, loans, depository accounts, investments and other interest-bearing instruments. The complaints allege manipulation, through various means, of certain benchmark interest rates, including USD LIBOR, Euroyen TIBOR, Yen LIBOR, EURIBOR, CHF LIBOR, GBP LIBOR, SGD SIBOR and SOR and Australian BBSW, and seek unspecified compensatory and other damages under varying legal theories.



**Note 15 Provisions and contingent liabilities (continued)**

*USD LIBOR class and individual actions in the US:* In 2013 and 2015, the district court in the USD LIBOR actions dismissed, in whole or in part, certain plaintiffs' antitrust claims, federal racketeering claims, CEA claims, and state common law claims. Although the Second Circuit vacated the district court's judgment dismissing antitrust claims, the district court again dismissed antitrust claims against UBS in 2016. Certain plaintiffs have appealed that decision to the Second Circuit. Separately, in 2018, the Second Circuit reversed in part the district court's 2015 decision dismissing certain individual plaintiffs' claims and certain of these actions are now proceeding. UBS entered into an agreement in 2016 with representatives of a class of bondholders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In 2018, the district court denied plaintiffs' motions for class certification in the USD class actions for claims pending against UBS, and plaintiffs sought permission to appeal that ruling to the Second Circuit. In July 2018, the Second Circuit denied the petition to appeal of the class of USD lenders and in November 2018 denied the petition of the USD exchange class. In December 2019, UBS entered into an agreement with representatives of the class of USD lenders to settle their USD LIBOR class action. The agreement has received preliminary court approval and remains subject to final approval. In January 2019, a putative class action was filed in the District Court for the Southern District of New York against UBS and numerous other banks on behalf of US residents who, since 1 February 2014, directly transacted with a defendant bank in USD LIBOR instruments. The complaint asserts antitrust claims. The defendants moved to dismiss the complaint in August 2019. On 26 March 2020 the court granted defendants' motion to dismiss the complaint in its entirety.

*Other benchmark class actions in the US:* In 2014, the court in one of the Euroyen TIBOR lawsuits dismissed certain of the plaintiffs' claims, including a federal antitrust claim, for lack of standing. In 2015, this court dismissed the plaintiffs' federal racketeering claims on the same basis and affirmed its previous dismissal of the plaintiffs' antitrust claims against UBS. In 2017, this court also dismissed the other Yen LIBOR / Euroyen TIBOR action in its entirety on standing grounds, as did the court in the CHF LIBOR action. Also in 2017, the court in the EURIBOR lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Plaintiffs in the other Yen LIBOR, Euroyen TIBOR and the EURIBOR actions have appealed the dismissals. In April 2020, the appeals court reversed the dismissal of the Yen LIBOR / Euroyen TIBOR complaint. The other cases remain on appeal. In October 2018, the court in the SIBOR / SOR action dismissed all but one of plaintiffs' claims against UBS. Plaintiffs in the CHF LIBOR and

SIBOR / SOR actions filed amended complaints following the dismissals, and the courts granted renewed motions to dismiss in July 2019 (SIBOR / SOR) and in September 2019 (CHF LIBOR). Plaintiffs in both actions have appealed. In November 2018, the court in the BBSW lawsuit dismissed the case as to UBS and certain other foreign defendants for lack of personal jurisdiction. Following that dismissal, plaintiffs in the BBSW action filed an amended complaint in April 2019, which UBS and other defendants named in the amended complaint have moved to dismiss. In February 2020, the court in the BBSW action granted in part and denied in part defendants' motions to dismiss the amended complaint. The court dismissed the GBP LIBOR action in August 2019, and plaintiffs appealed the dismissal in September 2019.

*Government bonds:* Putative class actions have been filed since 2015 in US federal courts against UBS and other banks on behalf of persons who participated in markets for US Treasury securities since 2007. A consolidated complaint was filed in 2017 in the US District Court for the Southern District of New York alleging that the banks colluded with respect to, and manipulated prices of, US Treasury securities sold at auction and in the secondary market and asserting claims under the antitrust laws and for unjust enrichment. Defendants' motions to dismiss the consolidated complaint are pending. Similar class actions have been filed concerning European government bonds and other government bonds.

UBS and reportedly other banks are responding to investigations and requests for information from various authorities regarding government bond trading practices. As a result of its review to date, UBS has taken appropriate action.

*Government sponsored entities (GSE) bonds:* Starting in February 2019, class action complaints were filed in the US District Court for the Southern District of New York against UBS and other banks on behalf of plaintiffs who traded GSE bonds. A consolidated complaint was filed alleging collusion in GSE bond trading between 1 January 2009 and 1 January 2016. In December 2019, UBS and eleven other defendants agreed to settle the class action for a total of USD 250 million. The settlement is subject to court approval.

With respect to additional matters and jurisdictions not encompassed by the settlements and orders referred to above, our balance sheet at 31 March 2020 reflected a provision in an amount that UBS believes to be appropriate under the applicable accounting standard. As in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

## Note 15 Provisions and contingent liabilities (continued)

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### 6. Swiss retrocessions

The Federal Supreme Court of Switzerland ruled in 2012, in a test case against UBS, that distribution fees paid to a firm for distributing third-party and intra-group investment funds and structured products must be disclosed and surrendered to clients who have entered into a discretionary mandate agreement with the firm, absent a valid waiver.

FINMA has issued a supervisory note to all Swiss banks in response to the Supreme Court decision. UBS has met the FINMA requirements and has notified all potentially affected clients.

The Supreme Court decision has resulted, and may continue to result, in a number of client requests for UBS to disclose and potentially surrender retrocessions. Client requests are assessed on a case-by-case basis. Considerations taken into account when assessing these cases include, among other things, the existence

of a discretionary mandate and whether or not the client documentation contained a valid waiver with respect to distribution fees.

Our balance sheet at 31 March 2020 reflected a provision with respect to matters described in this item 6 in an amount that UBS believes to be appropriate under the applicable accounting standard. The ultimate exposure will depend on client requests and the resolution thereof, factors that are difficult to predict and assess. Hence, as in the case of other matters for which we have established provisions, the future outflow of resources in respect of such matters cannot be determined with certainty based on currently available information and accordingly may ultimately prove to be substantially greater (or may be less) than the provision that we have recognized.

**Note 16 Guarantees, commitments and forward starting transactions**

The table below presents the maximum irrevocable amount of guarantees, commitments and forward starting transactions.

	Gross		Total gross	Sub-participations	Net
	Measured at fair value	Not measured at fair value			
<i>As of 31.3.20, USD million</i>					
<b>Total guarantees</b>	<b>969</b>	<b>17,830</b>	<b>18,800</b>	<b>(2,634)</b>	<b>16,166</b>
<b>Loan commitments</b>	<b>13,514</b>	<b>28,334</b>	<b>41,848</b>	<b>(817)</b>	<b>41,031</b>
<b>Forward starting transactions<sup>1</sup></b>					
Reverse repurchase agreements	41,161	5,113	46,275		
Securities borrowing agreements		9	9		
Repurchase agreements	31,293	1,221	32,515		
<i>As of 31.12.19, USD million</i>					
<b>Total guarantees</b>	<b>986</b>	<b>18,142</b>	<b>19,128</b>	<b>(2,646)</b>	<b>16,482</b>
<b>Loan commitments</b>	<b>6,308</b>	<b>27,547</b>	<b>33,856</b>	<b>(787)</b>	<b>33,069</b>
<b>Forward starting transactions<sup>1</sup></b>					
Reverse repurchase agreements	20,284	1,657	21,941		
Repurchase agreements	7,740	408	8,148		

<sup>1</sup> Cash to be paid in the future by either UBS AG or the counterparty.

**Note 17 Currency translation rates**

The following table shows the rates of the main currencies used to translate the financial information of UBS AG's operations with a functional currency other than the US dollar into US dollars.

	Closing exchange rate			Average rate <sup>1</sup>		
	As of			For the quarter ended		
	31.3.20	31.12.19	31.3.19	31.3.20	31.12.19	31.3.19
1 CHF	1.04	1.03	1.00	1.04	1.02	1.00
1 EUR	1.10	1.12	1.12	1.10	1.11	1.14
1 GBP	1.24	1.32	1.30	1.28	1.31	1.31
100 JPY	0.93	0.92	0.90	0.93	0.92	0.91

<sup>1</sup> Monthly income statement items of operations with a functional currency other than the US dollar are translated with month-end rates into US dollars. Disclosed average rates for a quarter represent an average of three month-end rates, weighted according to the income and expense volumes of all operations of UBS AG with the same functional currency for each month. Weighted average rates for individual business divisions may deviate from the weighted average rates for UBS AG.

**Note 18 Events after the reporting period****COVID-19 related developments after the balance sheet date**

UBS AG has monitored and assessed information received after the end of the reporting period, until the first quarter 2020 report was approved for issuance on 1 May 2020. No new information has arisen that required UBS AG to adjust its financial position as of 31 March 2020. However, there is significant uncertainty regarding how the COVID-19 pandemic will continue to unfold, the duration of the pandemic and the extent of the economic recovery.

While acknowledging that various government support measures may mitigate losses to some degree, UBS AG does expect elevated credit loss expenses to persist for at least as long as the COVID-19 containment measures continue. In particular, given that the current situation is very fluid, updates to scenarios, forecast economic conditions and management overlays may be required during 2020 as further information about the effects of the pandemic is received, including a potential deterioration in estimates of GDP and unemployment.

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