

# UOB Group Fixed Income Investor Presentation

Strong Business Performance and Balance Sheet Position

September 2018

# Agenda

1. Overview of UOB Group

2. Strong UOB Fundamentals

3. Our Growth Drivers

4. Resilience of the Singapore Housing Market & UOB's Cover Pool

Appendix:

A. Latest Financials

B. Additional Information on UOB's Covered Bond Program

C. Macroeconomic Outlook and Banking Regulations



# Overview of UOB Group

## Founding

Founded in August 1935 by a group of Chinese businessmen and Datuk Wee Kheng Chiang, grandfather of the present UOB Group CEO, Mr. Wee Ee Cheong

## Expansion

UOB has grown over the decades organically and through a series of strategic acquisitions. It is today a leading bank in Asia with an established presence in the Southeast Asia region. The Group has a global network of more than 500 branches and offices in 19 countries and territories.

Note: Financial statistics as at 30 June 2018.

1. USD1 = SGD 1.3637 as at 30 June 2018.
2. Average for 2Q18.
3. Calculated based on profit attributable to equity holders of the Bank, net of perpetual capital securities distributions.
4. Computed on an annualised basis.

## Key Statistics for 1H18

■ Total assets	: SGD384b	(USD282b <sup>1</sup> )
■ Shareholder's equity	: SGD38b	(USD28b <sup>1</sup> )
■ Gross loans	: SGD250b	(USD183b <sup>1</sup> )
■ Customer deposits	: SGD287b	(USD211b <sup>1</sup> )
■ Loan/Deposit ratio	: 85.7%	
■ Net stable funding ratio	: 110%	
■ Average all-currency liquidity coverage ratio	: 142% <sup>2</sup>	
■ Common Equity Tier 1 CAR	: 14.5%	
■ Leverage ratio	: 7.7%	
■ ROE <sup>3,4</sup>	: 11.6%	
■ ROA <sup>4</sup>	: 1.12%	
■ RORWA <sup>4</sup>	: 2.04%	
■ NIM <sup>4</sup>	: 1.83%	
■ Non-interest income/ Total income	: 34.1%	
■ Cost / Income	: 43.9%	
■ NPL ratio	: 1.7%	
■ Credit Ratings		

	Moody's	S&P	Fitch
Issuer Rating (Senior Unsecured)	Aa1	AA-	AA-
Outlook	Stable	Stable	Stable
Short Term Debt	P-1	A-1+	F1+

# A Leading Singapore Bank; Established Franchise in Core Market Segments



## Group Retail

- Best Retail Bank in Singapore<sup>1</sup>
- Strong player in credit cards and private residential home loan business

## Group Wholesale Banking

- Best SME Banking<sup>1</sup>
- Seamless access to regional network for our corporate clients

## Global Markets

- Strong player in Singapore dollar treasury instruments

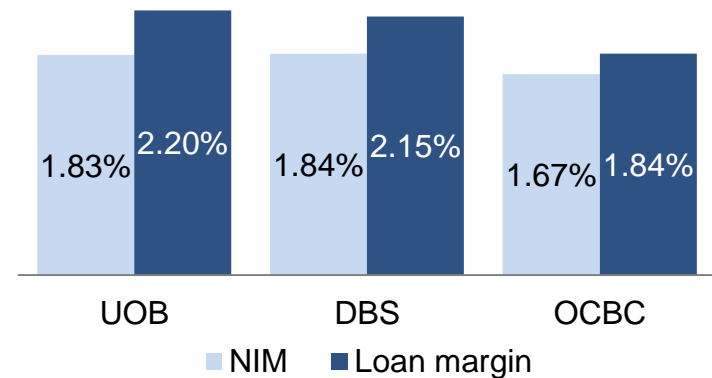
## UOB Group's recognition in the industry

  <p>Bank of the Year, Singapore, 2015</p>	 <p>Asia Trailblazer Awards 2018 Excellence in Mobile Banking - Overall</p> <p>Excellence in Mobile Banking – Overall, 2018</p>	 <p>Best Retail Bank<sup>1</sup></p> <p>SME Bank of the Year<sup>1</sup></p>
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Source: Company reports.

1. The Asian Banker "Excellence in Retail Financial Service Awards": 2016 & 2017 (SME Bank of the Year), 2014 (Best Retail Bank in Asia Pacific and Singapore).

## Higher 1H18 margin than peers

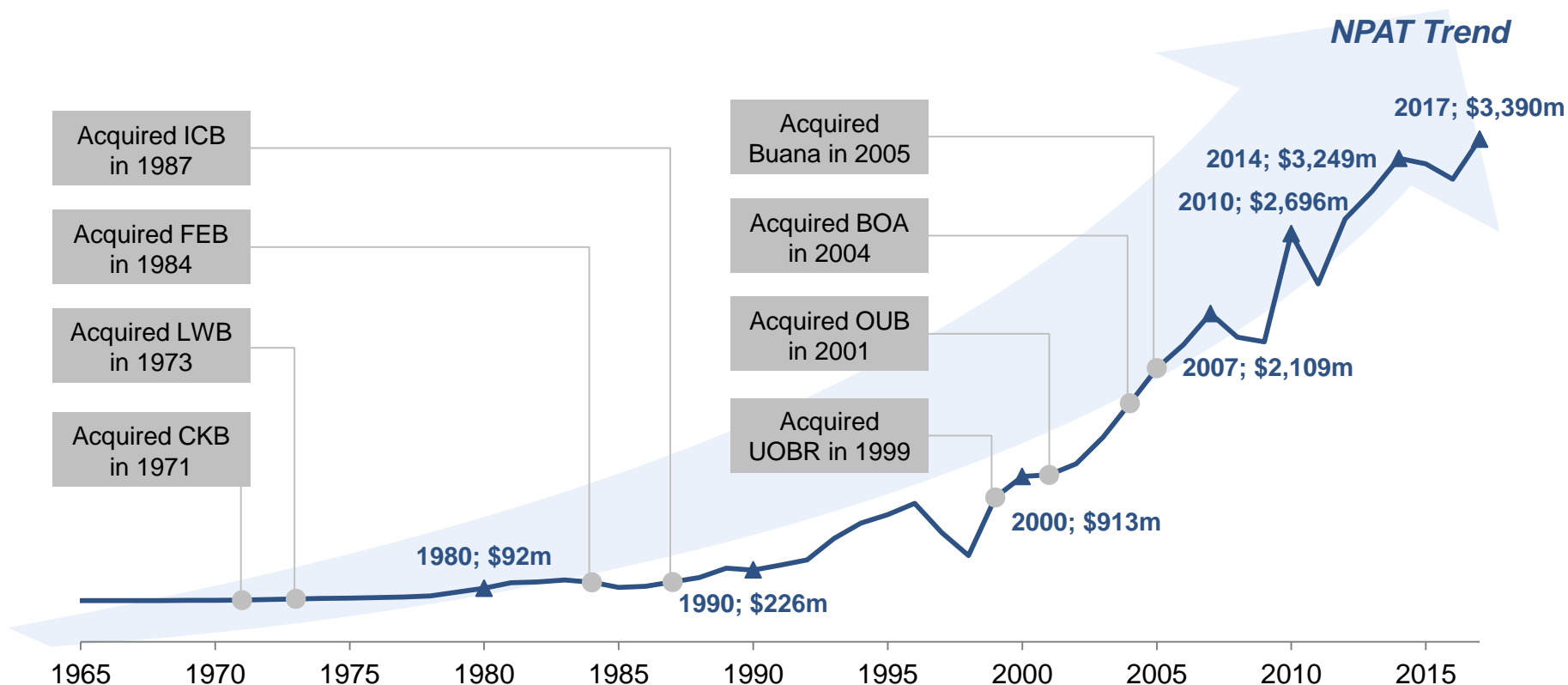


Loan margin is the difference between the rate of return from customer loans and costs of deposits.

Source: Company reports.

# Proven Track Record of Execution

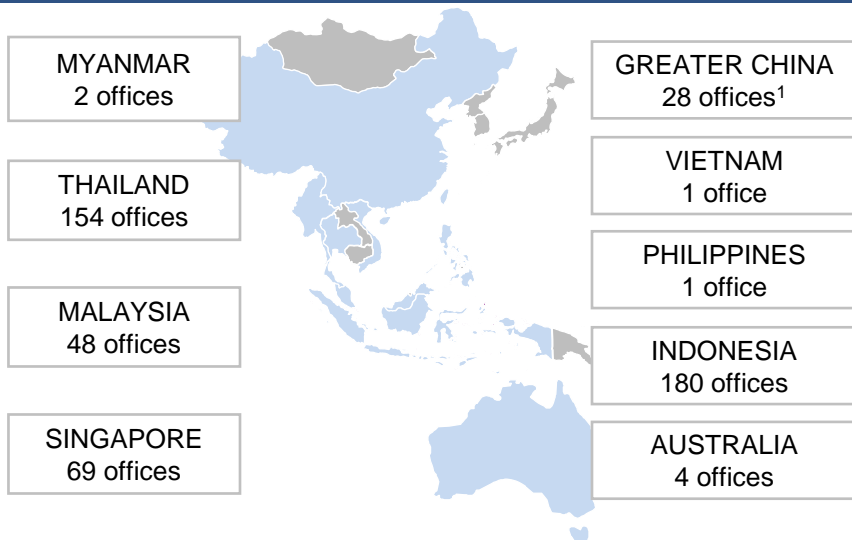
- UOB Group's management has a proven track record in steering the Group through various global events and crises.
- Stability of management team ensures consistent execution of strategies
- Disciplined management style which underpins the Group's overall resilience and sustained performance



Note: Bank of Asia Public Company Limited (“BOA”), Chung Khiaw Bank Limited (“CKB”), Far Eastern Bank Limited (“FEB”), Industrial & Commercial Bank Limited ICB (“ICB”), Lee Wah Bank Limited (“LWB”), Overseas Union Bank Limited (“OUB”), Radanasin Bank Thailand “UOBR”.

# Expanding Regional Banking Franchise

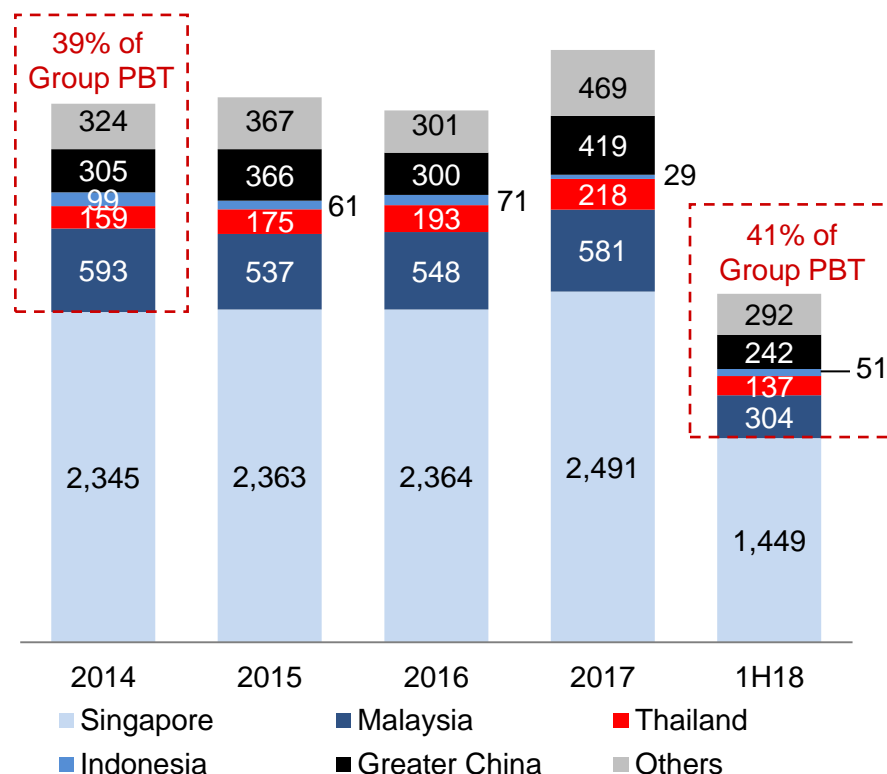
## Extensive Regional Footprint with c.500 Offices



- Most diverse regional franchise among Singapore banks; effectively full control of regional subsidiaries
- Integrated regional platform improves operational efficiencies, enhances risk management and provides faster time-to-market and seamless customer service
- Organic growth strategies in emerging/new markets of China and Indo-China

## Profit Before Tax by Region

(SGD m)



*Established regional network with key South East Asian pillars, supporting fast-growing trade, capital and wealth flows*

1. UOB owns c13% in Hengfeng Bank (formerly Evergrowing Bank) in China.

# Why UOB?

## Stable Management

- Proven track record in steering the bank through various global events and crises
- Stability of management team ensures consistent execution of strategies

## Integrated Regional Platform

- Entrenched local presence. Ground resources and integrated regional network allow us to better address the needs of our targeted segments
- Truly regional bank with full ownership and control of regional subsidiaries

## Strong Fundamentals

- Sustainable revenue channels as a result of carefully-built core business
- Strong balance sheet, sound capital & liquidity position and resilient asset quality – testament of solid foundation built on the premise of basic banking

## Balance Growth with Stability

- Continue to diversify portfolio, strengthen balance sheet, manage risks and build core franchise for the future
- Maintain long-term perspective to growth for sustainable shareholder returns

*Proven track record of financial conservatism and strong management committed to the long term*





# Strong UOB Fundamentals

# Strong UOB Fundamentals

## Strong Management with Proven Track Record

- Proven track record in steering the bank through various global events and crises
- Stability of management team ensures consistent execution of strategies

## Consistent and Focused Financial Management

- Healthy revenue growth, with new highs in both net interest income and fees
- Continue to invest in building long-term capabilities in a disciplined manner
- Total credit costs expected to be below long-term trend of 28bp
- Higher profit supports an increase in interim dividend to 50 cents per share

## Disciplined Management of Balance Sheet

- Strong capital base; Common Equity Tier 1 capital adequacy ratio of 14.5% as at 30 June 2018
- Liquid and well diversified funding mix with loan/deposits ratio at 85.7%
- Stable asset quality, with a diversified loan portfolio

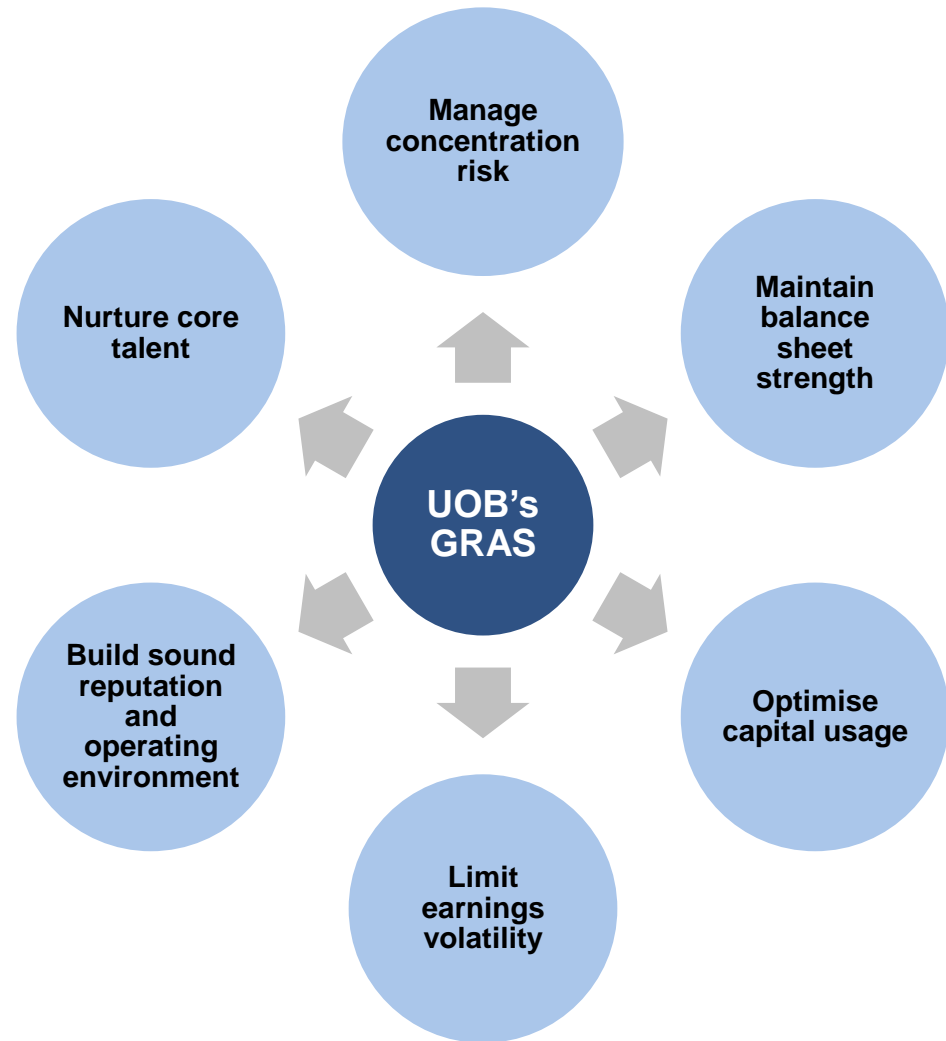
## Delivering on Regional Strategy

- Holistic regional bank with effectively full control of subsidiaries in key markets
- Focus on profitable niche segments and intra-regional needs of customers
- Entrenched local presence: ground resources and integrated regional network to better address the needs of our targeted segments

*UOB is focused on the basics of banking;  
Stable management team with proven execution capabilities*

# Managing Risks for Stable Growth

- **Prudent approach has been key to delivering sustainable returns over the years**
- **Institutionalised framework through Group Risk Appetite Statement (GRAS):**
  - Outlines risk and return objectives to guide strategic decision-making
  - Comprises 6 dimensions and 14 metrics
  - Entails instilling prudent culture as well as establishing policies and guidelines
  - Invests in capabilities, leverage integrated regional network to ensure effective implementation across key markets and businesses



# Competitive Against Peers

				Standalone Strength	Efficient Cost Management	Competitive ROAA <sup>1</sup>	Well-Maintained Liquidity
Moody's	S&P	Fitch		Moody's baseline credit assessment	Costs/income ratio	Return on average assets	Loan/deposit ratio
Aa1	AA-	AA-	UOB	a1	43.9%	1.12%	85.7%
Aa1	AA-	AA-	OCBC	a1	43.0%	1.22%	85.9%
Aa1	AA-	AA-	DBS	a1	42.9%	1.11%	87.2%
A2	A	AA-	HSBC	a2	64.3%	0.66%	71.8%
A2	BBB+	A+	SCB	baa1	68.0%	0.47%	68.2%
Baa1	A-	n.r.	CIMB	baa2	49.8%	1.03%	89.7%
A3	A-	A-	MBB	a3	47.6%	0.99%	92.5%
Baa1	BBB+	BBB+	BBL	baa2	41.4%	1.17%	87.9%
Baa3	n.r.	BBB-	BCA	baa3	48.3%	3.60%	77.0%
A-	A-	A+	BOA	baa1	59.0%	1.19%	70.7%
Baa1	BBB+	A	Citi	baa2	57.9%	0.96%	66.1%
Aa3	AA-	AA-	CBA	a2	43.9%	1.01%	117.8%
Aa3	AA-	AA-	NAB	a2	52.2%	0.65%	139.9%

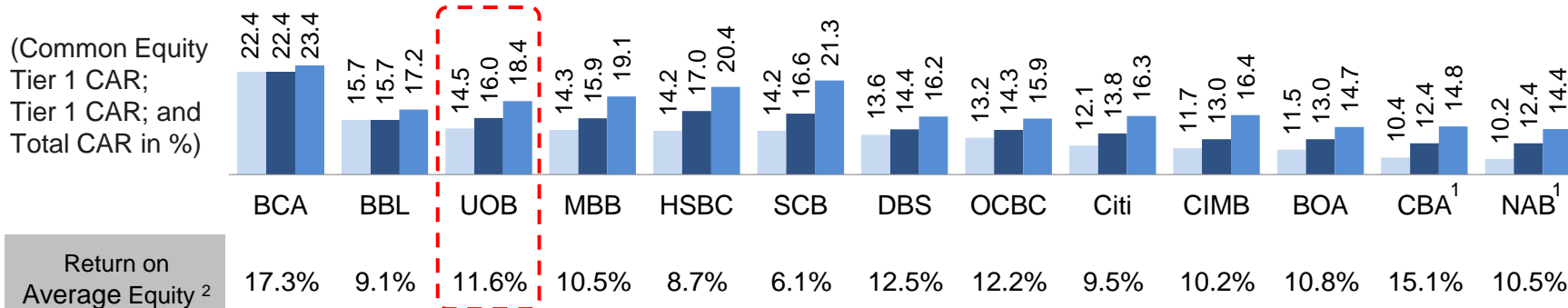
Source: Company reports, Credit rating agencies (updated as of 6 Aug 2018).

Banks' financials were as of 30 Jun 18, except for those of CIMB, MBB, NAB (which were as of 31 Mar 18) and CBA (which were as of 31 Dec 17).

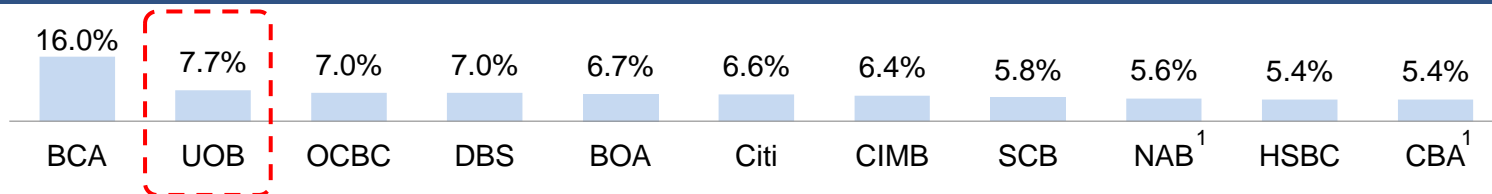
1. Computed on an annualised year-to-date basis.

# Strong Capital and Leverage Ratios

## Reported Common Equity Tier 1 CAR, Tier 1 CAR and Total CAR



## Reported Leverage Ratio<sup>3</sup>



**UOB is among the most well-capitalised banks, with capital ratios comfortably above regulatory requirements and high compared with some of the most renowned banks globally**

Source: Company reports.

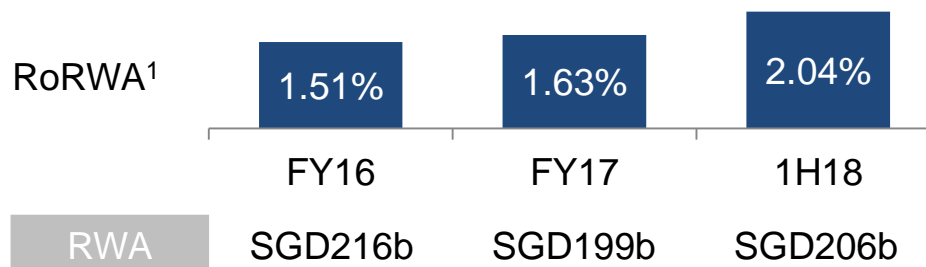
Banks' financials were as of 30 Jun 18, except for those of CIMB, MBB, NAB (which were as of 31 Mar 18) and CBA (which were as of 31 Dec 17).

1. NAB's and CBA's CARs are based on APRA's standards. Their internationally comparable CET1 CAR was 14.6% (31 Mar 18) and 16.3% (31 Dec 17), respectively.
2. Computed on an annualised year-to-date basis.
3. BBL and MBB do not disclose their leverage ratio.

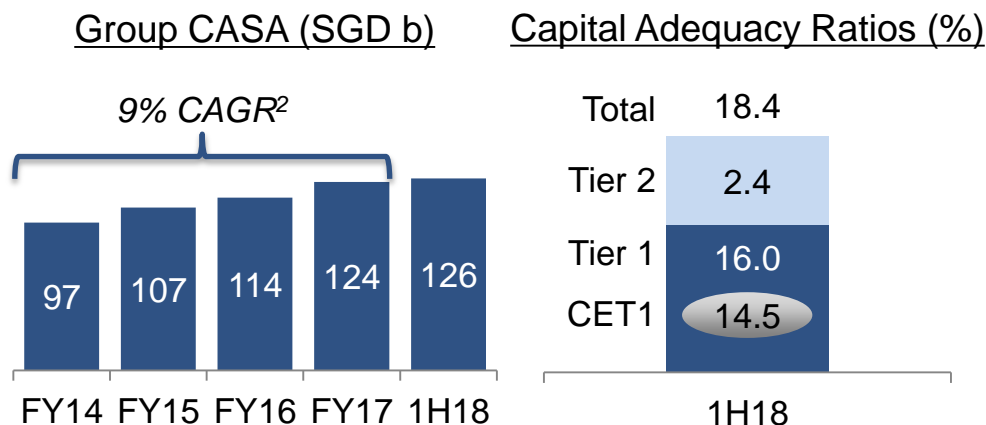
# Disciplined Balance Sheet Management

- Improved balance sheet efficiency**
  - Stronger RoRWA<sup>1</sup> driven mainly by higher profit
- Healthy portfolio quality**
  - 11bps credit cost on NPL lower YoY
  - NPL ratio stable at 1.7%
  - Adequate non-performing assets reserve cover: 89%, or 190% including collateral
- Proactive liability management**
  - Liquidity Coverage Ratios<sup>3</sup>: SGD (206%) and all-currency (142%)
  - Net stable funding ratio: 110%, above regulatory requirement
- Robust capital; 14.5% CET1 ratio**
- Interim dividend/share raised to 50 cents**

## Balance Sheet Efficiency a Key Priority



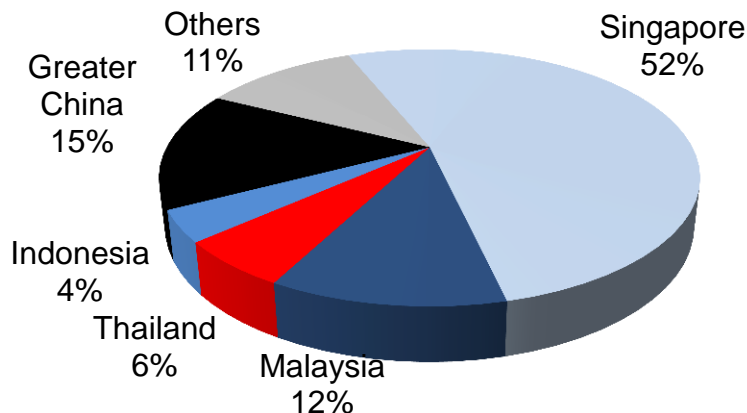
## Liability Management and Capital



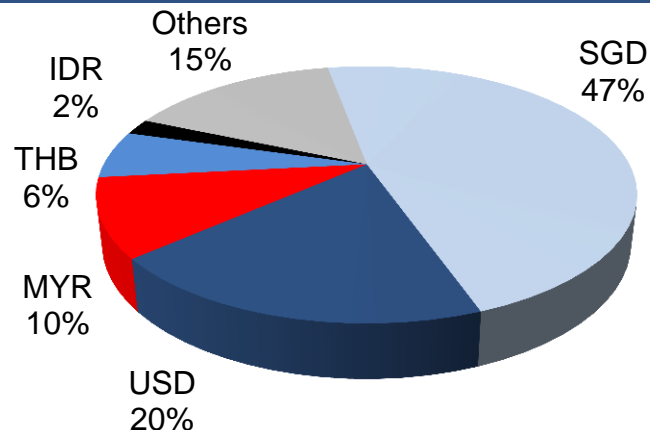
1. Return on average risk-weighted assets (RoRWA) is computed on an annualised basis for 1H18.  
 2. Compound annual growth rate (CAGR) computed over 3 years (2014 to 2017).  
 3. Average ratios for second quarter of 2018.

# Diversified Loan Portfolio

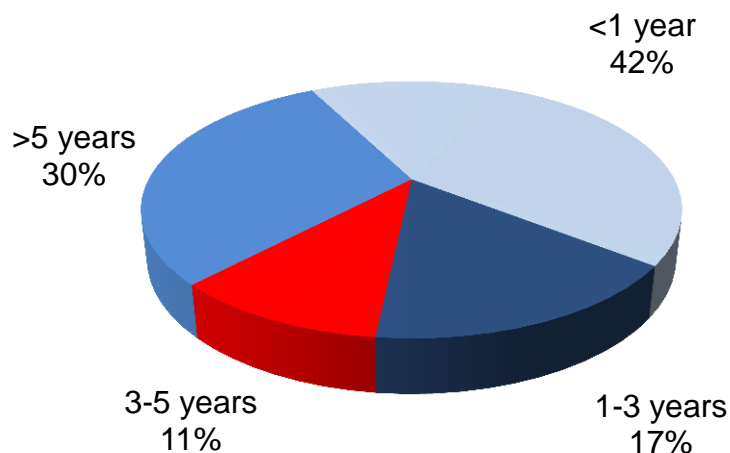
## Gross Customer Loans by Geography <sup>1</sup>



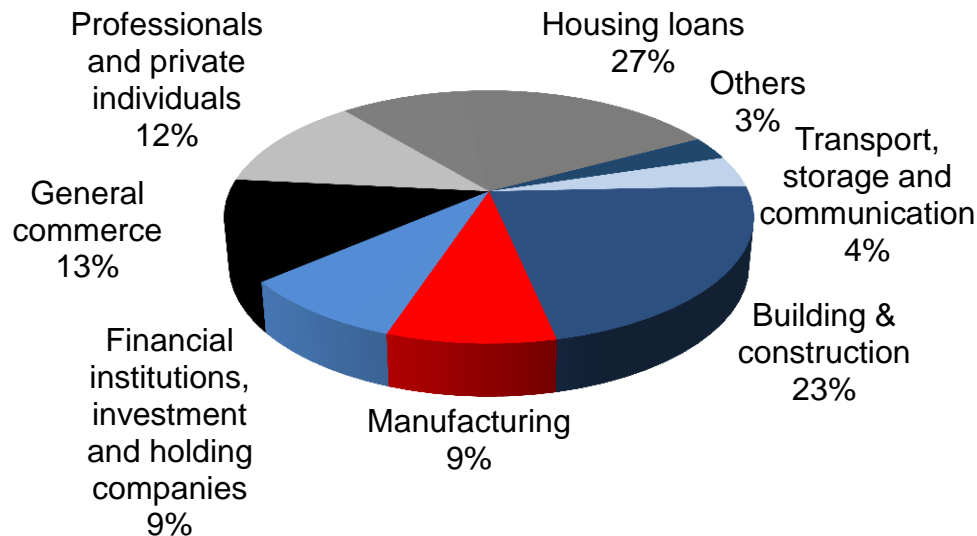
## Gross Customer Loans by Currency



## Gross Customer Loans by Maturity



## Gross Customer Loans by Industry



Note: Financial statistics as at 30 June 2018.

1. Loans by geography are classified according to where credit risks reside, largely represented by the borrower's country of incorporation / operation (for non-individuals) and residence (for individuals).

# Strong Investment Grade Credit Ratings



**MOODY'S**  
INVESTORS SERVICE

**Aa1 / Stable / P-1**

- Capital good by global standards
- Deposit-funded and liquid balance sheet
- Traditional banking presence in Singapore, Malaysia and other markets

**STANDARD & POOR'S**  
RATINGS SERVICES  
McGraw Hill Financial

**AA- / Stable / A-1+**

- Well-established market position, strong funding and prudent management record
- Will maintain its capitalisation and asset quality while pursuing regional growth

**FitchRatings** **AA- / Stable / F1+**

- Sound capital and high loan-loss buffers
- Disciplined funding strategy, supported by its strong domestic franchise

## Debt Issuance History

Issue Date	Structure	Call	Coupon	Amount	Ratings (M/S/F)
<b>Additional Tier 1</b>					
Oct-17	Perpetual	2023	3.875%	USD650m	Baa1 / - / BBB
May-16	Perpetual	2021	4.00%	SGD750m	Baa1 / - / BBB
Nov-13	Perpetual	2019	4.75%	SGD500m	Baa1/BBB-/BBB
<b>Tier 2</b>					
Feb-17	12NC7	2024	3.50%	SGD750m	A3 / - / A+
Sep-16	10½NC5½	2022	2.88%	USD600m	A3 / - / A+
Mar-16	10½NC5½	2021	3.50%	USD700m	A3 / - / A+
May-14	12NC6	2020	3.50%	SGD500m	A3 / BBB+ / A+
Mar-14	10½NC5½	2019	3.75%	USD800m	A3 / BBB+ / A+
<b>Senior Unsecured</b>					
Jul-18	3½yr FRN	-	BBSW 3m+0.81%	AUD600m	Aa1 / AA- / AA-
Apr-18	3yr FRN	-	3m LIBOR+0.48%	USD500m	Aa1 / AA- / AA-
Apr-18	3yr FXN	-	3.20%	USD700m	Aa1 / AA- / AA-
Nov-17	1yr FRN	-	BBSW 3m+0.26%	AUD400m	Aa1 / AA- / AA-
Apr-17	4yr FRN	-	BBSW 3m+0.81%	AUD300m	Aa1 / AA- / AA-
Sep-14	5½yr FXN	-	2.50%	USD500m	Aa1 / AA- / AA-
Sep-14	4yr FRN	-	BBSW 3m+0.64%	AUD300m	Aa1 / AA- / AA-
<b>Covered</b>					
Feb-18	5yr FRN	-	3m LIBOR+0.24%	GBP350m	Aaa / AAA / -
Jan-18	7yr FXN	-	0.500%	EUR500m	Aaa / AAA / -
Feb-17	3yr FXN	-	2.125%	USD500m	Aaa / AAA / -
Feb-17	5yr FXN	-	0.125%	EUR500m	Aaa / AAA / -
Mar-16	5yr FXN	-	0.250%	EUR500m	Aaa / AAA / -

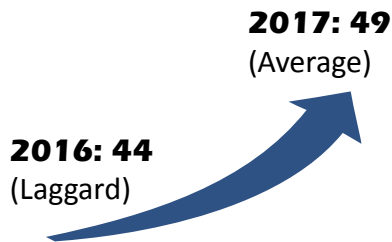
## Debt Maturity Profile

	2018	2019	2020	2021	2022	2023	2024	2025
	SGDm	SGDm	SGDm	SGDm	SGDm	SGDm	SGDm	SGDm
	-	-	-	-	-	886	-	-
	-	-	-	750	-	-	-	-
	-	500	-	-	-	-	-	-
	-	-	-	-	-	-	750	-
	-	-	-	-	818	-	-	-
	-	-	-	955	-	-	-	-
	-	-	500	-	-	-	-	-
	-	1,091	-	-	-	-	-	-
	-	-	-	-	604	-	-	-
	-	-	-	682	-	-	-	-
	-	-	-	955	-	-	-	-
	403	-	-	-	-	-	-	-
	-	-	-	302	-	-	-	-
	-	-	682	-	-	-	-	-
	302	-	-	-	-	-	-	-
	-	-	-	-	-	626	-	-
	-	-	-	-	-	-	-	793
	-	-	682	-	-	-	-	-
	-	-	-	-	793	-	-	-
	-	-	-	793	-	-	-	-
<b>Total</b>	<b>705</b>	<b>1,591</b>	<b>1,864</b>	<b>4,436</b>	<b>2,215</b>	<b>1,512</b>	<b>750</b>	<b>793</b>

The table comprises UOB's public rated issues; Maturities shown at first call date for AT1 and T2 notes; FXN: Fixed Rate Notes; FRN: Floating Rate Notes; Updated as of 6 Aug 2018. FX rates at 30 Jun 2018: USD 1 = SGD 1.36; AUD 1 = SGD 1.01; 1 GBP = SGD 1.79; EUR 1 = SGD 1.59.



# Sustainability Reporting a Multi-Year Journey, with Progress Recognised



Sustainalytics is the leading independent global provider of ESG<sup>1</sup> and corporate governance research and ratings to investors.

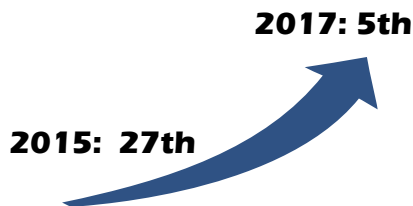


*“... UOB .... has satisfied the requirements to become a constituent of the FTSE4Good Index Series.”*

Created by the global index provider FTSE Russell, the FTSE4Good Index Series is designed to measure the performance of companies demonstrating strong ESG<sup>1</sup> practices. The FTSE4Good indices are used by a wide variety of market participants to create and assess responsible investment funds and other products.



## Singapore Ranking



CGIO<sup>2</sup> and SID<sup>3</sup> have been appointed by the Monetary Authority of Singapore (MAS) as Singapore's domestic ranking body for the ASEAN Corporate Governance Initiative.

Note: 2016 was a gap year for revision and no assessment was conducted.



## Best Inaugural Sustainability Report (Mainboard), 2017

The Singapore Sustainability Reporting Awards was organised by the SID<sup>3</sup>, and supported by Singapore Exchange.



## Leader Award

Organised by SG Enable, the award recognises committed employers who have done well in hiring and integrating persons with disabilities into their workforce.

1. ESG: Environmental, Social and Governance
2. CGIO: NUS Business School's Centre for Governance, Institutions and Organisations
3. SID: Singapore Institute of Directors



# Our Growth Drivers

# Our Growth Drivers

## Realise Full Potential of our Integrated Platform

- Provides us with ability to serve expanding regional needs of our customers
- Improves operational efficiency, enhances risk management, seamless customer experience and faster time to market

## Sharpen Regional Focus

- Global macro environment remains uncertain. The region's long-term fundamentals continue to remain strong
- Region is our future engine of growth

## Reinforce Fee Income Growth

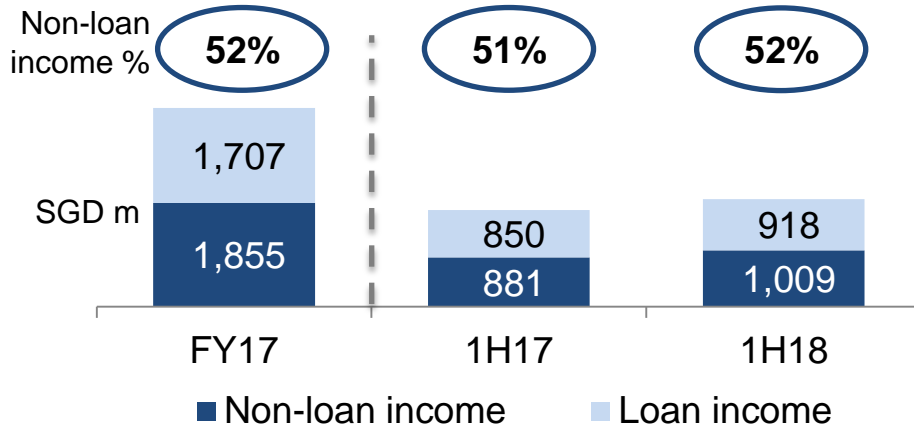
- Grow fee income to offset competitive pressures on loans and improve return on capital
- Increase client wallet share size by intensifying cross-selling efforts, focusing on service quality and expanding range of products and services

## Long-term Growth Perspective

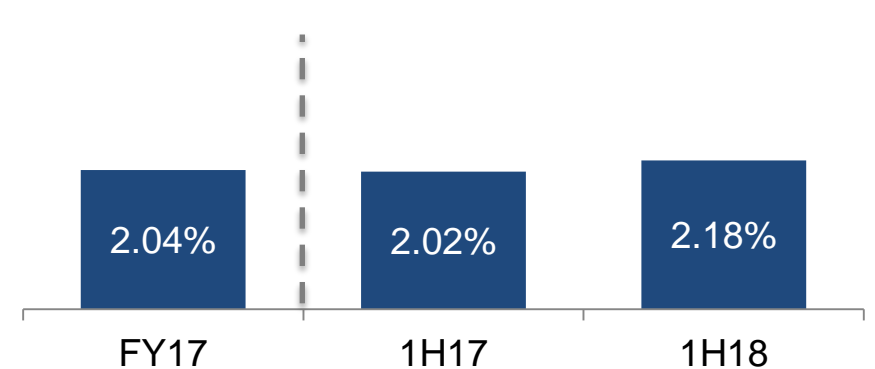
- Disciplined approach in executing growth strategy, balancing growth with stability
- Focus on risk adjusted returns; ensure balance sheet strength amidst global volatilities

# Wholesale Banking: Income Diversification Remains Key

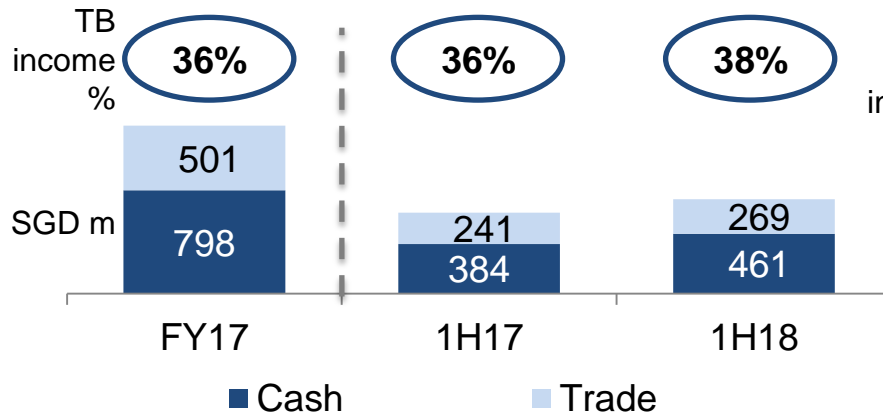
Non-loan income: +15% YoY in 1H18



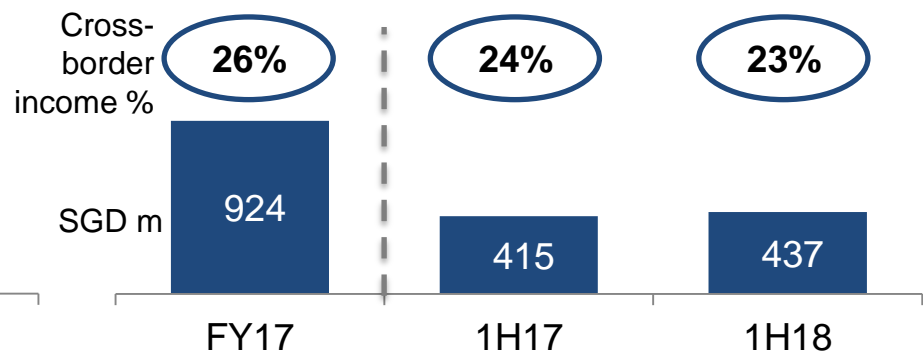
Segment RoRWA<sup>1</sup>: +0.16% pt YoY in 1H18



Transaction banking income: +17% YoY in 1H18



Cross-border income: +5% YoY in 1H18

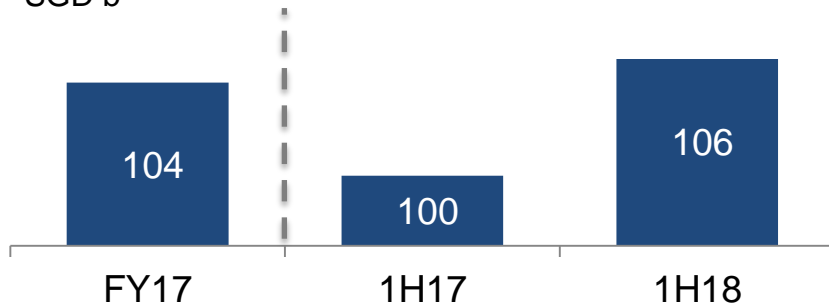


1. RoRWA: Ratio of "Operating profit" to "Average segment RWA"

# Retail Banking: Steady Improvement in Performance

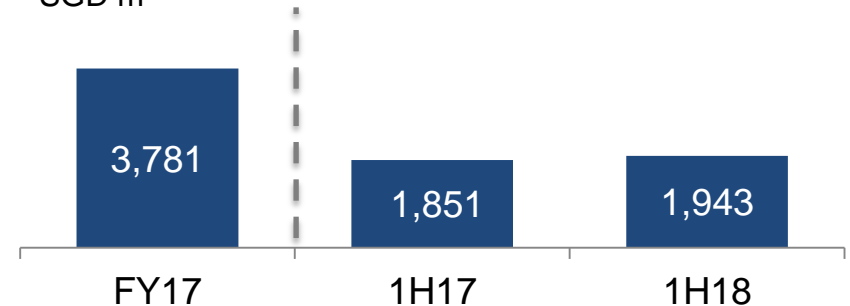
Gross Loans (Group Retail<sup>1</sup>): +6% YoY in 1H18

SGD b



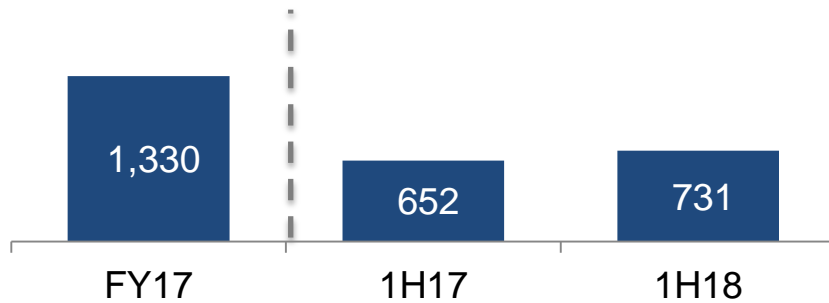
Income<sup>3</sup> (Group Retail<sup>1</sup>) +5% YoY in 1H18

SGD m

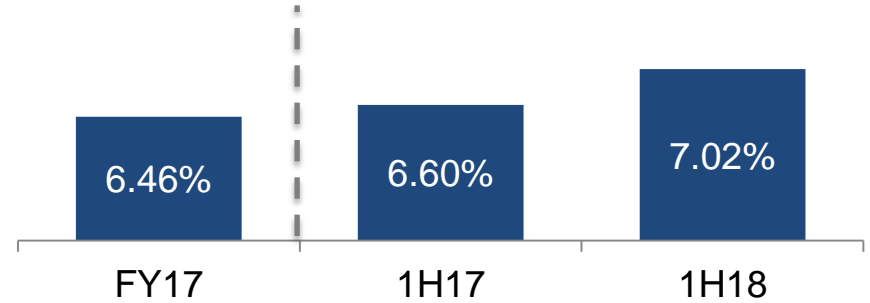


High Affluent<sup>2</sup> income: +12% YoY in 1H18

SGD m



Segment RoRWA<sup>4</sup> +0.42% pt YoY in 1H18



AUM SGD104 b    SGD99 b    SGD108 b

1. Includes Business Banking
2. Wealth management comprises Privilege Banking and High Net Worth (Privilege Reserve + Private Bank) segments.
3. Income includes fee and commission income that is net of directly attributable expenses.
4. RoRWA: Ratio of "Operating profit" to "Average segment RWA"

## The retail banking future

### Digital Banking ~~or~~ and Digital Bank

- Digital banking (omni-channel) and the digital bank (mobile only): distinct and will co-exist
- Data-centric digital banks will drive **unprecedented** disruption globally
- **Opportunities** will open for progressive banks, big techs and FinTechs
- **Emerging** capabilities to power this will **accelerate**

## The new business model

### From “Cross-selling to Engaging”

- The data-centric Digital Bank’s advantage: **Digital Engagement**
- A unique business model: **ATGIE**
  - **A**cquire
  - **T**ransact
  - **G**enerate data
  - **I**nsight
  - **E**ngage
- Lower cost-to-serve and increased access will drive large-scale **financial inclusion**

## The new Digital Bank

### Making it Simple, Engaging and Transparent

- **Simple**  
Intuitive user interface, remembers you, fast and fully digital experience
- **Engaging**  
Anticipates your needs and prompts you towards smarter spending and saving habits
- **Transparent**  
Promotes openness and engenders trust

# Achieving our Goals for Digital Bank



**Countries**

**5**

Scaling our regional franchise

**Target customers**

**3–5m**

Mobile savvy

**Engagement**

**>7 / 10**

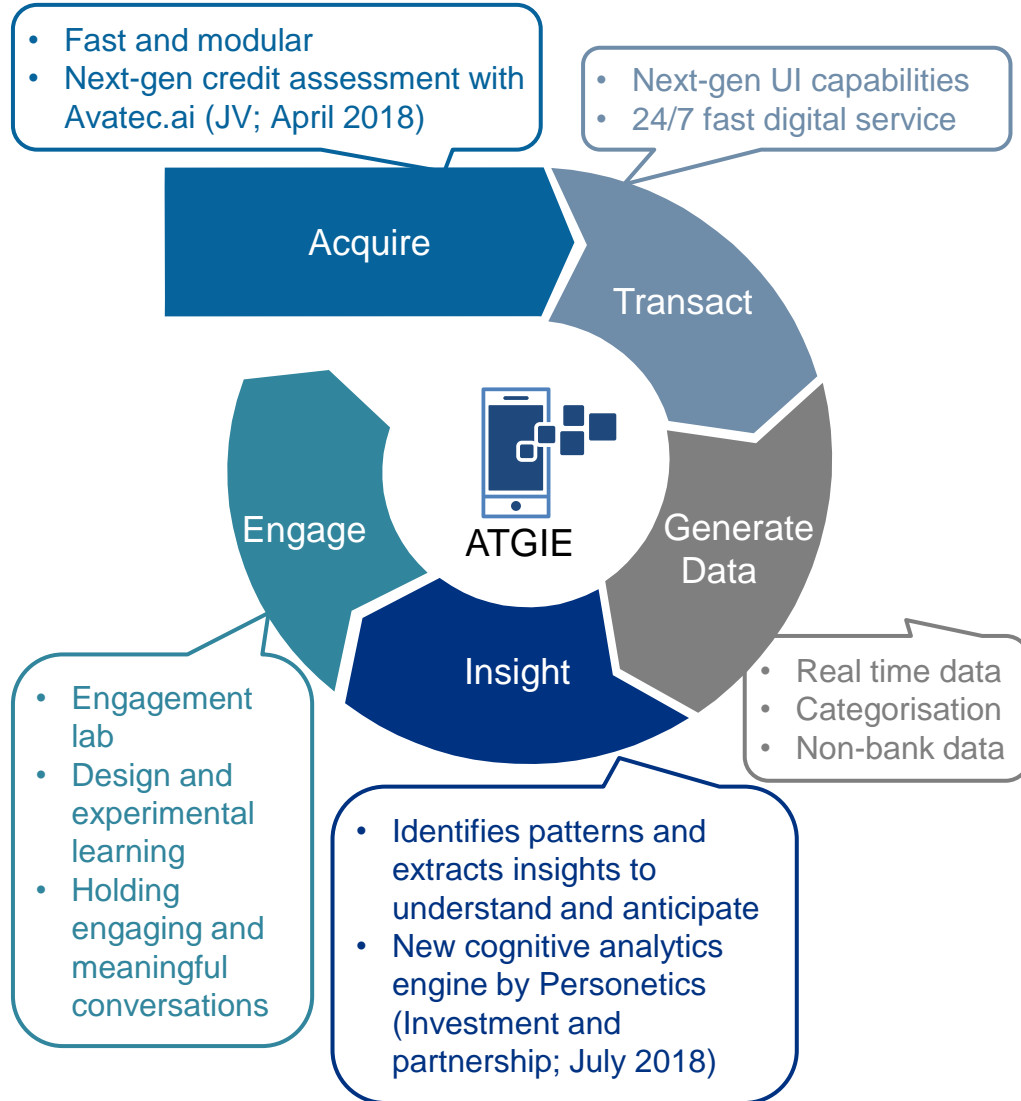
Customer Engagement Index

**Steady-state cost/income ratio**

**~35%**

Leveraging process redesign & digitisation

## Powering the Digital Bank for Engagement





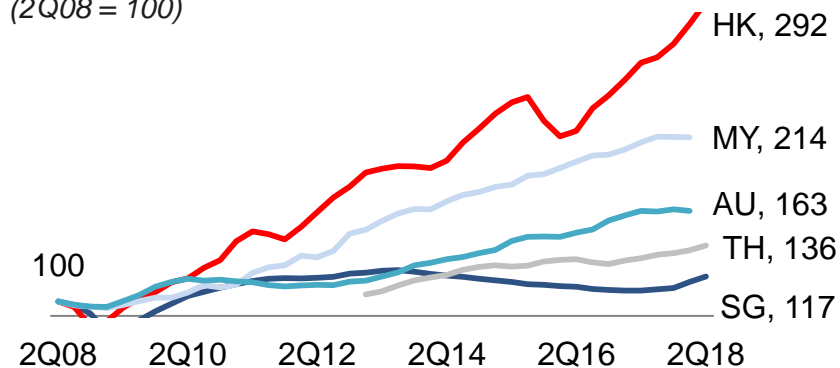
# Resilience of the Singapore Housing Market & UOB's Cover Pool



# Conducive Macro Conditions Underpin Singapore Property Market

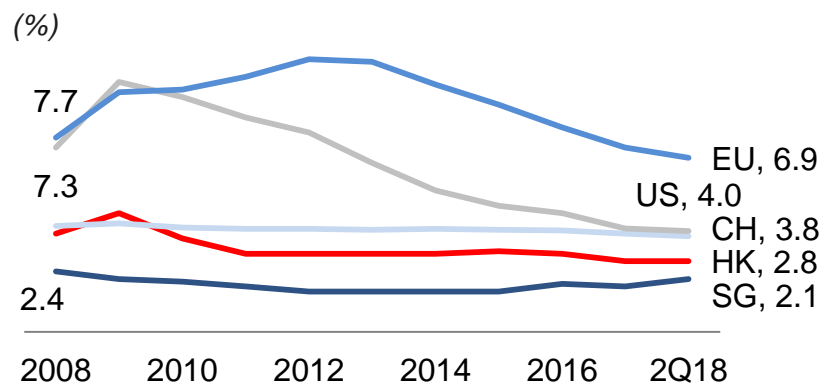
## Regional House Price Indices over Last 10 Years

(2Q08 = 100)



Note: For Thailand (2Q12=100) as no available data prior to that  
Sources: CEIC, UOB Economic-Treasury Research

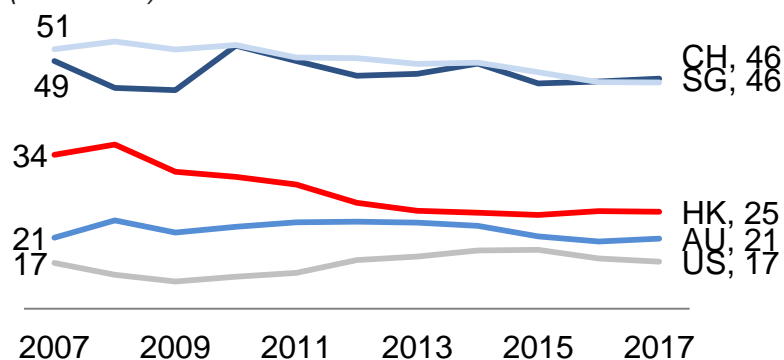
## Low Unemployment vs Global Peers



Sources: CEIC, UOB Economic-Treasury Research

## High National Savings Rate

(% of GDP)



Sources: IMF, UOB Economic-Treasury Research

## SG Household Income in Line with Property Prices

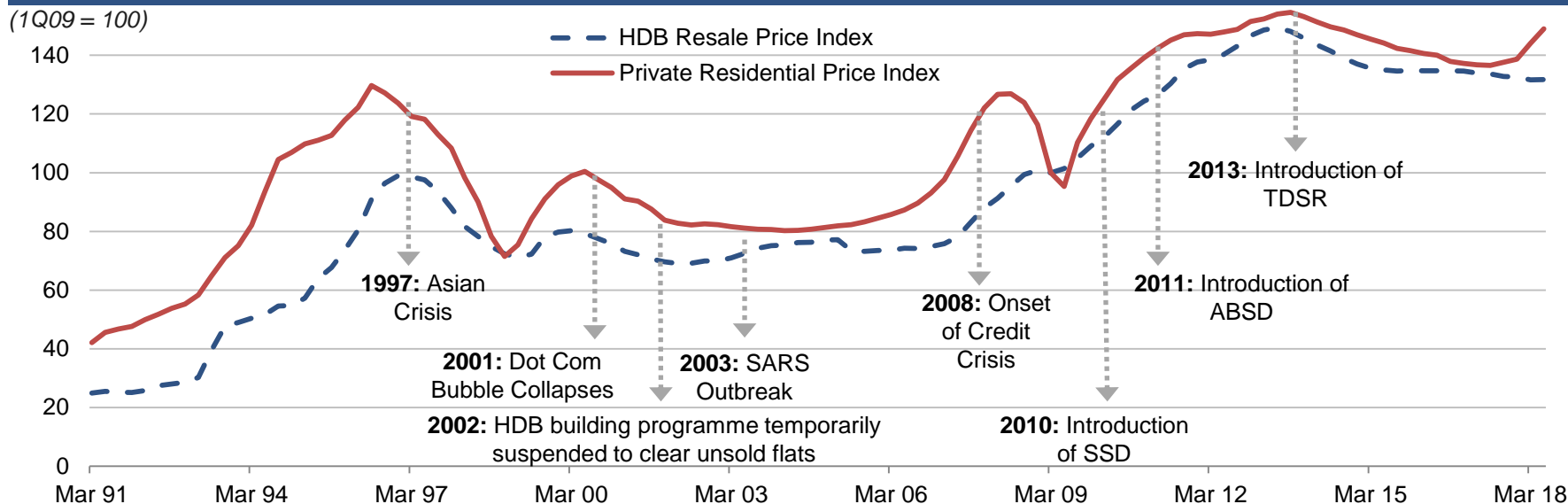
	2007	2Q18	+/(−)
Price <sup>1</sup> (SGD / sq ft)	940	1,132	+20%
Unit size (sq ft)	1,200	1,200	–
Unit costs (SGD m)	1.13	1.36	+20%
Interest rate (%)	3.72	2.18	
Household income <sup>2</sup> (SGD / mth)	11,933	16,826	+41%
Debt servicing ratio <sup>3</sup> (%)	35	24 <sup>4</sup>	

1. Reflects median price of non-landed private residential
2. Reflects median of resident households living in private properties
3. Based on a 30-year housing loan, with a loan-to-value of 80%
4. A housing loan with 5% interest rate would increase DSR to 35%

Sources: URA, CEIC, Singapore Statistics, UOB Economic-Treasury Research

# Prudent Policies for Sustainable Prices

## Residential Property Price Indices in Singapore



Regulatory Measures	2009	2010	2011	2012	2013	2016 / 2017	2018
<b>LTV Limit: 1<sup>st</sup> property</b>	90%	80%	80%		80% / 60% <sup>1</sup>		75%/55% <sup>1</sup>
<b>2<sup>nd</sup> property</b>	90%	70%	60%	60% /	50% / 30% <sup>1</sup>	No change	45%/25% <sup>1</sup>
<b>Subsequent property</b>	90%	70%	60%	40% <sup>1</sup>	40% / 20% <sup>1</sup>		35%/15% <sup>1</sup>
<b>Non- individual buyers</b>	90%	80% / 70% <sup>2</sup>	50%	40%	20%		15%
<b>Maximum Mortgage Tenor</b>	Originating banks use their own tenor and affordability guidelines			35 years	No change	No change	No change
<b>Total Debt Servicing Ratio (TDSR) Framework</b>					60% limit; 3.5% interest rate	No change <sup>3</sup>	No change
<b>Seller Stamp Duty (SSD): Percentage / Holding Period</b>	Applicable for properties purchased from 20 February 2010 onwards, if property is sold within the applicable holding period <sup>4</sup>				Reduced in Mar 17: 12% if sold within 1st year; 2nd year: 8%; 3rd year: 4%; thereafter : nil		No change
<b>Buyer's Stamp Duty</b>	First S\$180k: 1%; Next S\$180k: 2%; Remaining: 3%						New Tier of 4% for prices > S\$1m
<b>Additional Buyer's Stamp Duty</b>	Depending on the nationality and number of properties owned by the purchaser <sup>4</sup>						

1. From 6 October 2012, the higher LTV limit applies if the mortgage tenor ≤30 years and sum of mortgage tenor and age of borrower is ≤65 years old, otherwise lower LTV limit will apply. 2. 80% LTV limit for 1<sup>st</sup> property and 70% LTV limit for subsequent properties. 3. Exemptions granted to certain borrowers if they meet exemption criteria. 4. Refer to IRAS website for more details. Source: Singapore Department of Statistics

# Covered Bond Program Summary

## USD8,000,000,000 Global Covered Bond Programme

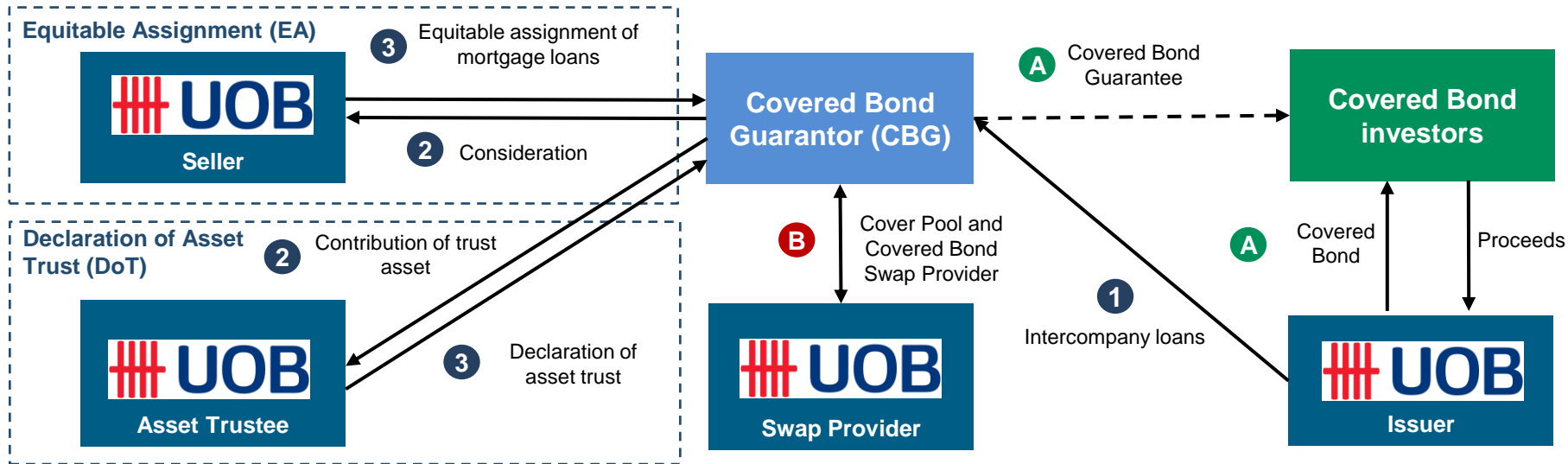
Issuer	United Overseas Bank Limited
Issuer Long Term Rating	Aa1 (stable) / AA- (stable) / AA- (stable) (Moody's / S&P / Fitch)
Issuer Short Term Rating	P-1 (stable) / A-1+ (stable) / F1+ (stable) (Moody's / S&P / Fitch)
Programme Limit	USD8,000,000,000
LCR Status / ECB Repo Eligibility	Expected Level 2A Eligible (EU) <sup>1</sup> / Not Eligible
Programme Rating	Aaa / AAA (Moody's / S&P)
Issuance Structure (Dual Recourse)	Direct issuance covered bond regulated under MAS Notice 648, Senior unsecured claim against the Issuer and senior secured claim against the Cover Pool
Covered Bond Guarantor (CBG)	Glacier Eighty Pte. Ltd., a newly set up orphan SPV incorporated in Singapore for the sole purpose of facilitating the activities under the Covered Bond Programme
Covered Bond Guarantee	The CBG has provided a guarantee as to payments of interest and principal under the Covered Bonds
Cover Pool	Eligible 1 <sup>st</sup> ranking SGD-denominated residential mortgages loans originated by UOB in Singapore (and other eligible assets)
Mortgage Loan-to-Value Cap	80% of latest Valuation of the Property, to be adjusted at least quarterly
Over-collateralisation (OC)	Legal minimum OC of 3% and committed OC of 15.90%
Hedging	Cover Pool Swap <sup>2</sup> to hedge against possible variances between the interest received from the residential mortgage loans to the CBG's SGD interest/swap payments; Covered Bond Swap to hedge against the currency risk between the amount received by the CBG against its payment in other currency
Listing	Singapore Stock Exchange (SGX – ST)
Governing Law	English law (bond & swap documents) and Singapore law (asset documents)
Servicer, Cash Manager and Seller	United Overseas Bank Limited
Asset Monitor	Ernst & Young LLP
Trustee	DB International Trust (Singapore) Limited
Issuing and Paying Agent	Deutsche Bank AG, Singapore Branch
Arrangers	BNP Paribas and United Overseas Bank Limited

1. Please refer to [http://ec.europa.eu/finance/bank/docs/regcapital/acts/delegated/141010\\_delegated-act-liquidity-coverage\\_en.pdf](http://ec.europa.eu/finance/bank/docs/regcapital/acts/delegated/141010_delegated-act-liquidity-coverage_en.pdf) and check for details. At the time of this presentation and subject to any relevant matters which are within the control of a relevant EU investor (including its compliance with the transparency requirement referred to in article 129(7) of Regulation (EU) 575/2013) and to the issuer and the covered bonds being regarded to be subject to supervisory and regulatory arrangements regarded to be at least equivalent to those applied in the EU, this bond should satisfy the eligibility criteria for its classification as a Level 2A asset in accordance with Chapter 2 of Regulation (EU) 2015/61 supplementing Regulation (EU) 575/2013. Notwithstanding the foregoing, it should be noted that whether or not a bond is a liquid asset for the purposes of the Liquidity Coverage Ratio under Regulation (EU) 575/2013 is ultimately to be determined by a relevant investor institution and its relevant supervisory authority and neither the issuer nor the manager accept any responsibility in this regard

2. Only entered into if and when required by either Rating Agency in order to ensure that the then current rating of the Covered Bonds would not be downgraded

# Covered Bond Structure

Notwithstanding that CPF's consent is required for the transfer or assignment of mortgages relating to CPF Loans, no such consent is required for a declaration of trust over mortgages relating to CPF Loans. The Seller is acting as the Assets Trustee and the CPF Loans are held on trust for the benefit of the Covered Bond Guarantor (CBG). Both EA and DOT mechanisms are permissible under MAS Notice 648 and such hybrid structure has been used in Covered Bond programmes in other jurisdiction



## Credit Structure (Dual Recourse)

- A** ▶ Covered Bond issued directly from UOB constitutes direct, unsecured and unsubordinated obligations of the Issuer
- ▶ CBG guarantees the payment of interest and principal on the Covered Bonds, secured by the Cover Pool

## Hedging

- B** ▶ Cover Pool Swap<sup>1</sup> – to hedge interest rate risk between the mortgage loans and CBG's SGD interest/swap payments<sup>1</sup>
- ▶ Covered Bond Swap (if necessary) – to hedge against the currency risk between the amount received by the CBG against its payment in other currency

## Segregation of mortgage loans

- 1** UOB provides an intercompany loan to the CBG
- 2** CBG pays UOB consideration for the purchase of the mortgage loans
- 3** A dual ring-fencing structure which uses both equitable assignment (EA) and declaration of assets trust (DOT) mechanisms:
  - ▶ DOT – for the sale of DOT loans<sup>2</sup>
  - ▶ EA – for the sale of EA Loans<sup>3</sup> via equitable assignment

1. Only entered into if and when required by either Rating Agency to ensure that the then current rating of the Covered Bonds would not be downgraded  
 2. DOT Loans mean: (1) the borrowers had used CPF funds in connection with a residential property (CPF Loan) or (2) the required documentation for the borrowers' use of CPF funds, in connection with a residential property, is prepared  
 3. EA Loans mean a non-CPF Loan and the required documentation for the borrowers' use of CPF funds, in connection with a residential property, is not prepared

# UOB's Cover Pool Profile

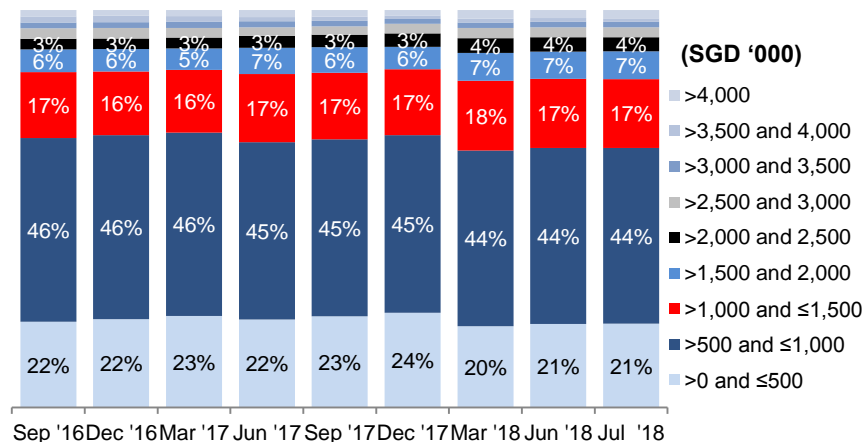


## Overview of Cover Pool (as of Jul'18)

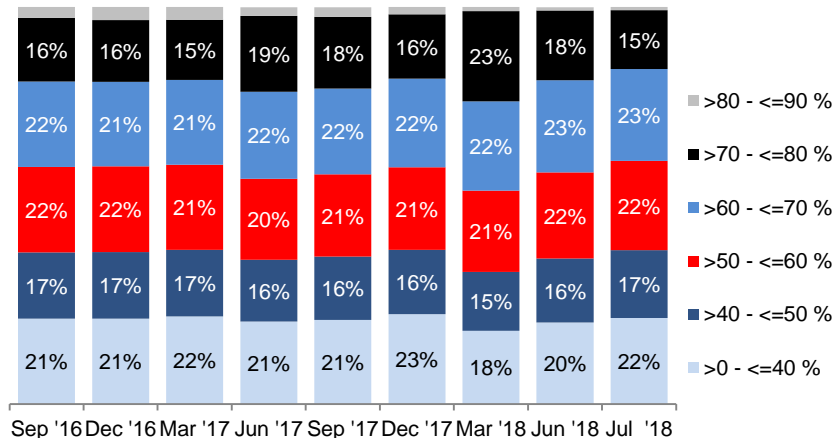
Number of Mortgage Loans	11,121
Total Current Balance (SGD)	7.2 billion
Average Current Loan Balance (SGD)	645,862
Maximum Current Loan Balance (SGD)	9,500,976
W.A. <sup>1</sup> Current Interest Rate	2.12%
W.A. <sup>1</sup> Seasoning (months)	58
W.A. <sup>1</sup> Remaining Tenor (months)	257
W.A. <sup>1</sup> Indexed Current LTV	53%
W.A. <sup>1</sup> Unindexed Current LTV <sup>2</sup>	57%

1. W.A. represents weighted averages
2. Current loan balance divided by the original property value

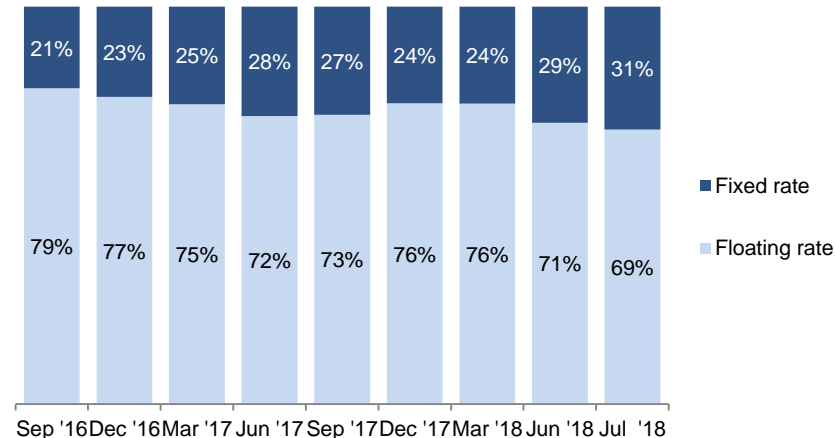
## Current Loan Balances Mainly <S\$1m



## Granular LTV Breakdown



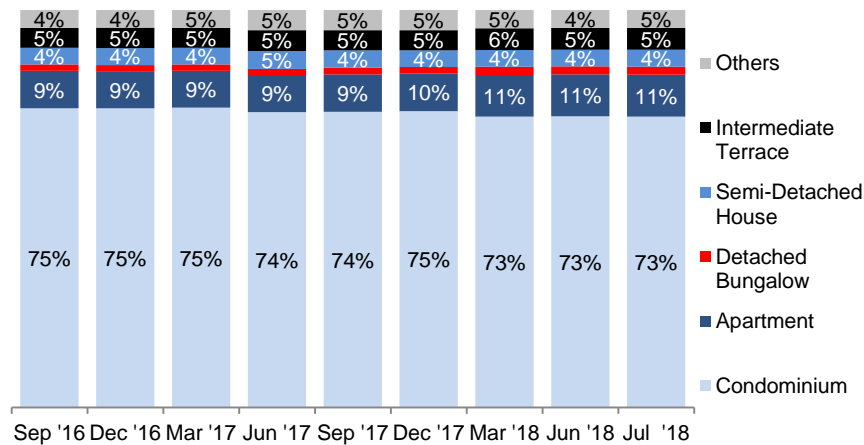
## Largely Floating Rate Mortgages



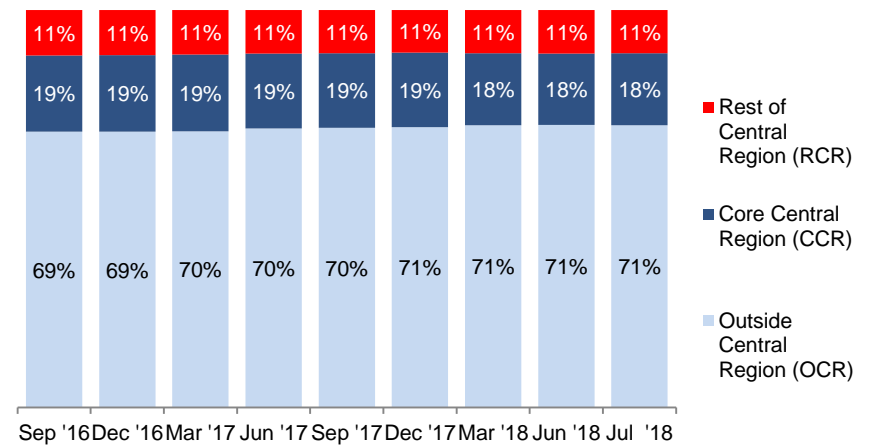
Note: The cover pool was topped up in Apr'17 and Mar'18. Percentages less than 2% are not shown due to immateriality.

# Cover Pool has Been Stable

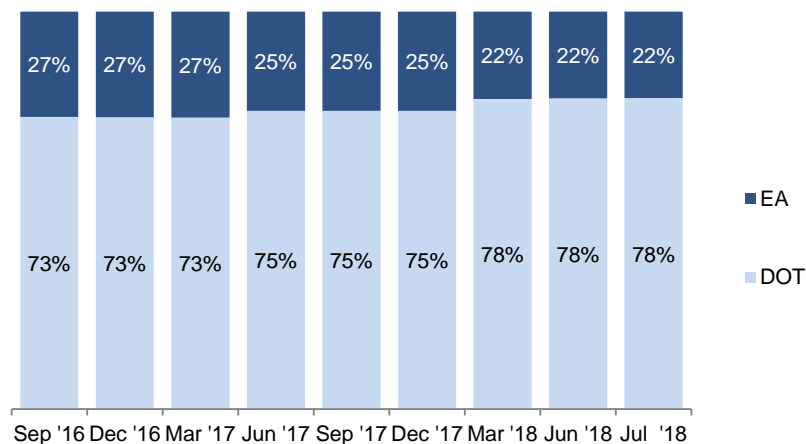
## Primarily Apartments / Condominiums



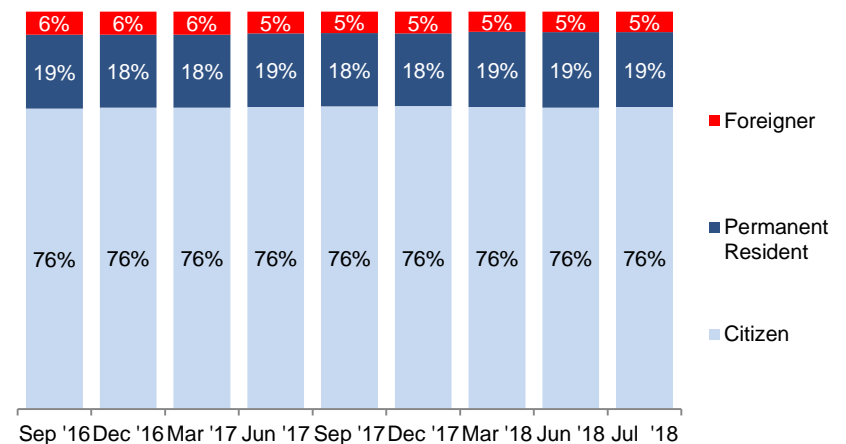
## Diversified Geographical Distribution



## Strong Legal Protection by EA / DOT



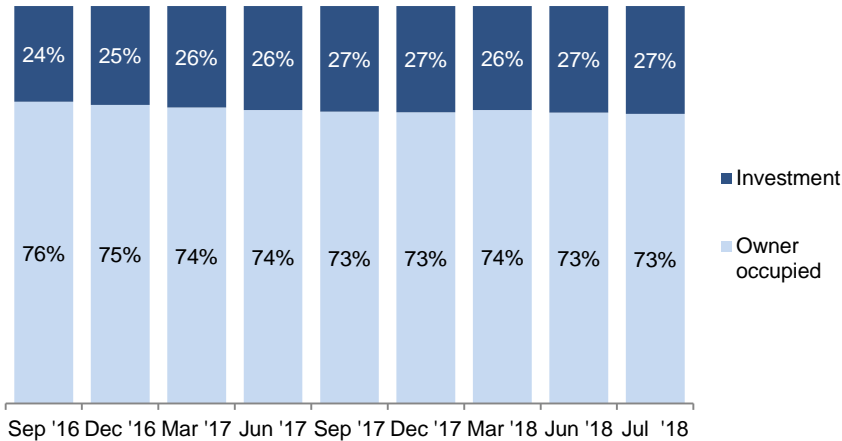
## Borrowers mainly Citizens / PRs



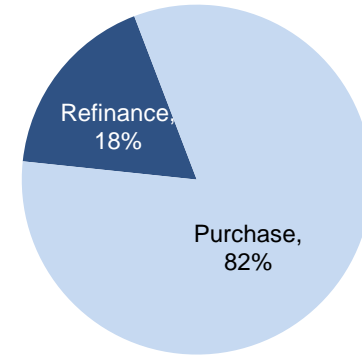
Note: The cover pool was topped up in Apr'17 and Mar'18. Percentages less than 2% are not shown due to immateriality.

# Cover Pool has Been Stable

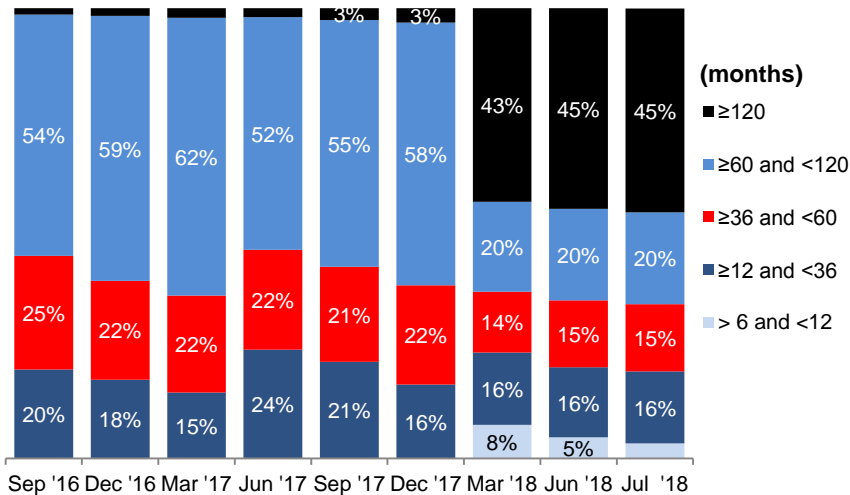
## Majority Owner Occupied



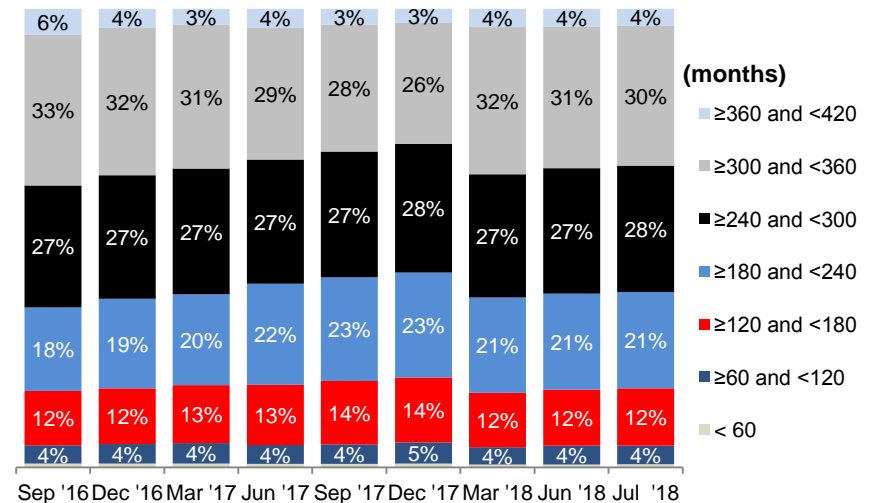
## Loans Mainly for Purchases



## Well Seasoned Portfolio



## Stable Profile for Remaining Loan Tenors



Note: The cover pool was topped up in Apr'17 and Mar'18. Percentages less than 2% are not shown due to immateriality.



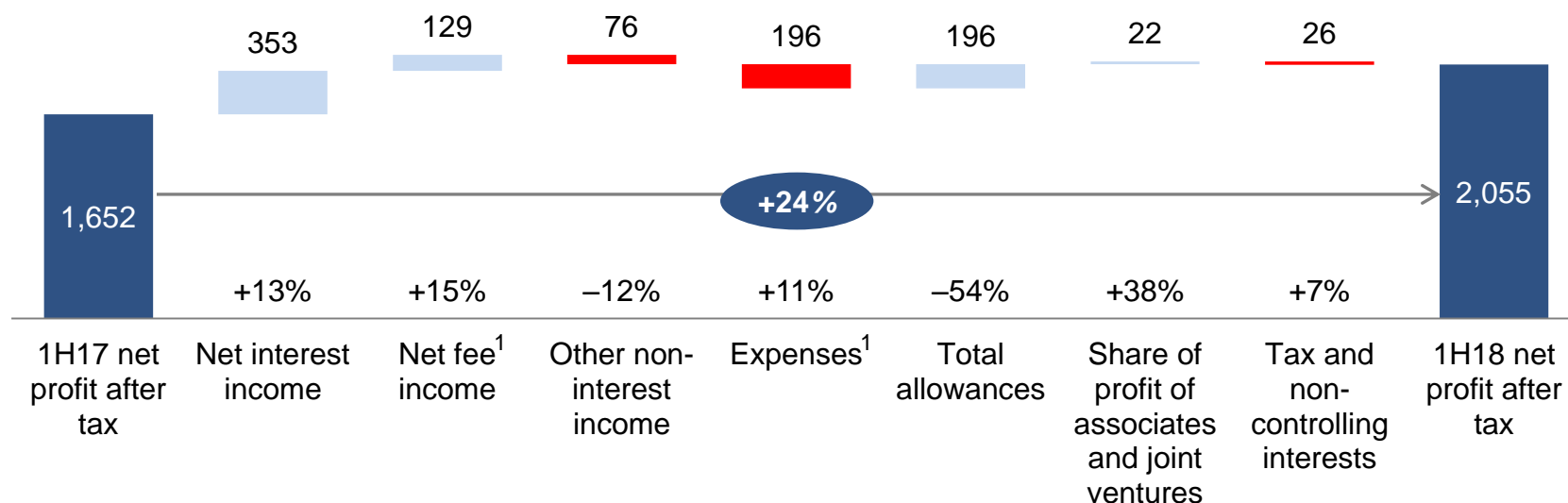
# Appendix A: Latest Financials



# 1H18 Financial Overview

## Net Profit After Tax<sup>1</sup> (NPAT) Movement, 1H18 vs 1H17

(SGD m)



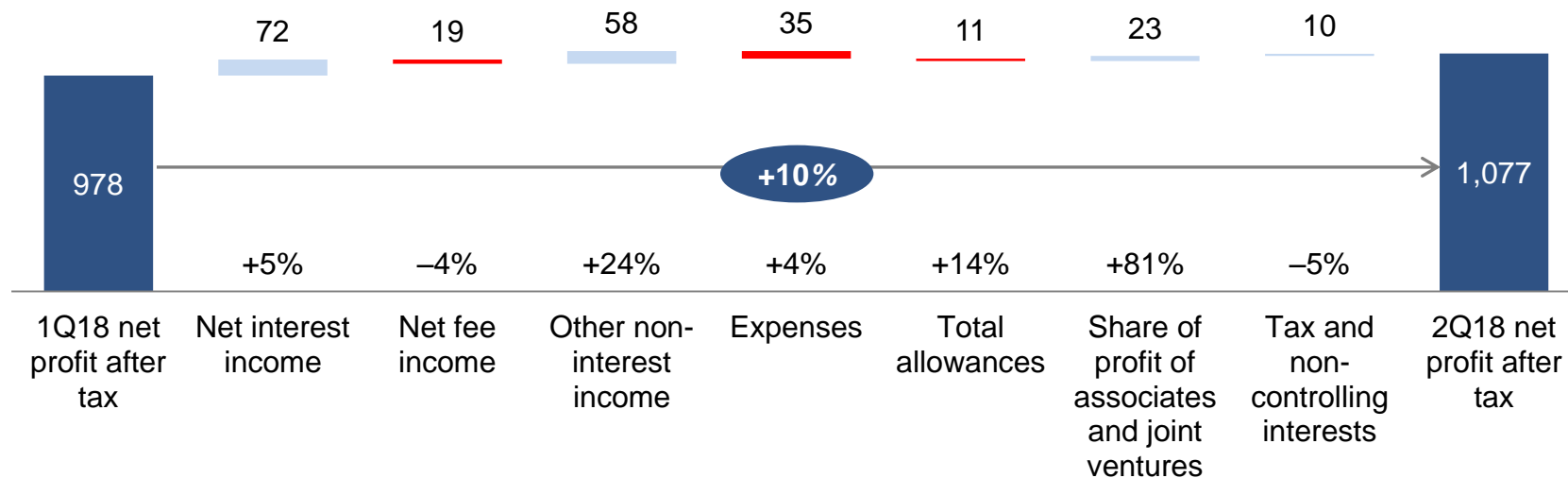
Key Indicators	1H18	1H17	YoY Change
NIM (%)	1.83	1.74	+0.09% pt
Non-NII / Income (%)	34.1	36.2	(2.1) pt
Expense / Income ratio (%)	43.9	43.5	+0.4% pt
ROE (%) <sup>2</sup>	11.6	10.2	+1.4% pt
RORWA (%)	2.04	1.56	+0.48% pt

1. Fee income and expenses have been restated where expenses directly attributable to fee income are presented net of fee income.
2. Calculated based on profit attributable to equity holders of the Bank, net of preference share dividends and perpetual capital securities distributions.

# 2Q18 Financial Overview

## Net Profit After Tax<sup>1</sup> (NPAT) Movement, 2Q18 vs 1Q18

(SGD m)



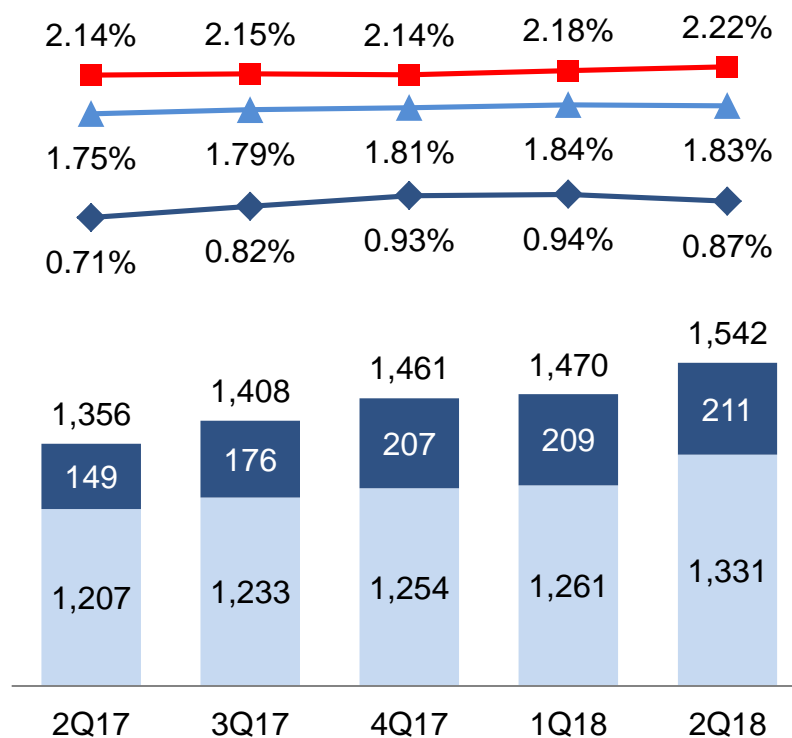
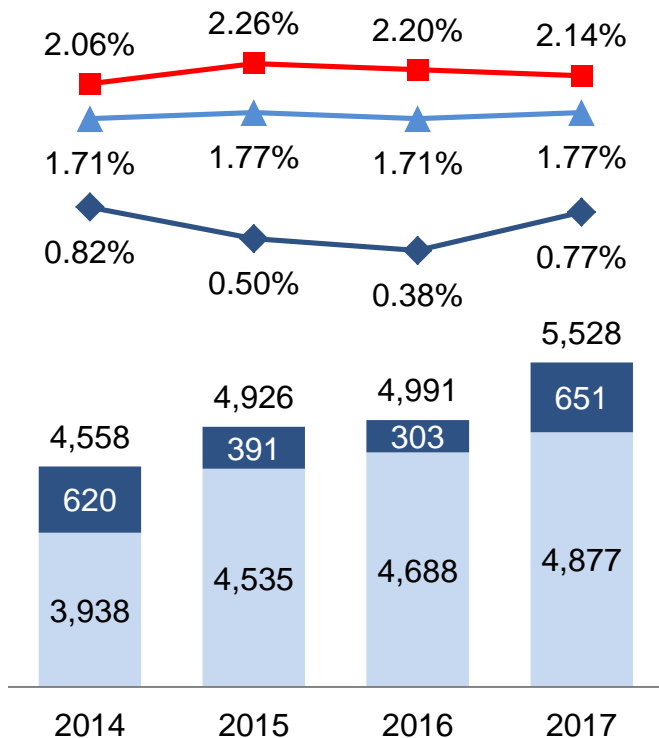
Key Indicators	2Q18	1Q18	QoQ Change	2Q17	YoY Change
NIM (%) <sup>1</sup>	1.83	1.84	(0.01) pt	1.75	+0.08% pt
Non-NII / Income (%)	34.2	34.1	+0.1% pt	35.9	(1.7) pt
Expense / Income ratio (%)	43.6	44.2	(0.6) pt	43.8	(0.2) pt
ROE (%) <sup>1, 2</sup>	12.1	11.0	+1.1% pt	10.3	+1.8% pt
RORWA (%) <sup>1</sup>	2.13	1.95	+0.18% pt	1.61	+0.52% pt

1. Computed on an annualised basis.

2. Calculated based on profit attributable to equity holders of the Bank, net of perpetual capital securities distributions.

# Net Interest Income Rose on Loan Growth and Margin

## Net Interest Income (NII) and Net Interest Margin (NIM)



■ NII from Loans (SGD m)  
■ Loan Margin (%) \*  
▲ Net Interest Margin (%) \*

■ NII from Interbank & Securities (SGD m)  
◆ Interbank & Securities Margin (%) \*

\* Computed on an annualised basis, where applicable.

# Broad-based Increase in Loan Portfolio

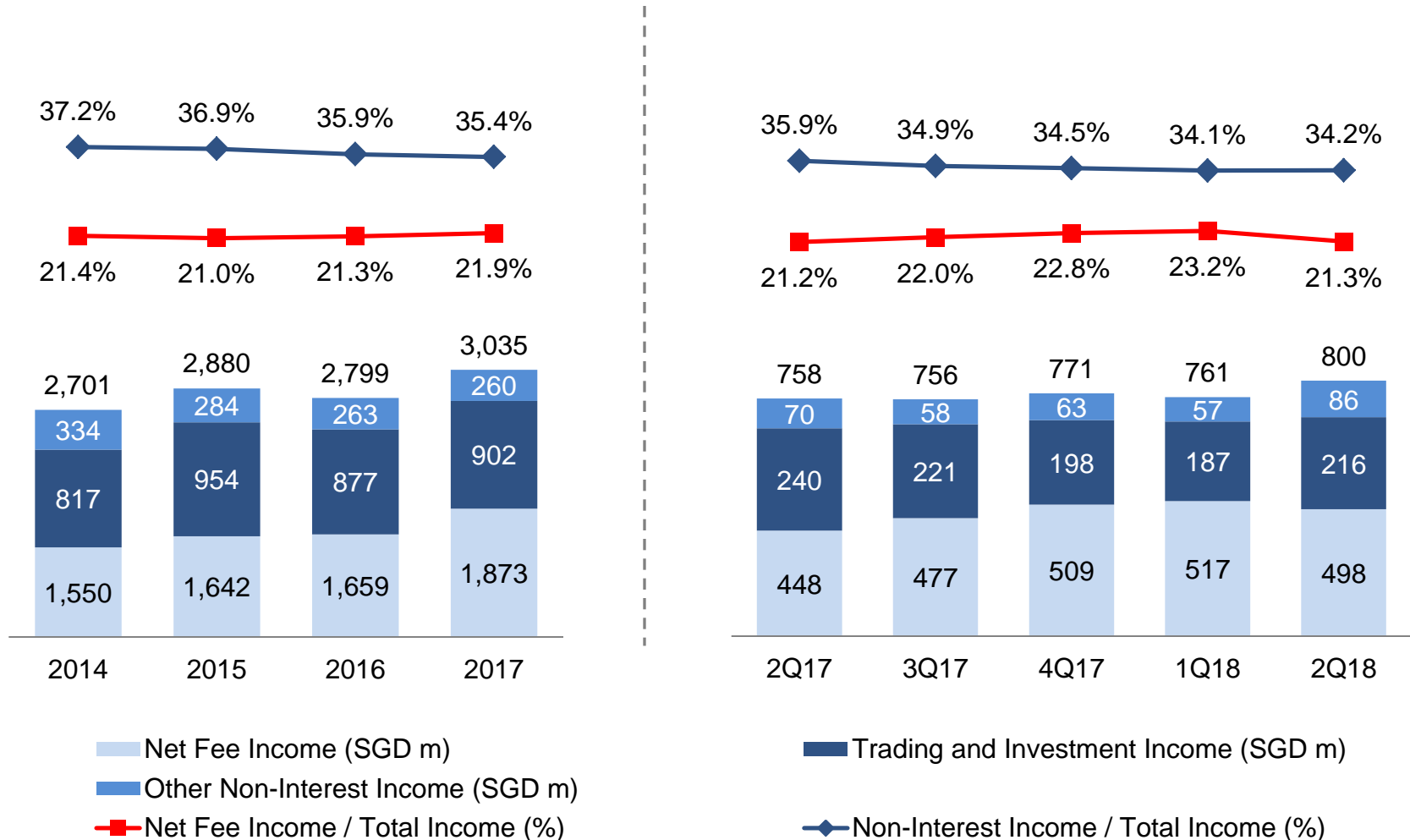


	Jun-18 SGD b	Mar-18 SGD b	QoQ +/(–) %	Jun-17 SGD b	YoY +/(–) %
<b>Gross Loans</b>					
<b><i>By Geography</i></b>					
Singapore	131	129	+2	125	+4
Regional:	94	89	+6	79	+18
<i>Malaysia</i>	29	29	+1	26	+11
<i>Thailand</i>	16	16	+0	14	+13
<i>Indonesia</i>	11	10	+4	12	–6
<i>Greater China</i>	38	34	+13	28	+37
Others	25	24	+8	23	+12
<b>Total</b>	<b>250</b>	<b>241</b>	<b>+4</b>	<b>228</b>	<b>+10</b>
<b><i>By Industry</i></b>					
Transport, storage and communication	10	9	+4	9	+1
Building and construction	58	55	+5	53	+9
Manufacturing	22	20	+9	17	+30
Financial institutions, investment & holding companies	22	19	+12	16	+32
General commerce	31	31	+1	30	+4
Professionals and private individuals	29	28	+2	27	+6
Housing loans	67	67	+1	63	+6
Others	12	11	+4	12	–0
<b>Total</b>	<b>250</b>	<b>241</b>	<b>+4</b>	<b>228</b>	<b>+10</b>

Note: Loans by geography are classified according to where credit risks reside, largely represented by the borrower's country of incorporation / operation (for non-individuals) and residence (for individuals).

# Steady Non-Interest Income Mix Underpins Diversity

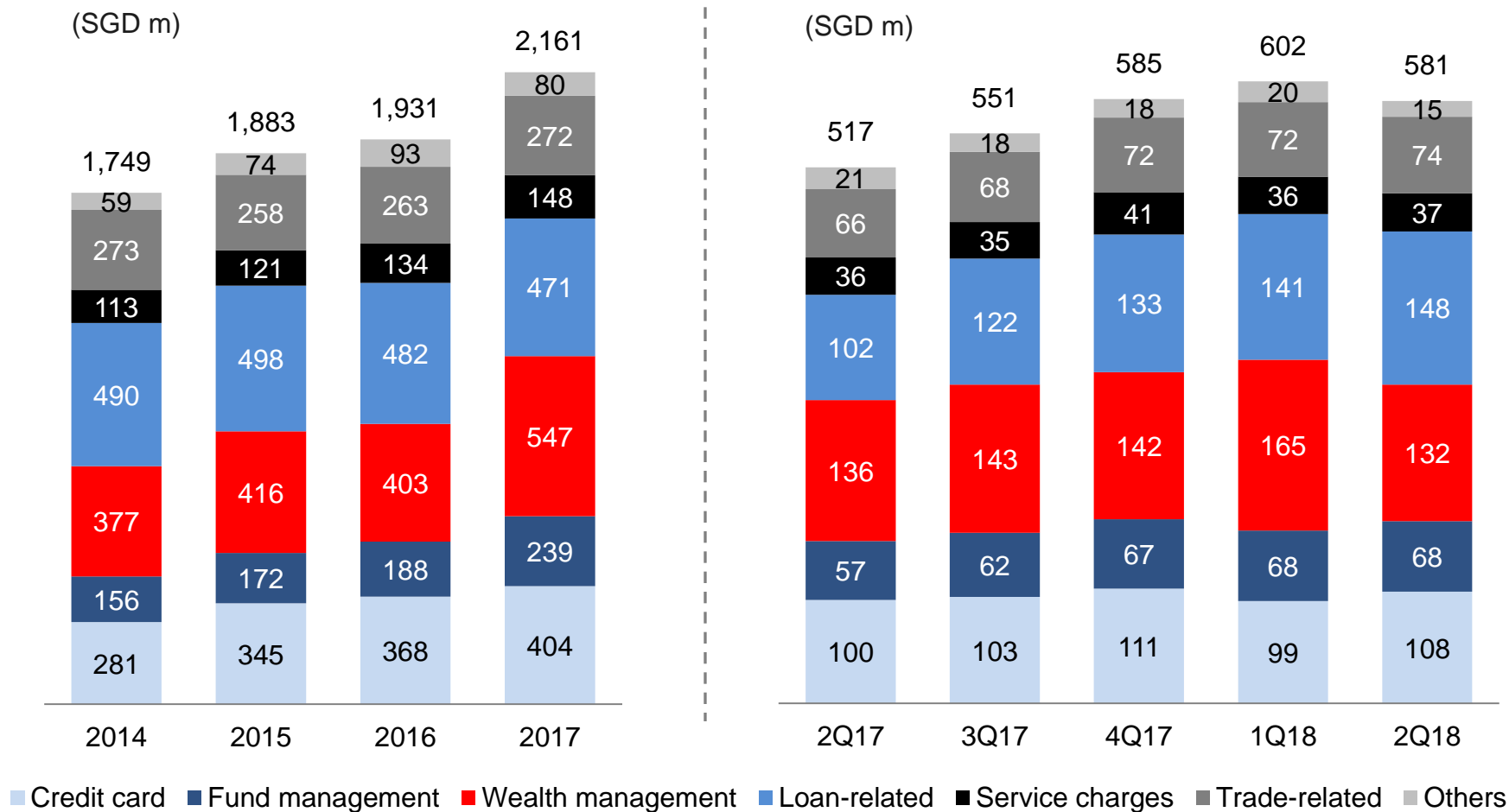
## Non-Interest Income and as a % of Total Income



Note: Fee income has been restated where the amounts are net of expenses directly attributable to fee income.

# Broad-based Focus in Fee Income

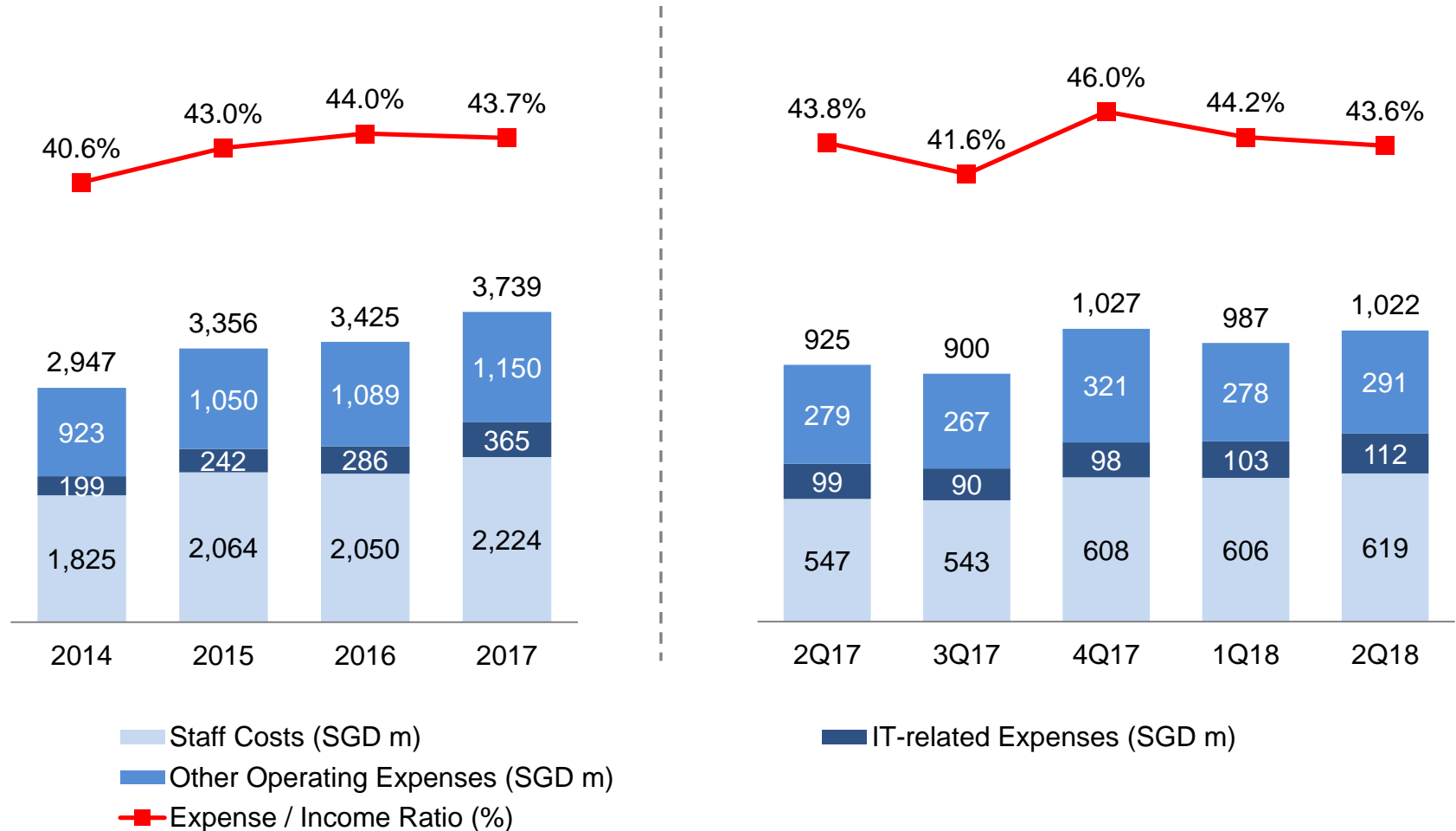
## Breakdown of Fee Income



Note: The amounts represent fee income on a gross basis.

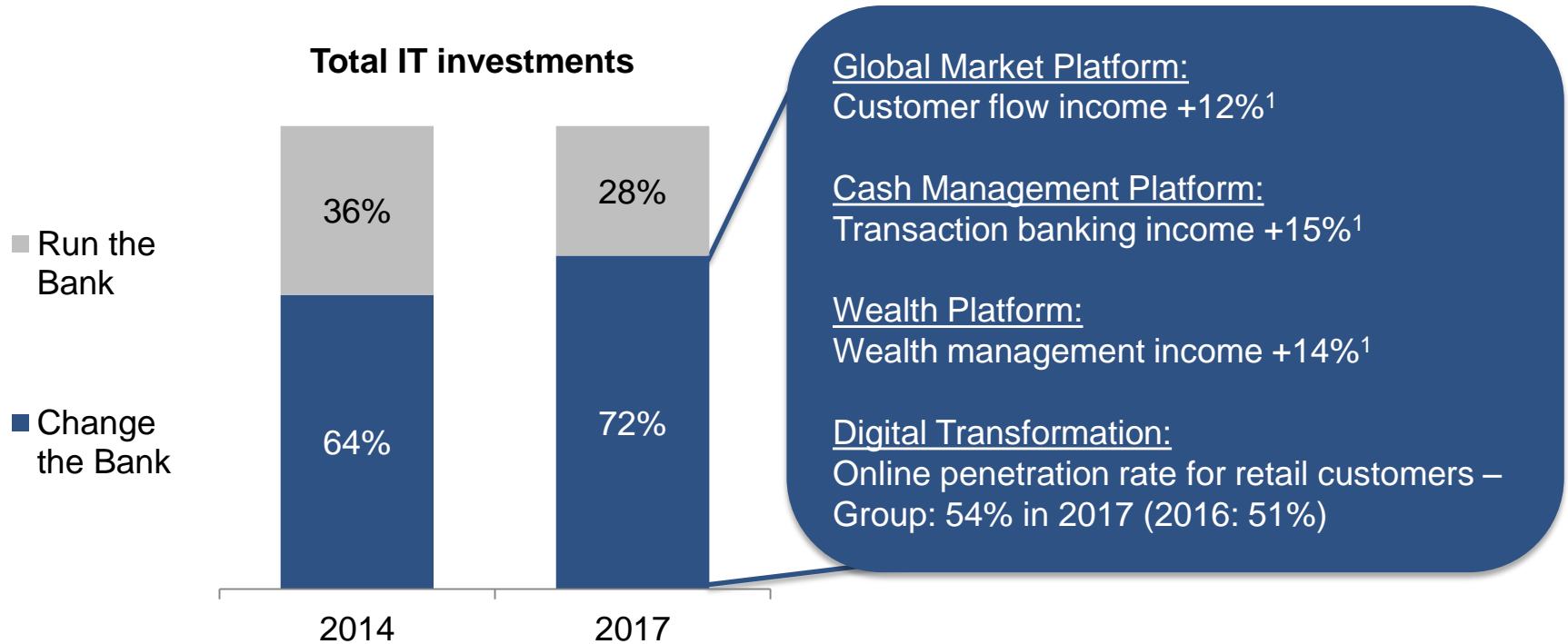
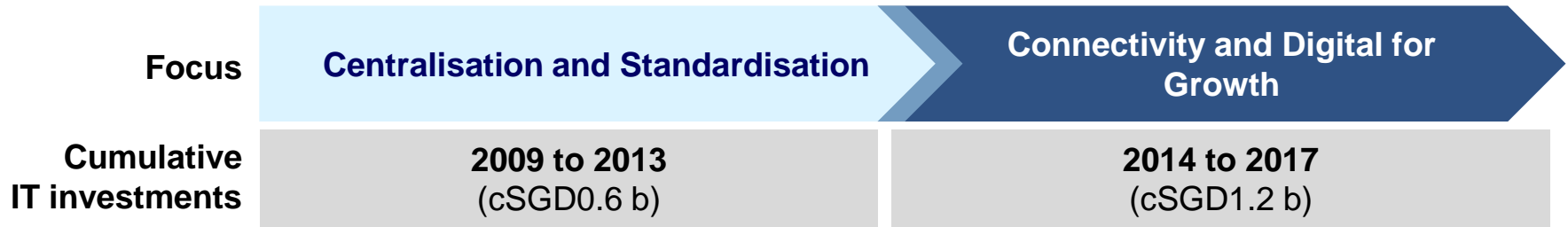
# Pacing Growth in Operating Expenses, with Maintaining a Stable CIR

## Operating Expenses and Expense / Income Ratio



Note: Expenses have been restated where the amounts no longer include expenses directly attributable to fee income.

# IT Investments Shifting Towards “Changing the Bank”



1. CAGR computed over 4 years (2013 to 2017)



# Exposure to China

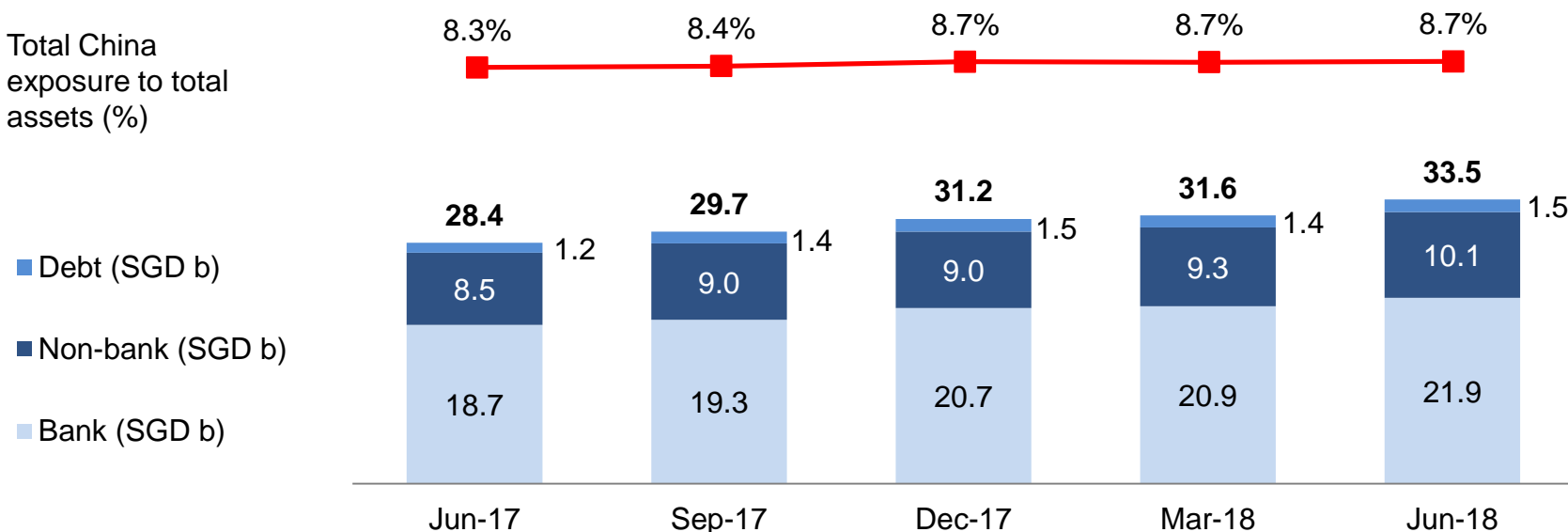
## Bank exposure as of 30 June 2018

- Bank exposure accounted for 65% of total exposure to China
- Top 5 domestic banks and 3 policy banks accounted for 70% of total bank exposure
- 99% with <1 year tenor
- Trade exposures mostly with bank counterparties, representing about half of bank exposure

## Non-bank exposure as of 30 June 2018

- Target customers include top-tier state-owned enterprises, large local corporates and foreign investment enterprises
- NPL ratio at 0.7%
- 50% denominated in RMB
- 50% with <1 year tenor

Total China exposure to total assets (%)



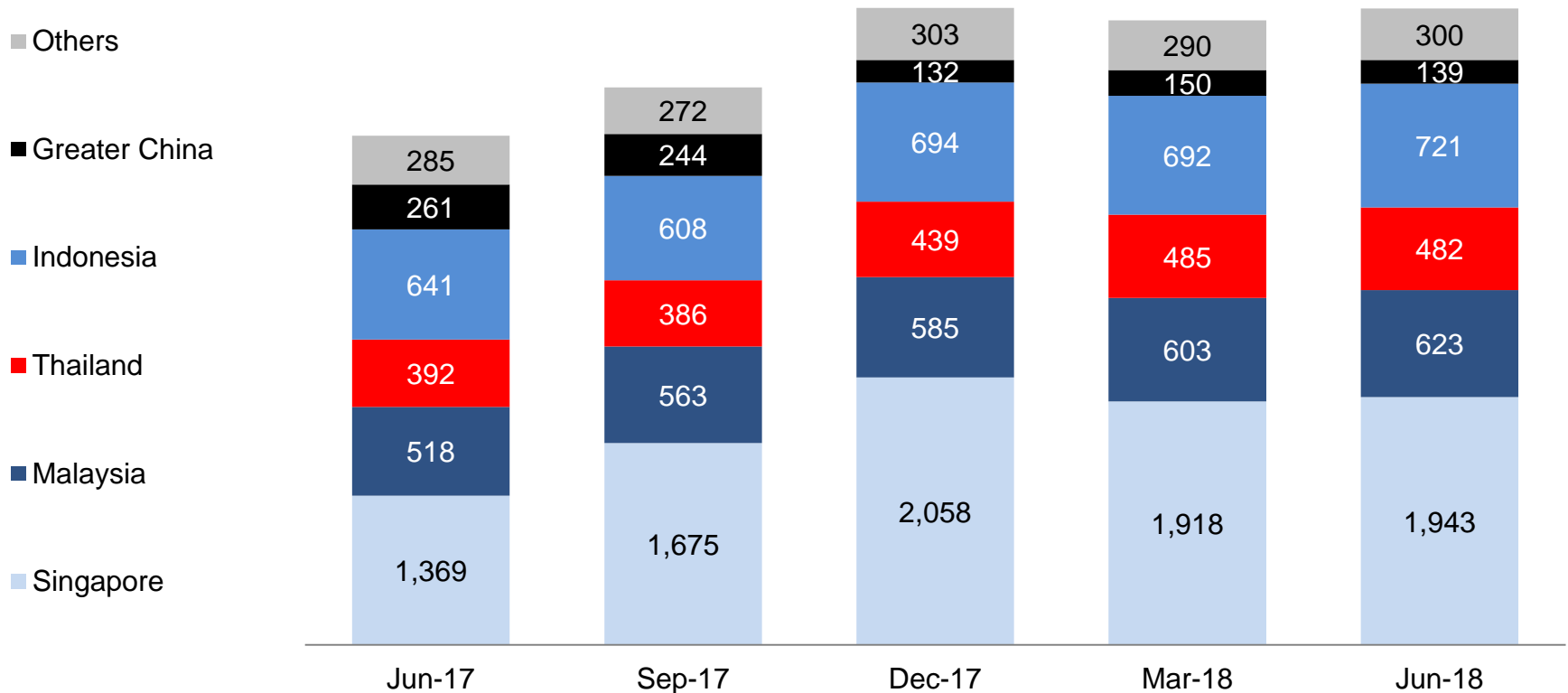
Note: Classification is according to where credit risks reside, largely represented by the borrower's country of incorporation / operation (for non-individuals) and residence (for individuals).

# New NPA Formation Remained at Normalised Levels

(SGD m)	2Q16	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17	1Q18	2Q18
<b>NPA at start of period</b>	3,106	3,164	3,632	3,480	3,543	3,587	3,919	4,389	4,323
New NPA	802	780	387	424	537	799	1,167	416	436
Upgrades, recoveries and translations	(548)	(201)	(320)	(293)	(255)	(369)	(354)	(310)	(212)
Write-offs	(106)	(111)	(219)	(68)	(238)	(98)	(343)	(172)	(143)
<b>NPA at end of period</b>	3,164	3,632	3,480	3,543	3,587	3,919	4,389	4,323	4,404

# NPL Ratio Stable at 1.7%

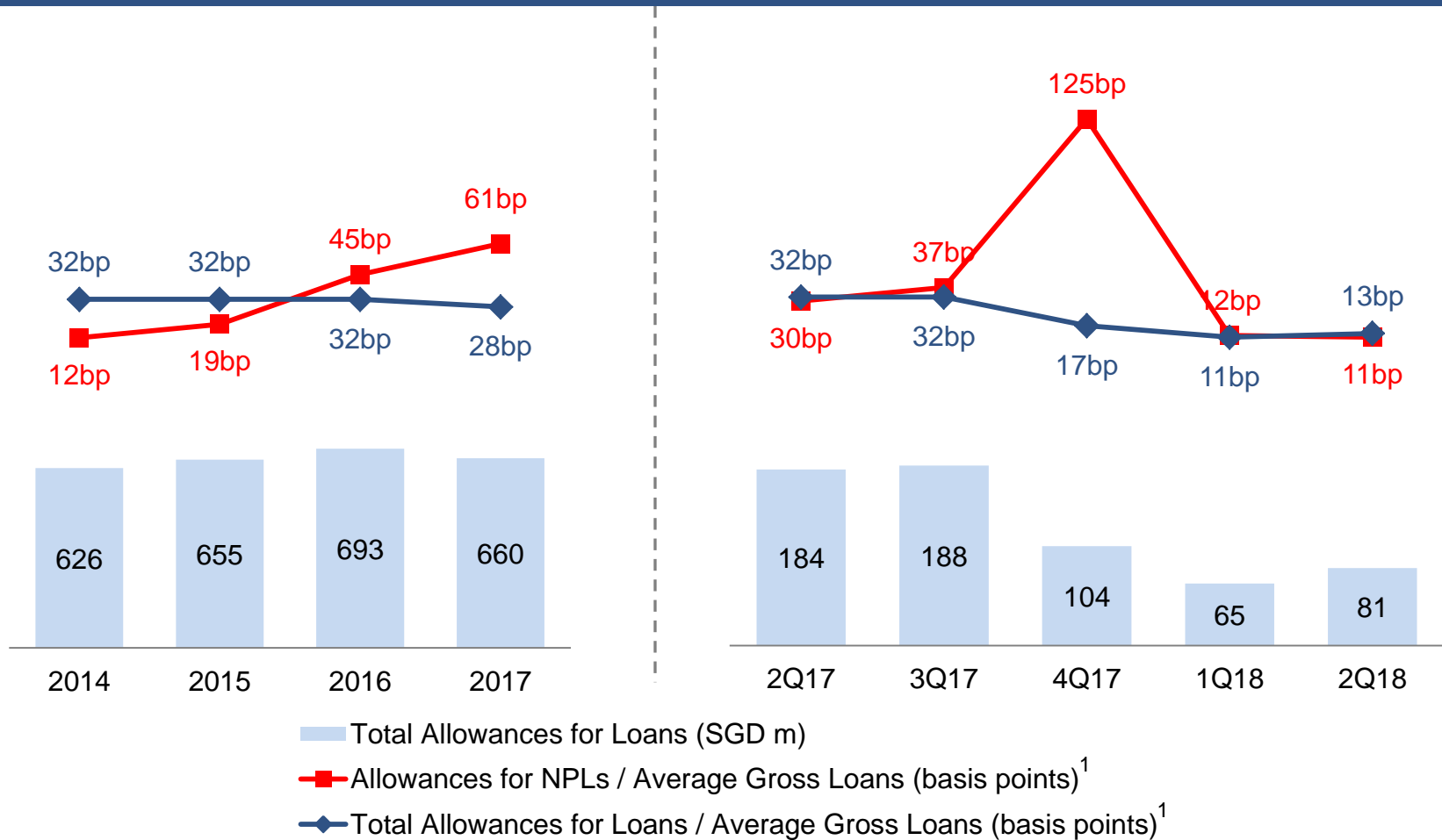
NPL ratio	1.5%	1.6%	1.8%	1.7%	1.7%
NPLs (SGD m)	3,466	3,748	4,211	4,138	4,208



Note: NPLs by geography are classified according to where credit risks reside, largely represented by the borrower's country of incorporation / operation (for non-individuals) and residence (for individuals).

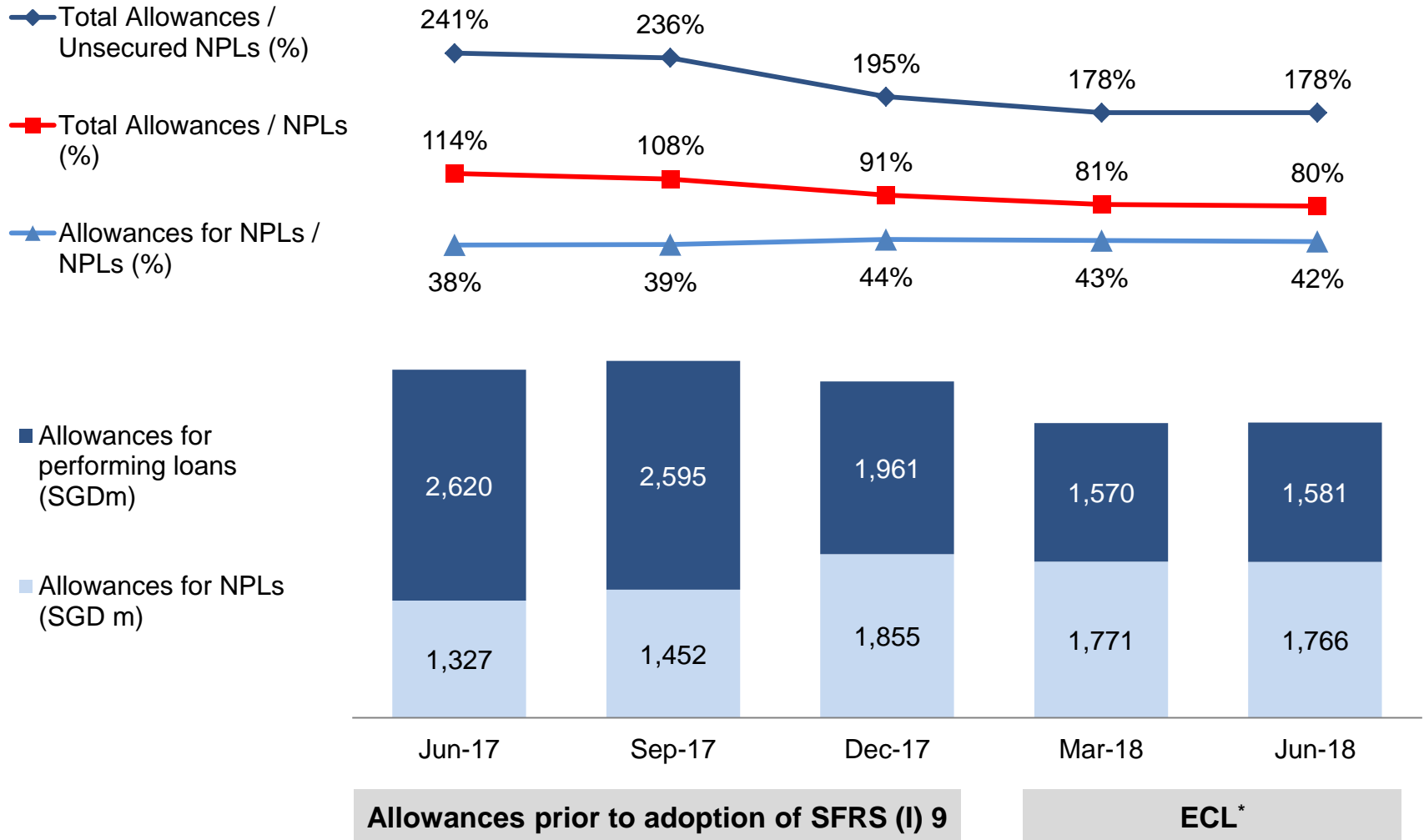
# Low Credit Costs amid Benign Credit Conditions

## Allowances for Loans



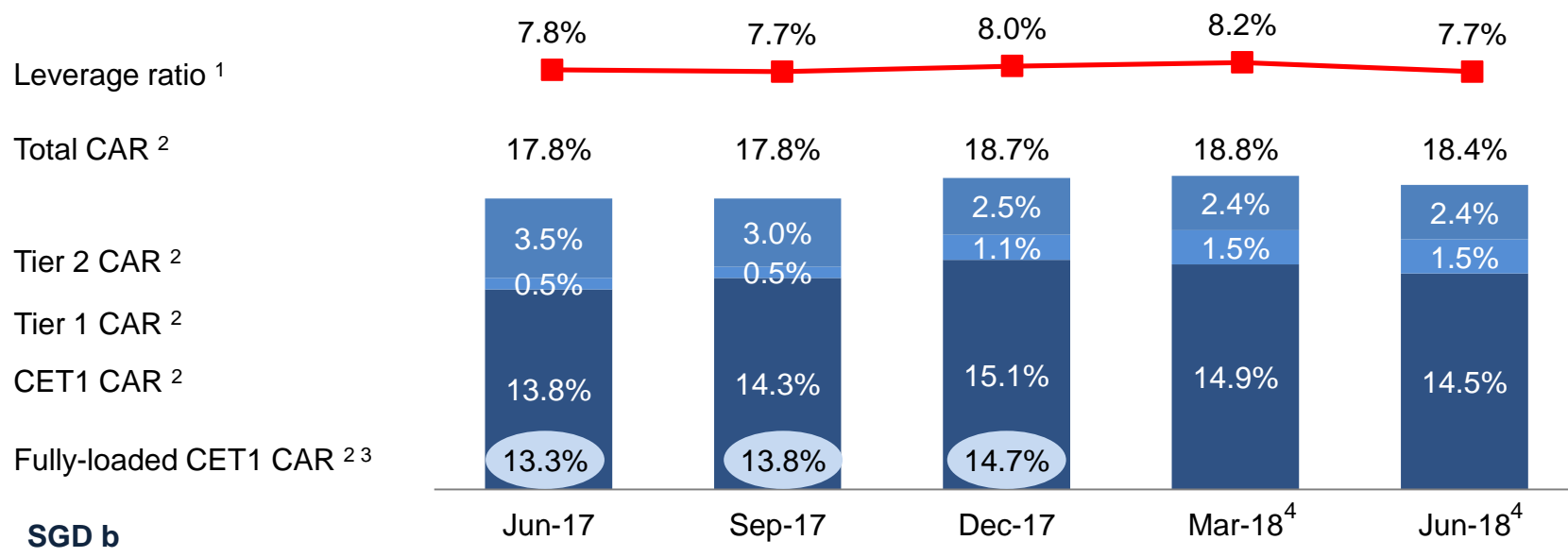
1. Computed on an annualised basis, where applicable.

# Adequate NPL Reserve Coverage Ratios



\* ECL: Expected credit losses under Singapore Financial Reporting Standards (International) 9: Financial Instruments

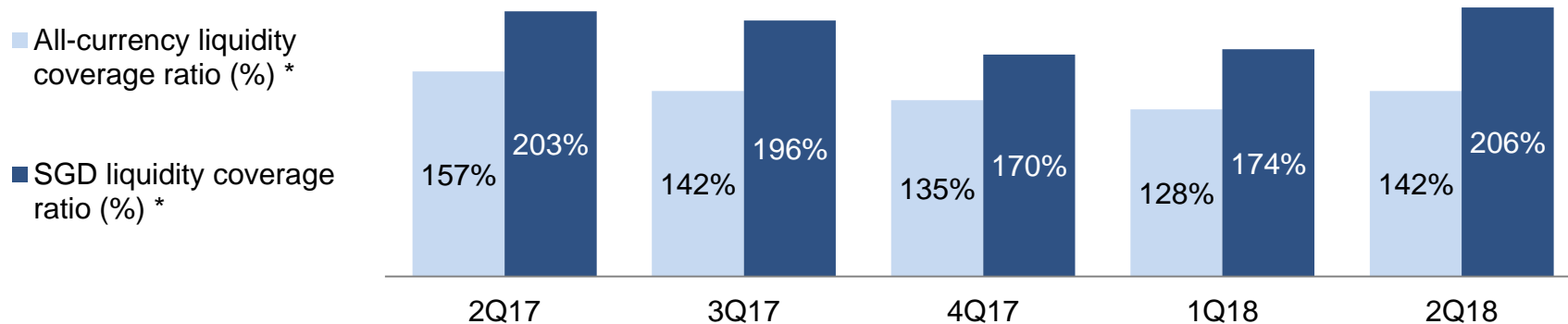
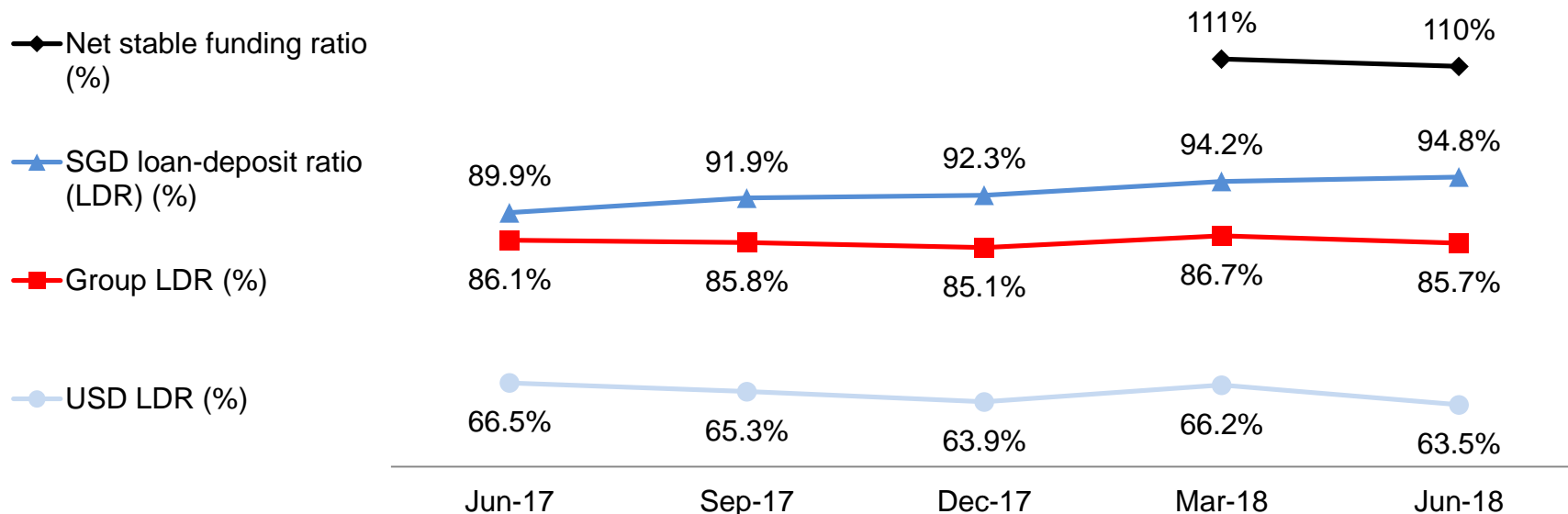
# Strong Capital and Leverage Ratios



<b>SGD b</b>	Jun-17	Sep-17	Dec-17	Mar-18 <sup>4</sup>	Jun-18 <sup>4</sup>
Common Equity Tier 1 Capital	29	29	30	30	30
Tier 1 Capital	30	31	32	33	33
Total Capital	37	37	37	38	38
Risk-Weighted Assets	209	206	199	202	206
<i>Credit</i>	176	180	176	179	182
<i>Market</i>	19	13	9	9	10
<i>Operational</i>	14	14	14	14	14

1. Leverage ratio is calculated based on the revised MAS Notice 637.
2. CAR: Capital adequacy ratio
3. Fully phased in, as per Basel III rules.
4. All capital ratios are fully-phased in from 2018 onwards.

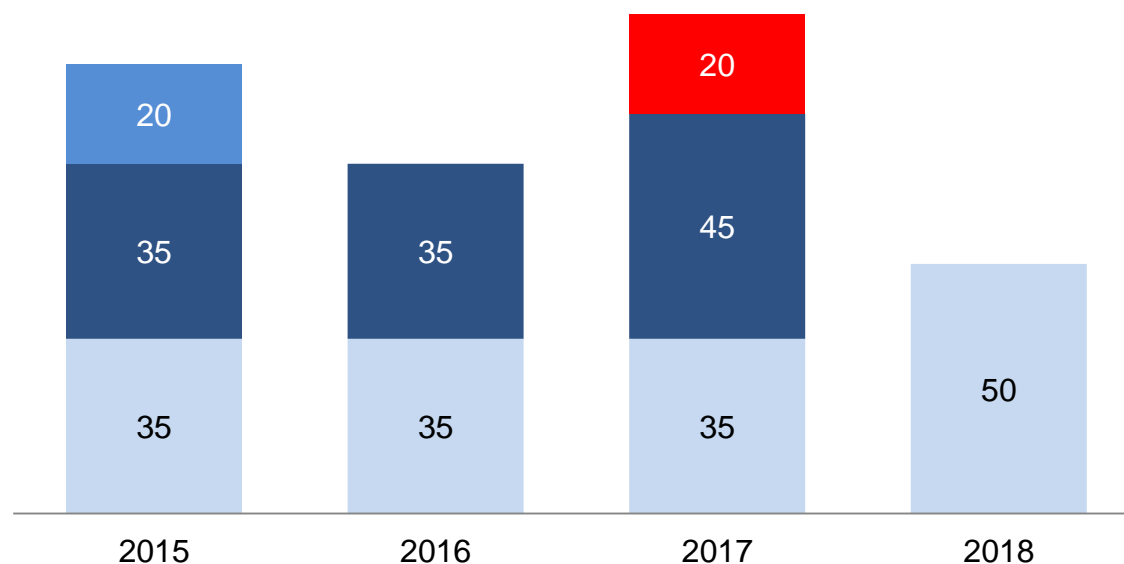
# Stable Liquidity and Funding Position



\* Liquidity coverage ratios are computed on a quarterly average basis

Note: Net stable funding ratio is a new regulatory requirement from 2018 onwards

# Higher Interim Dividend for 1H18



Net dividend per ordinary share (¢)	Interim	Final	Special	UOB 80th Anniversary
Payout amount (SGD m)	1,444	1,135	1,661	835
Payout ratio (%)	45	37	49	41
Payout ratio (excluding special/one-off dividends) (%)	35	37	39	41

**Note:** The Scrip Dividend Scheme was applied to UOB 80<sup>th</sup> Anniversary dividend for the financial year 2015; interim and final dividends for the financial year 2016; as well as interim, final and special dividends for the financial year 2017. The Scheme provides shareholders with the option to receive Shares in lieu of the cash amount of any dividend declared on their holding of Shares. For more details, please refer to [http://www.uobgroup.com/investor/stock/dividend\\_history.html](http://www.uobgroup.com/investor/stock/dividend_history.html).





## **Appendix B: Additional Information on UOB's Covered Bond Program**

# Key Features – Use of CPF funds in Residential Property Financing

## What is CPF (Central Provident Fund)?

- CPF, established in 1955, is a comprehensive savings plan that requires working Singapore citizens and permanent residents to set aside funds for their retirement, healthcare and housing needs.
- Both employees and employers make monthly CPF contributions
- These contributions go into three accounts



### Ordinary Account (OA)

For housing, insurance, investment and education



### Special Account (SA)

For old age and investment in retirement-related financial products



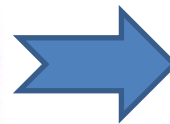
### Medisave Account (MA)

For hospitalisation expenses and approved medical insurance

## Use of CPF for housing loan

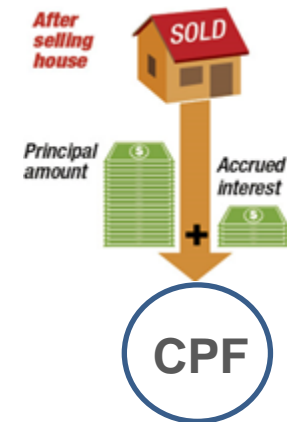
- CPF Members can use their savings (and future monthly contributions) in the Ordinary Account to finance residential property purchase and/or repay the housing loan in part or whole and/or to service the monthly housing loan instalments
- When CPF money is used for housing, a charge (CPF charge) is created on the residential properties in order to secure the refund of CPF money withdrawn, including interest, when the property is sold
- The CPF charge is to be registered after the bank's mortgage over the property

Ordinary Account (OA)



## CPF Board and Priority of Payments

- Under the present regime, if the property is sold (after deducting all costs and expenses incurred directly in connection with the sale), the proceeds will be applied to repay the outstanding housing loan ahead of the CPF money withdrawn



- This order of priority does not apply if the mortgage loans are transferred or assigned by the mortgagee without the CPF Board's consent
- Such consent from the CPF Board has not been obtained at the programme set-up date. To mitigate the risk that the CBG may lose its priority against enforcement proceeds, a declaration of asset trust structure is used for the sale of CPF Loan

# Structural Features/Enhancements

<b>Credit Structure (Dual Recourse)</b>	<ul style="list-style-type: none"> <li>▶ The Covered Bonds will be direct, unsecured and unsubordinated obligations of the Issuer</li> <li>▶ The CBG guarantees the payment of principal and interest under the Covered Bonds pursuant to the Covered Bond Guarantee and secured by the Cover Pool</li> </ul>
<b>Over-collateralisation from the Cover Pool</b>	<ul style="list-style-type: none"> <li>▶ The adjusted aggregate principal amount of the Cover Pool must be equal to or in excess of the outstanding nominal amount of all Covered Bonds, as required by MAS Notice 648 and the rating agencies to maintain the ratings of the Covered Bonds</li> </ul>
<b>LTV Cap</b>	<ul style="list-style-type: none"> <li>▶ Where a mortgage loan has a loan-to-value ratio in excess of 80%, the portion of the loan exceeding the 80% threshold will not be counted in the Asset Coverage Test</li> </ul>
<b>Asset Coverage Test (ACT)</b>	<ul style="list-style-type: none"> <li>▶ The Asset Coverage Test (ACT) is performed monthly by the Cash Manager to test whether the required over-collateralisation level of Cover Pool is maintained</li> </ul>
<b>Amortisation Test</b>	<ul style="list-style-type: none"> <li>▶ The Amortisation Test (AT) is performed monthly by the Cash Manager following the service of a Notice to Pay to test that the Amortisation Test Aggregate Loan Amount is at least equal to the nominal amount of all the outstanding covered bonds</li> </ul>
<b>Pre-Maturity Test (for Hard Bullet only)</b>	<ul style="list-style-type: none"> <li>▶ An Issuer Event of Default will occur where the rating of UOB falls below the rating trigger(s) <u>and</u> the transaction account has not been pre-funded up to the outstanding nominal amount of Covered Bond maturing within the next six months</li> </ul>
<b>Reserve Fund</b>	<ul style="list-style-type: none"> <li>▶ If UOB is downgraded below the rating trigger(s), UOB is required to establish a Reserve Fund equal to the next three months of interest due on the Covered Bonds or Covered Bond Swap payments plus one quarter of senior fees due and payable to Trustee, Cash Manager, Account Bank, Servicer, Asset Monitor</li> </ul>
<b>Commingling Reserve Fund</b>	<ul style="list-style-type: none"> <li>▶ If UOB is downgraded below the rating trigger, UOB is required to establish a Commingling Reserve Fund equal to the previous three months<sup>1</sup> or two months<sup>2</sup> of principal and interest collections from the mortgage loans multiplied by the committed collateralisation percentage</li> </ul>
<b>Deposit Set-off</b>	<ul style="list-style-type: none"> <li>▶ Additional collateralisation will be provided by the issuer to cover the potential set-off risk</li> </ul>
<b>Covered Bond Swap(s)</b>	<ul style="list-style-type: none"> <li>▶ The Covered Bond Swap will, where necessary, convert SGD receipts by the CBG into the required currency and interest rate cash flows to match payment on the covered bonds. UOB is the Covered Bond Swap provider and will be required to post collateral and/or be replaced subject to ratings triggers</li> </ul>
<b>Servicer</b>	<ul style="list-style-type: none"> <li>▶ UOB will be the servicer of Loans in the Cover Pool. The servicer role will be transferred to a suitably rated institution if UOB's rating falls below the rating trigger(s)</li> </ul>
<b>Indexation</b>	<ul style="list-style-type: none"> <li>▶ Value of property included in the ACT is adjusted on a quarterly basis</li> </ul>
<b>Investor Report</b>	<ul style="list-style-type: none"> <li>▶ UOB will produce and furnish covered bond investor reports on its website on a monthly basis</li> </ul>
<b>Cashflow Waterfall</b>	<ul style="list-style-type: none"> <li>▶ Following the service of an Asset Coverage Test Breach Notice (not revoked), a Notice to Pay or CBG Acceleration Notice, cash collections from Cover Pool are "trapped" to ensure the asset coverage level is maintained and Covered Bondholders are protected</li> </ul>

1. Pre-service of a Notice of Assignment or a Notice of Assets Trust  
 2. Post-service of a Notice of Assignment or a Notice of Assets Trust

# Key Programme Rating Triggers

Moody's		Trigger Events	S&P		Trigger Events
Long-term	Short-term		Long-term	Short-term	
Aaa	P-1	No impact	AAA	A-1+	No impact
Aa1			AA+		
Aa2			AA		
Aa3			AA-		
A1			A+	A-1	
A2			A		
A3	P-2	<ul style="list-style-type: none"> <li>▶ Pre-maturity Test</li> <li>▶ Reserve Fund</li> </ul>	A-	A-2	<ul style="list-style-type: none"> <li>▶ Pre-maturity Test</li> <li>▶ Reserve Fund</li> <li>▶ Transfer of Account Bank</li> <li>▶ Collateral Posting for Swap(s)<sup>†</sup></li> <li>▶ Procure a Guarantee/Replacement for Swap(s) Provider<sup>†</sup></li> </ul>
Baa1			<ul style="list-style-type: none"> <li>▶ Deposit Set-off</li> <li>▶ Collateral Posting for Swap(s)</li> </ul>		
		Baa2	<ul style="list-style-type: none"> <li>▶ Procure a Guarantee/Replacement for Swap(s) Provider</li> </ul>		
Baa3	BBB-	<ul style="list-style-type: none"> <li>▶ Deposit Set-off</li> <li>▶ Commingling Reserve</li> </ul>			
Below Investment Grade		<ul style="list-style-type: none"> <li>▶ Replacement of Servicer</li> <li>▶ Perfection of Title/Transfer of Asset Trustee</li> <li>▶ Transfer of Account Bank</li> </ul>	Below Investment Grade		<ul style="list-style-type: none"> <li>▶ Replacement of Servicer</li> <li>▶ Perfection of Title/Transfer of Asset Trustee</li> </ul>

Trigger Event	Descriptions
<b>Pre-Maturity Test</b>	<ul style="list-style-type: none"> <li>▶ The Pre-Maturity Test is performed daily for 12 months prior to the Maturity Date in relation to a hard bullet Covered Bond</li> <li>▶ If UOB's unsecured and unsubordinated debt obligations fall below the rating trigger, UOB shall fund the Pre-Maturity Liquidity Ledger in the amount equal to the Required Redemption Amount of the relevant Series of Hard Bullet Covered Bonds</li> </ul>
<b>Reserve Fund</b>	<ul style="list-style-type: none"> <li>▶ The Cash Manager shall, within 5 calendar days, request UOB to fund the Reserve Ledger with an amount equal to the Reserve Fund Required Amount</li> </ul>
<b>Collateral Posting (Swap)</b>	<ul style="list-style-type: none"> <li>▶ The Swap Provider will be required to provide collateral pursuant to a one-way credit support annex</li> </ul>
<b>Account Bank</b>	<ul style="list-style-type: none"> <li>▶ If the Account Bank falls below the rating trigger, then its rights and obligations are required to be transferred to another bank</li> </ul>
<b>Deposit Set-off</b>	<ul style="list-style-type: none"> <li>▶ Additional collateralisation will be provided by the issuer to cover the potential set-off amount against borrowers' deposit</li> </ul>
<b>Guarantee/Replacement for Swap(s) Provider</b>	<ul style="list-style-type: none"> <li>▶ The Swap Provider uses commercially reasonable efforts to procure either a guarantee in respect of all present and future obligations or transfer the Cover Pool Swap (if applicable) or Covered Bond Swap</li> </ul>
<b>Replacement of Servicer</b>	<ul style="list-style-type: none"> <li>▶ The Servicer role will be transferred to a suitably rated institution</li> </ul>
<b>Perfection of Title/Transfer of Asset Trustee</b>	<ul style="list-style-type: none"> <li>▶ EA structure: Notification to borrowers for legal perfection</li> <li>▶ DoT structure: Appointment of a replacement Assets Trustee</li> </ul>
<b>Commingling Reserve</b>	<ul style="list-style-type: none"> <li>▶ The Cash Manager shall, within 5 calendar days, request UOB to fund the Reserve Ledger with an amount equal to the Commingling Reserve Fund Required Amount</li> </ul>

UOB's current rating

<sup>†</sup>Rating level based on current selected option

# Asset Coverage Test (ACT)

Adjusted Aggregate Loan Amount



SGD Equivalent of the Aggregate Outstanding Nominal Amount of all Covered Bonds

- ❑ Tested monthly on every Test Date prior to the service of a Notice to Pay and for so long as any Covered Bonds remain outstanding
- ❑ Failure of meeting the ACT on the Test Date after the service of an ACT Breach Notice will constitute an Issuer Event of Default
- ❑ The formula for calculating the Adjusted Aggregate Loan Amount is as follows:

$$\boxed{A} + \boxed{B} + \boxed{C} + \boxed{D} + \boxed{E} - \boxed{Y}$$

**A**

*the lower of:*  
 (a) the sum of the **LTV Adjusted Principal Balance** of each Loan  
 (b) the sum of the **Asset Percentage Adjusted Principal Balance** of each Loan

**B**

the aggregate amount of any Principal Receipts in the Portfolio that have not been applied to acquire further Loans and their Related Security

**C**

the aggregate amount of Advances under the Intercompany Loan and Subordinated Advances under the Subordinated Loan Agreement that have not been applied to acquire further Loans and their Related Security

**D**

any Authorised Investments and Substitution Assets standing to the credit of the Transaction Account

**E**

the amount of any Sale Proceeds standing to the credit of the Transaction Account and credited to the Pre-Maturity Liquidity Ledger

**Y**

(i) 0 or (ii) if the long-term, unsecured, unsubordinated and unguaranteed debt obligation rating of the Seller is rated below BBB by S&P or A3 by Moody's, the Set-Off Amount

**LTV Adjusted Principal Balance** of each Loan means

*the lower of:*

- i. the actual Principal Balance of the relevant Loan in the Portfolio<sup>^</sup>
- ii. the aggregate of the Valuation<sup>†</sup> of each Property multiplied by M<sup>1</sup>

minus

the deemed reductions

1. where, for all Loans that are not Defaulted Loans, 0.80 or such other amount as may be specified under MAS Notice 648; and where, for all Loans that are Defaulted Loans, zero

<sup>†</sup> Adjusted quarterly via indexation

**Asset Percentage Adjusted Principal Balance** of each Loan means

the actual Principal Balance of the relevant Loan<sup>\*\*</sup>

*minus*

the deemed reductions

then multiplied by

the Asset Percentage

<sup>^</sup>Excluding Top-up Loans and Converted Loans

Converted Loans = a non-CPF Loan, in respect of which CPF funds are subsequently drawn by the mortgagor after the sale into the cover pool

# Amortisation Test

Amortisation Test Aggregate Loan Amount



SGD Equivalent of the Aggregated Outstanding Nominal Amount of the Covered Bonds

- ❑ Tested monthly on every Test Date following the service of a Notice to Pay but prior to the service of a CBG Acceleration Notice and for so long as Covered Bonds remain outstanding
- ❑ Breach of the Amortisation Test will immediately constitute a CBG Event of Default and will result the service of a CBG Acceleration Notice
- ❑ The formula for calculating the Amortisation Test Aggregate Loan Amount is as follows:

A



B



C

A

the sum of the “Amortisation Test Principal Balance” of each Loan<sup>^</sup>, which will be the actual Principal Balance of the relevant Loan *multiplied by* M

where, M for all Loans that are not Defaulted Loans, 1; and where, for all Loans that are Defaulted Loans, zero

B

the sum of the amount of any cash standing to the credit of the Transaction Account and the principal amount of any Authorised Investments

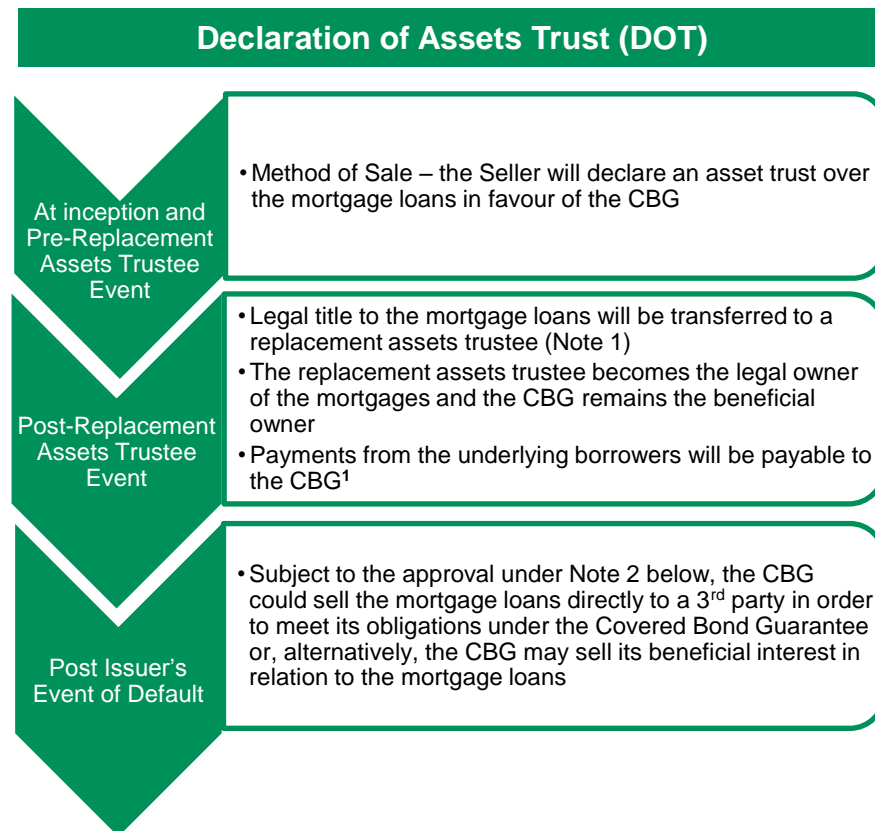
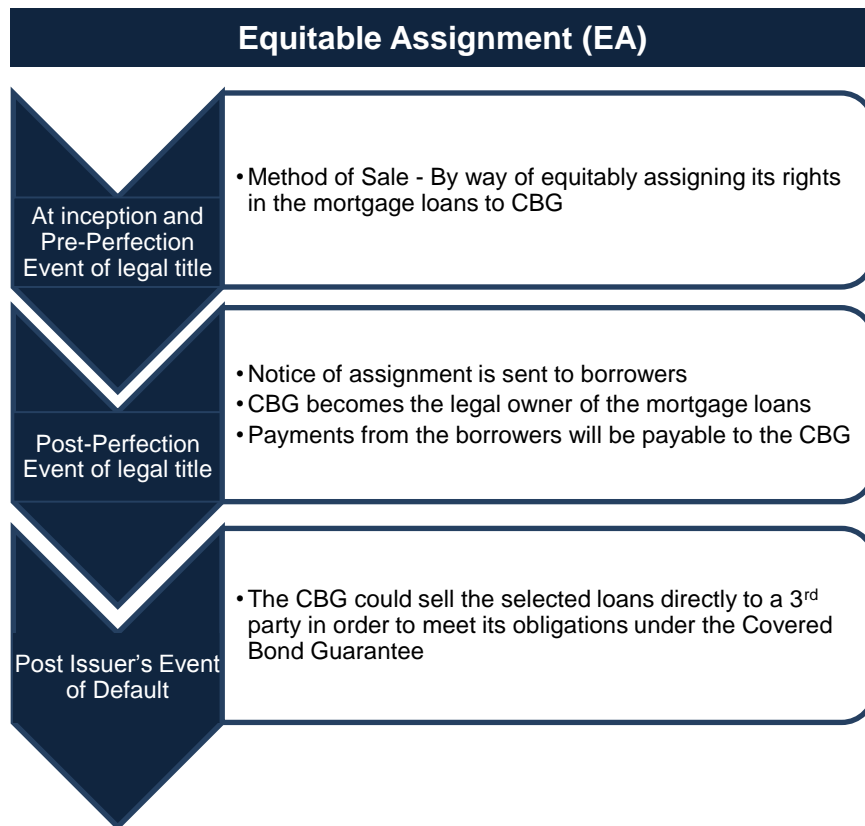
C

any Substitution Asset standing to the credit of the Transaction Account

<sup>^</sup>Excluding Converted Loans

Converted Loans = a non-CPF Loan, in respect of which CPF funds are subsequently drawn by the mortgagor after the sale into the cover pool

# Equitable Assignment versus Declaration of Assets Trust Structure



**Note 1:** The Assets Trustee or the CBG will obtain one of the below three approvals in order for the mortgages relating to the loans under the DOT structure to be transferred to a new trustee unless the consent of the CPF Board is not required:

1. prior consent of the CPF Board;
2. a Section 55B/C Court Order approving the transfer if the proposed transferee is licensed to carry on banking business;
3. a Sections 210/212 Court Order approving the transfer if the proposed transferee is not licensed to carry on banking business and the prior consent of the CPF Board

**Note 2:** The Assets Trustee or the CBG will obtain any one of the approvals in Note 1 for the transfer to the 3<sup>rd</sup> party purchaser

**Additional Note:** Pending transfer to a replacement asset trustee, UOB shall continue to be the Assets Trustee and a sale of the beneficial interest in the assets trust to a 3<sup>rd</sup> party purchaser could still occur. The purchaser would be able to deal with the borrowers and/or enforce the loans (in the name of the assets trustee) via a power of attorney granted by the Assets Trustee

# Covered Bond Legal Frameworks



	Singapore	Australia	Canada	Germany	United Kingdom	Korea
Legal Framework / Regulation	Notice 648 under the Banking Act	Banking Amendment (Covered Bonds) Act 2011	Canadian Covered Bond Law (June 2012)	German Pfandbrief Act	UK Regulated Covered Bond Regulations	Covered Bonds Act of Korea
Regulator	Monetary Authority of Singapore	Australian Prudential Regulation Authority (APRA)	Canada Mortgage and Housing Corporation (CMHC)	Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin)	Financial Conduct Authority (FCA)	Financial Services Commission of Korea (FSC)
Issuers and Program Requirements						
Structure	▶ Direct Issue Structure (with cover pool security ring-fenced via true sale to Covered Bond Guarantor)	▶ Direct Issue Structure (with cover pool security ring-fenced via true sale to Covered Bond Guarantor)	▶ Direct Issue Structure (with cover pool security ring-fenced via true sale to Covered Bond Guarantor)	▶ Direct Issue Structure (with cover pool security registered recorded in the cover register)	▶ Direct Issue Structure (with cover pool security ring-fenced via true sale to Covered Bond Guarantor)	▶ Direct Issue Structure (with cover pool security registered under the Covered Bond ACT)
Eligible Issuers	▶ All banks incorporated in Singapore (including Singapore-incorporated subsidiaries of foreign banks)	▶ Authorized Deposit-taking Institutions (ADI)	▶ Federal Regulated Financial Institutions, Cooperative Credit Society (subject to successful registration)	▶ Regulated Financial Institutions, including Universal Banks and Specialist Mortgage Banks	▶ Authorised Credit Institutions	▶ Licensed Banks (min. KRW 100bn equity capital and BIS ratio ≥10%)
Issuance limit	▶ All the assets of the SPV must not exceed 4% of the bank's total assets	▶ Assets in cover pool must not exceed 8% of issuing ADI's Australian assets"	▶ Limited to 4% of total adjusted assets	▶ No specific limit	▶ No specific limit, but the FCA can set one on a case-by-case basis	▶ Principal amount of all covered bonds must not exceed 4% of such issuer's total asset value
Eligible Cover Pool Assets	<ul style="list-style-type: none"> <li>▶ Residential mortgages</li> <li>▶ Other loans secured by the same residential property</li> <li>▶ Assets that form part of the security for residential mortgage loans (e.g. guarantees and indemnities)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Residential mortgages</li> <li>▶ Commercial mortgages</li> </ul>	▶ Canadian residential mortgage loans	<ul style="list-style-type: none"> <li>▶ Mortgage covered bonds:                             <ul style="list-style-type: none"> <li>▪ Any combination of residential and commercial mortgages</li> </ul> </li> <li>▶ Public sector covered bonds:                             <ul style="list-style-type: none"> <li>▪ Public sector loans</li> </ul> </li> <li>▶ Ship and aircraft finance-backed bonds also permitted</li> </ul>	<ul style="list-style-type: none"> <li>▶ Public sector credits / guarantees</li> <li>▶ Bank debt</li> <li>▶ Secured first-ranking mortgage / real estate loans</li> <li>▶ Shipping, social housing, secured public-private partnership loans</li> </ul>	<ul style="list-style-type: none"> <li>▶ First priority residential mortgages</li> <li>▶ Government / public sector loans and bonds</li> <li>▶ Loans secured by ships or aircraft which are insured by insurance contracts</li> <li>▶ ABS under the ABS Act and MBS under the KHFC Act</li> </ul>



# Covered Bond Legal Frameworks (Continued)



	Singapore	Australia	Canada	Germany	United Kingdom	Korea
Minimum Standards of Asset Quality	<ul style="list-style-type: none"> <li>▶ Residential mortgages ≤80% LTV</li> </ul>	<ul style="list-style-type: none"> <li>▶ Residential mortgages ≤80% LTV</li> <li>▶ Commercial mortgages ≤60% LTV</li> </ul>	<ul style="list-style-type: none"> <li>▶ Residential mortgages ≤80% LTV</li> <li>▶ The mortgaged property cannot exceed four residential units</li> </ul>	<ul style="list-style-type: none"> <li>▶ 60% LTV for both residential and commercial mortgage loans</li> <li>▶ 60% LTV for both ship &amp; aircraft loans</li> </ul>	<ul style="list-style-type: none"> <li>▶ 80% LTV for residential mortgage loans</li> <li>▶ 60% LTV for commercial mortgage loans</li> <li>▶ 60% LTV for shipping loans</li> </ul>	<ul style="list-style-type: none"> <li>▶ 70% LTV for residential mortgage loans</li> <li>▶ 70% LTV for loans secured by ships and aircraft</li> <li>▶ Not a loan extended to any person in which an application for bankruptcy or rehabilitation proceedings has been filed or commenced</li> </ul>
Substitution Assets	<ul style="list-style-type: none"> <li>▶ Cash/ cash equivalents (Singapore Government Bonds, Treasury Bills, MAS Bills), may not exceed 15% of cover pool, except under certain circumstances</li> </ul>	<ul style="list-style-type: none"> <li>▶ Cash/ deposit held with ADI and convertible into cash, Bank accepted bills or CDs (1) Repo eligible and mature within 100 days; (2) not issued by issuer of covered bonds; (3) must not exceed 15% of cover pool Government debt instrument issued by Commonwealth/ State/ Territory</li> </ul>	<ul style="list-style-type: none"> <li>▶ Securities issued by Government of Canada</li> <li>▶ May not exceed 10% of cover pool"</li> </ul>	<ul style="list-style-type: none"> <li>▶ Up to 10% could be money claims against the European Central Bank, central banks in European Union or suitable credit institutions</li> <li>▶ Derivatives are eligible under certain conditions but may not exceed 12%</li> </ul>	<ul style="list-style-type: none"> <li>▶ Sterling ST investments, Bank deposits, Debt securities with min. AA-rating or P-1/A-1+/F1+, AAA-rated RMBS notes, Government debt</li> <li>▶ May not exceed 10% of cover pool</li> </ul>	<ul style="list-style-type: none"> <li>▶ Liquid assets (Cash, CD issued by other FIs &lt;100 days)May not exceed 10% of cover pool</li> <li>▶ Derivatives</li> </ul>
Collateralization	<ul style="list-style-type: none"> <li>▶ Minimum of at least 103%</li> </ul>	<ul style="list-style-type: none"> <li>▶ Minimum of 103%</li> </ul>	<ul style="list-style-type: none"> <li>▶ No legislative minimum</li> <li>▶ Cover pool assets have to be at least equal to liabilities (nominal basis), Market practice to covenant to maintain overcollateralisation of at least 3.0% and 7.5%</li> </ul>	<ul style="list-style-type: none"> <li>▶ Min. of 102% on a stressed net present value (NPV) basis</li> <li>▶ Min. of 100% on an nominal basis</li> </ul>	<ul style="list-style-type: none"> <li>▶ Minimum of 108% (FSA to evaluate each program)</li> </ul>	<ul style="list-style-type: none"> <li>▶ Minimum of 105% on a nominal basis</li> </ul>



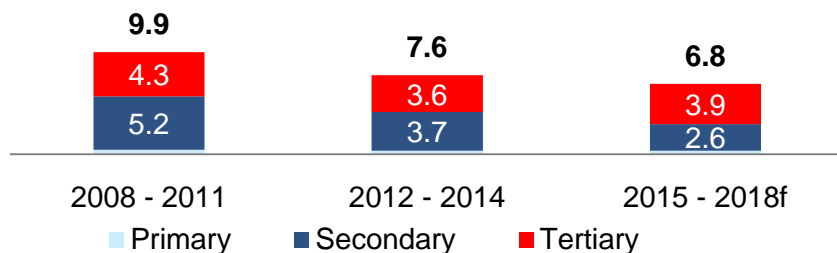
# Appendix C: Macroeconomic Outlook and Banking Regulations

# Trade Tensions Cloud China's Outlook but Low Risk of Hard Landing

- The Chinese economy has its underlying momentum, supported by rebalancing reforms and steady jobs market.
- Low central government debt underpins China's fiscal capacity, which could help mitigate "black swan" events.
- Base case scenario: 2018 GDP to remain in line with the official target of "about 6.5%" growth, trade tensions with US to pose more downside risk in 2019, this together with US monetary tightening would result in more volatility in capital flows and RMB. PBoC has eased credit conditions and used its fiscal levers to provide targeted support.

## Structural Shift of China's Economy

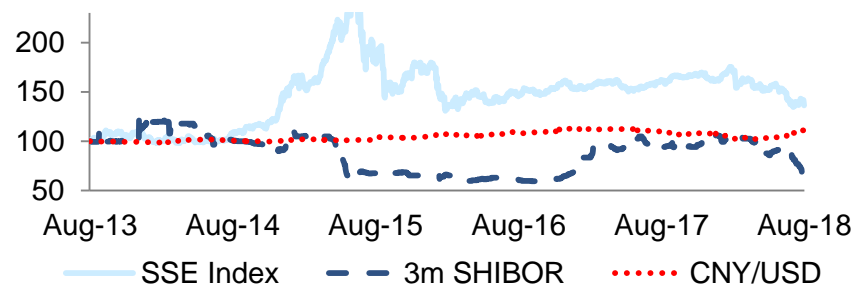
(Average Contribution to GDP growth rate, %)



Source: IMF, CEIC, UOB Global Economics & Markets Research

## Episodes of Market Volatility Contained

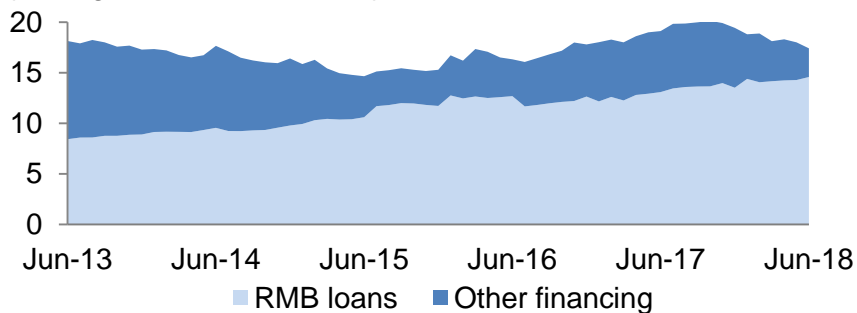
(Aug'13 = 100)



Source: Bloomberg, UOB Global Economics & Markets Research

## New Financing Increasingly from Banking Sector

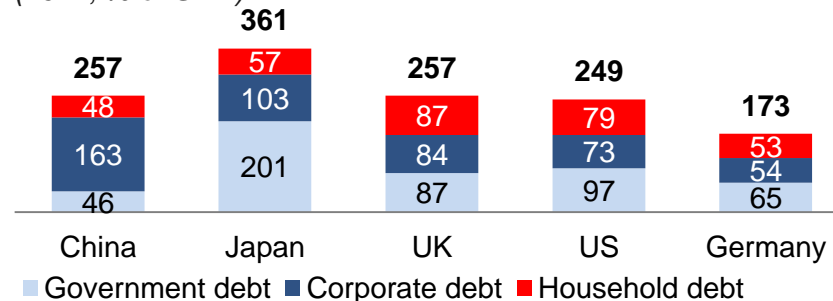
(Rolling 12 months, CNY trn)



Source: PBOC, UOB Global Economics & Markets Research

## Source of China Debt Risk

(2017, % of GDP)

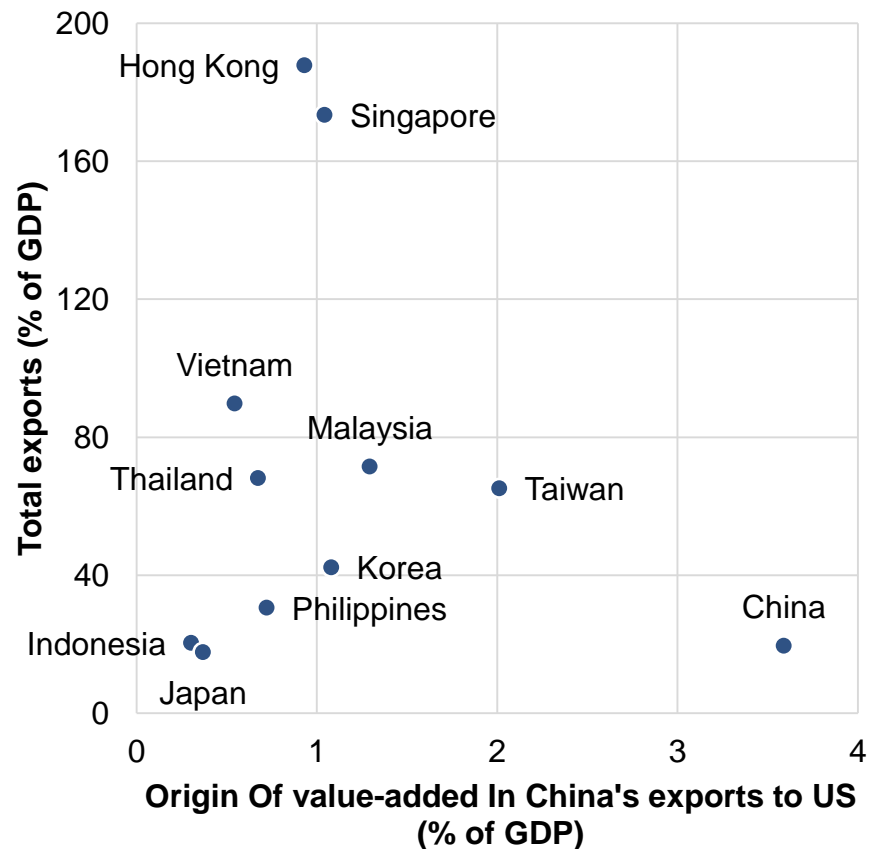
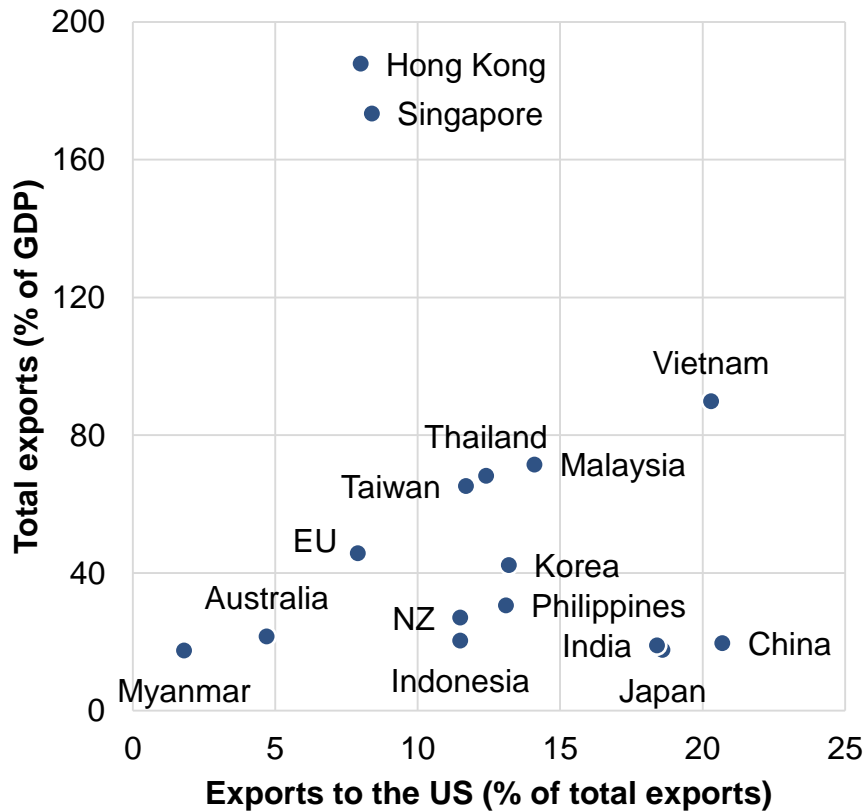


Source: BIS, Macrobond, UOB Global Economics & Markets Research

# Global Trade Tension Negative for Small Open Economies in Asia

**Direct Vulnerability to US Exports: China, Japan, Vietnam and India Stand Out**

**Indirect Vulnerability to US Exports via China: Taiwan, followed by Korea, Singapore & Malaysia**



Sources: CEIC, Bloomberg, UOB Global Economics & Markets Research

Sources: CEIC, OECD (2011 data), UOB Global Economics & Markets Research

# Implication on Regional Policy Rates

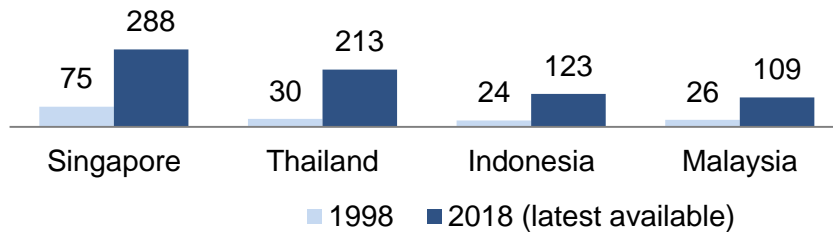
	3Q16	4Q16	1Q17	2Q17	3Q17	4Q17	1Q18	2Q18	3Q18f	4Q18f
US 10-Year Treasury	1.59	2.44	2.39	2.30	2.33	2.40	2.74	2.86	3.00	3.20
US Fed Funds	0.50	0.75	1.00	1.25	1.25	1.50	1.75	2.00	2.25	2.50
SG 3M SIBOR	0.87	0.97	0.95	1.00	1.12	1.50	1.45	1.52	1.75	1.95
SG 3M SOR	0.67	1.01	0.86	0.75	1.01	1.30	1.48	1.59	1.65	1.85
MY Overnight Policy Rate	3.00	3.00	3.00	3.00	3.00	3.00	3.25	3.25	3.25	3.25
TH 1-Day Repo	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.75
ID 7-Day Reverse Repo	5.00	4.75	4.75	4.75	4.25	4.25	4.25	5.25	5.50	5.75
CH 1-Year Deposit Rate	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

- Our steeper Fed rate trajectory in 2018 is still intact. After the June rate hike, we expect two more 25bp-hikes in 2H18 (Sep and Dec), bringing the FFTR to 2.50% by end-2018. Balance-sheet reduction – which began in October 2017 – is set to continue in 2018 and reach its equilibrium level in 2019. A higher degree of convergence in global rates with the US is expected in 2H18, with the exception of Japan.
- Growth in regional economies remains generally firm in 1H18. US-China trade tensions could increase downside risks to growth from 2H18 but our base case remains that parties are likely to work to prevent an all-out trade war. Even as inflation is still very benign, the monetary policy bias remains tilted towards normalisation in 2018, in line with the tightening signals from the G10 central banks. Tariffs and elevated oil prices could add to inflationary pressure ahead.
- Capital flight remains a risk for Asia as the currencies are likely to weaken further in 2H18, and could be worsen if trade tensions escalate. Economies with current account and fiscal deficits could be pressured to tighten their monetary policy.
- Short-term interest rates in Singapore are expected to increase further in 2H18 alongside our expectations for higher Fed rates.

# Southeast Asia: Resilient Key Markets

## Significantly Higher Foreign Reserves

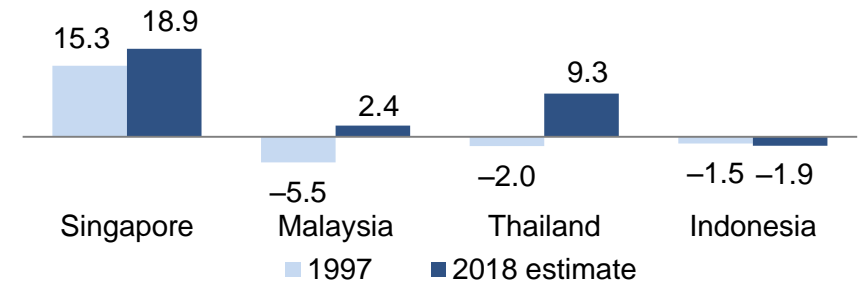
(USD billion)



Source: World Bank, IMF

## Healthy Current Account Balances

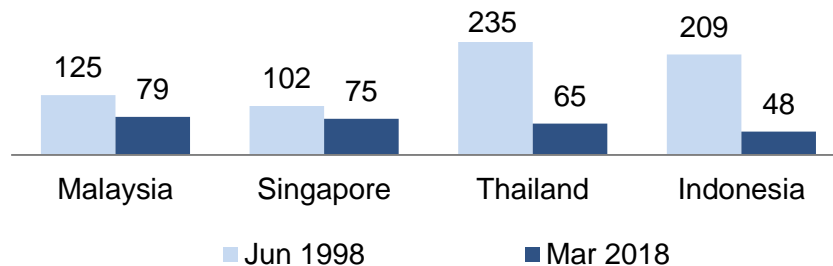
(% of GDP)



Source: IMF

## Lower Debt to Equity Ratio

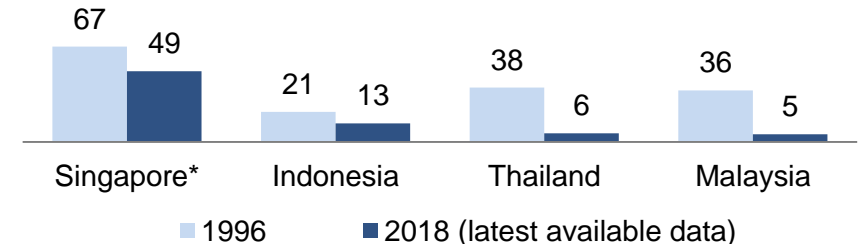
(%)



Total debt to equity ratio = total ST and LT borrowings divided by total equity, multiplied by 100; sources: MSCI data from Bloomberg

## Lower Foreign Currency Loan Mix

(%)



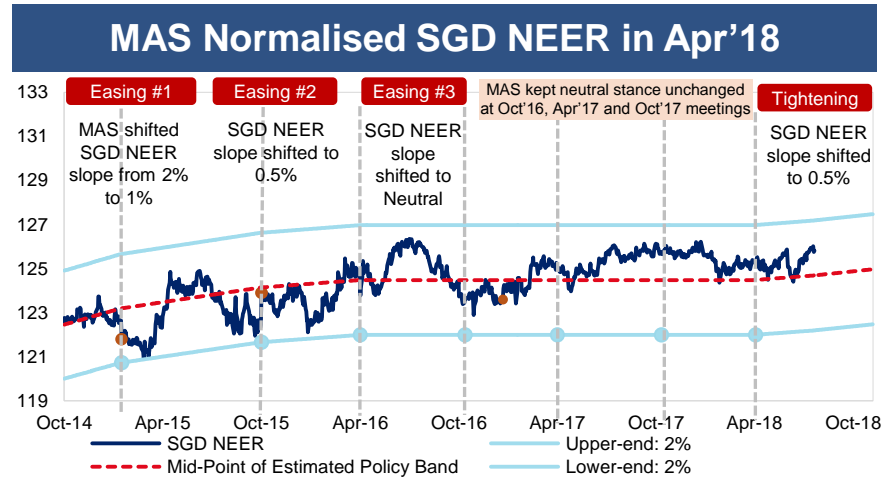
\* Foreign currency loans in 1996 approximated by using total loans of Asia Currency Units; sources: Central banks

**Long-term fundamentals and prospects of key Southeast Asia have greatly improved since the 1997 Asian Financial Crisis.**

# Singapore GDP Growth to Moderate in 2H18

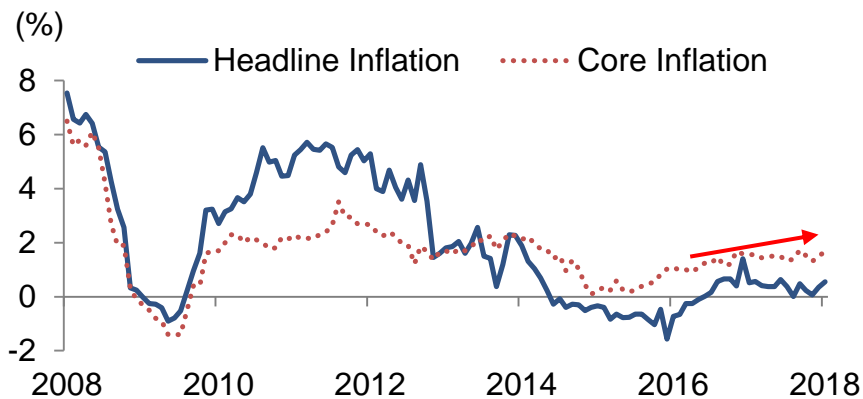
- 2Q18 GDP grew at a slower pace of 3.8% yoy (1Q18: +4.3%), due to a slower expansion in the services and manufacturing sectors. But these sectors are still growing at a healthy clip, leading to positive spillovers into non-trade sectors. Going forward, the slowdown in the tech cycle and global trade tensions may result in slower growth in 2H18.
- Domestically, the MAS had started normalising the SGD NEER policy (exp: 0.5% pa) in Apr'18, due to higher core inflation. The MAS is likely to keep this stance in the upcoming Oct'18 meeting.
- We maintain 2018 GDP growth forecast at 2.8%.

Source: UOB Global Economics & Markets Research



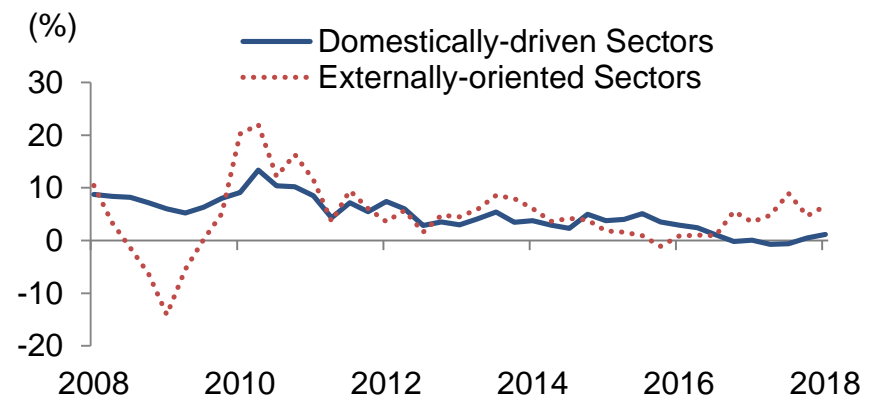
Source: CEIC, UOB Global Economics & Markets Research

## 2018 Core Inflation Expected to Average 1.5%



Source: Singapore Department of Statistics

## External Spillovers to Domestic Sectors

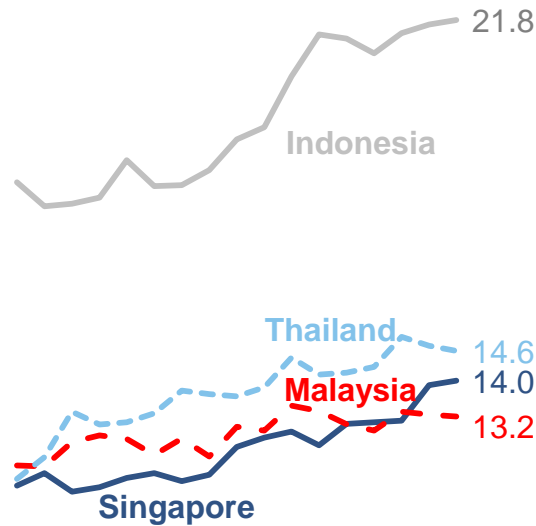


Source: Singapore Department of Statistics

# Southeast Asia Banking Sectors: Strong Fundamentals Remain Intact

## Robust Capital Positions

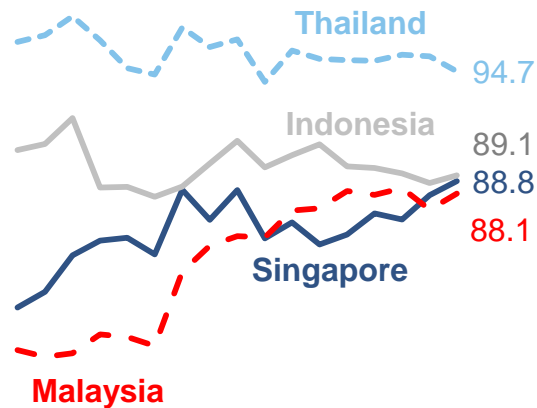
(Common equity Tier 1 capital adequacy ratio, in %)



1Q14 1Q15 1Q16 1Q17 1Q18

## Adequate Loan/Deposit Ratio

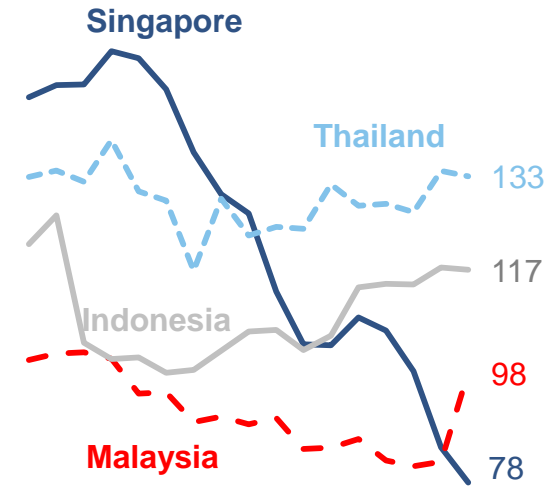
(Loan/deposit ratio, in %)



1Q14 1Q15 1Q16 1Q17 1Q18

## Healthy Reserves

(NPL reserve cover, in %)



1Q14 1Q15 1Q16 1Q17 1Q18

Note: For Singapore, common equity Tier 1 capital adequacy ratio and NPL reserve cover are based on the average of the three Singapore banking groups, while the loans/deposit ratio approximates that of Singapore dollar.

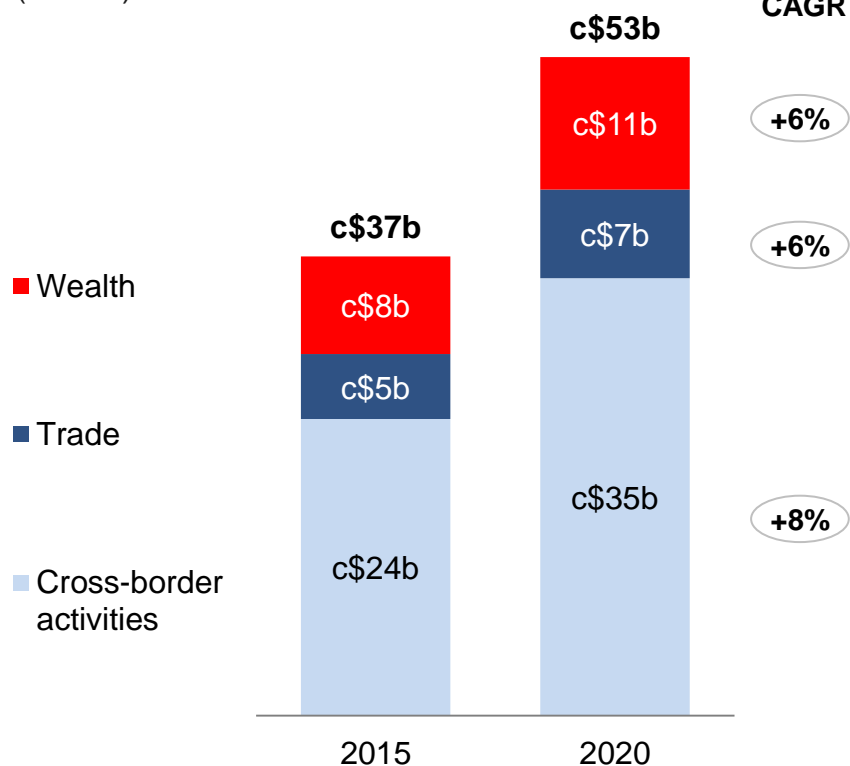
Source: Central banks, banks



# Revenue Potential from 'Connecting the Dots' in the Region

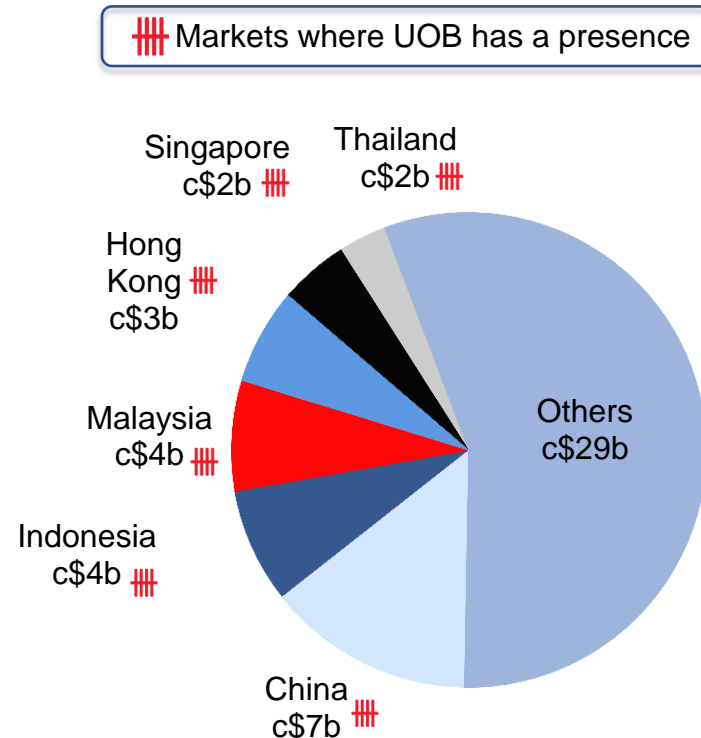
## Industry's Potential Connectivity Revenue

(SGD b)



## Industry's Potential Connectivity Revenue (2020)

(SGD b)



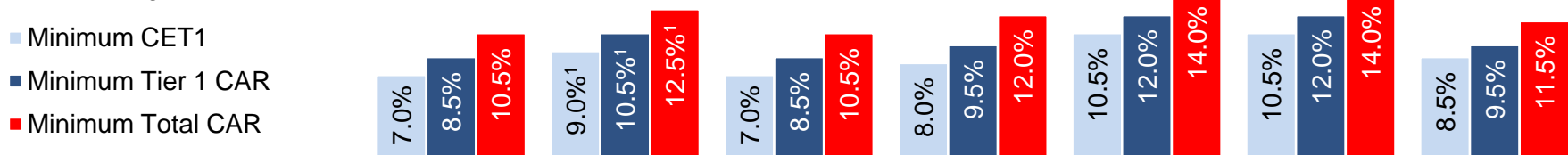
Note: 'Trade' and 'cross-border activities' capture both inbound and outbound flows of Southeast Asia, with 'trade' comprising exports and imports while 'cross-border activities' comprising foreign direct investments and M&A. 'Wealth' captures offshore and onshore assets booked in Singapore as a wealth hub. Incorporating BCG analysis, these are converted into banking revenue potential.

Source: Boston Consulting Group's analysis, Boston Consulting Group Global Banking Revenue pool

# Basel III across the Region

	BCBS	Singapore	Malaysia	Thailand	Indonesia	Hong Kong	China
Minimum CET1 CAR	4.5%	6.5% <sup>1</sup>	4.5%	4.5%	4.5%	4.5%	5.0%
Minimum Tier 1 CAR	6.0%	8.0% <sup>1</sup>	6.0%	6.0%	6.0%	6.0%	6.0%
Minimum Total CAR	8.0%	10.0% <sup>1</sup>	8.0%	8.5%	8.0%	8.0%	8.0%
Full Compliance	Jan-15	Jan-15	Jan-15	Jan-13	Jan-14	Jan-15	Jan-13
Capital Conservation Buffer	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Full Compliance	Jan-19	Jan-19	Jan-19	Jan-19	Jan-19	Jan-19	Jan-19
Countercyclical Buffer <sup>2</sup>	Up to 2.5%	Up to 2.5%	Up to 2.5%	Up to 2.5%	Up to 2.5%	Up to 2.5%	Up to 2.5%
2018 Requirement	n/a	0%	0%	0%	0%	1.875%	0%
D-SIB	n/a	2.0%	Pending	1.0%	1.0%–3.5% <sup>3</sup>	1.0%–3.5%	1.0% <sup>4</sup>
G-SIB	1.0%–3.5%	n/a	n/a	n/a	n/a	n/a	1.0% <sup>4</sup>
Minimum Leverage Ratio	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	4.0%
Full Compliance	2018	2018	2018	2020	2018	2018	2013
Minimum LCR	100%	100%	100%	100%	100%	100%	100%
Full Compliance	Jan-19	Jan-19	Jan-19	Jan-20	Dec-18	Jan-19	Dec-18
Minimum NSFR	100%	100%	100%	100%	100%	100%	100%
Full Compliance	Jan-18	Jan-18	Jan-19	Jul-18	Jan-18	Jan-18	n/a

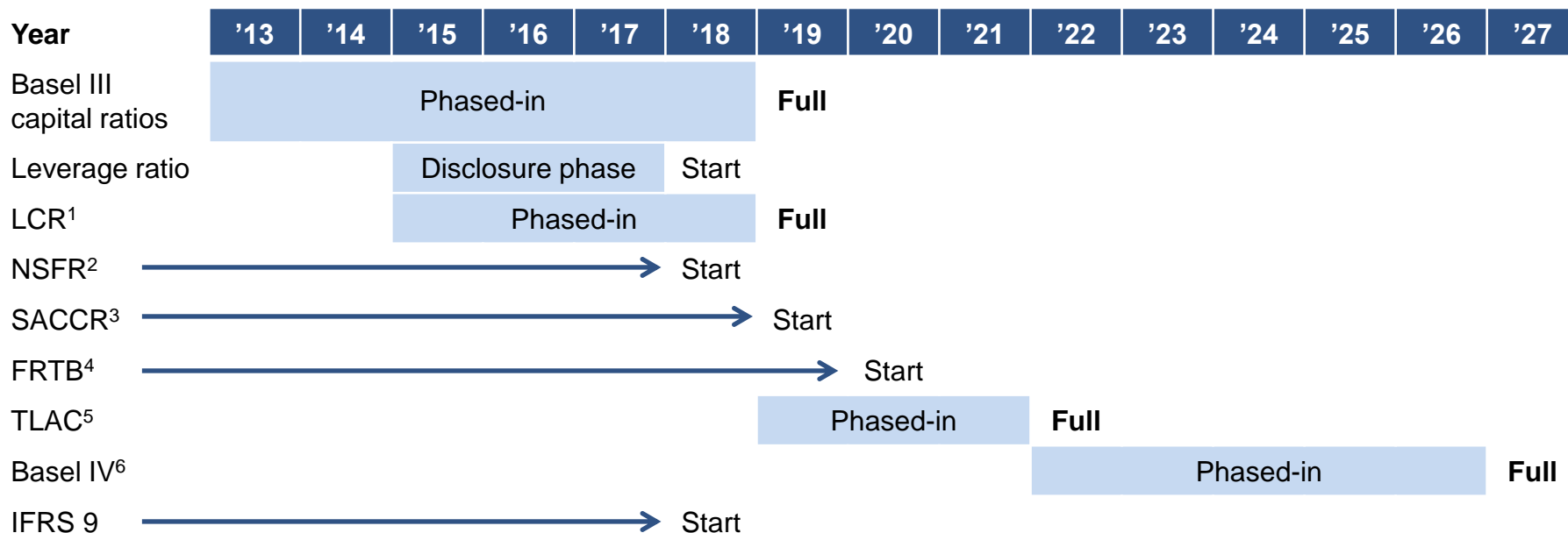
## % of risk weighted assets<sup>5</sup>



Source: Regulatory notifications.

1. Includes 2% for D-SIB buffer for the three Singapore banks.
2. Each regulator determines its own level of countercyclical capital buffer.
3. According to the regulations, Indonesia D-SIBs will initially be subject to a D-SIB buffer of up to 2.5%.
4. In China, G-SIBs are only subject to the higher of G-SIB and D-SIB buffer
5. Minimum ratios on fully-loaded basis, including capital conservation buffer and D-SIB surcharge, but excluding countercyclical capital buffer and G-SIB surcharge

# Banking Regulations Still Evolving



“ Banks need to be profitable in order to be strong. Retained earnings are one of the major sources of equity – which is the highest quality capital that banks hold. Banks also need to be profitable to be able to support the real economy. They have to earn a decent return for intermediating credit, otherwise they will do less of it. ”

– Mr Ravi Menon, Managing Director, Monetary Authority of Singapore, 20 April 2017

“ ...certain liabilities should be excluded from the scope of bail-in because their repayment is necessary to ensure the continuity of essential services and to avoid widespread and disruptive contagion to other parts of the financial system. The proposed scope of bail-in would hence exclude liabilities such as ... senior debt and all deposits. ”

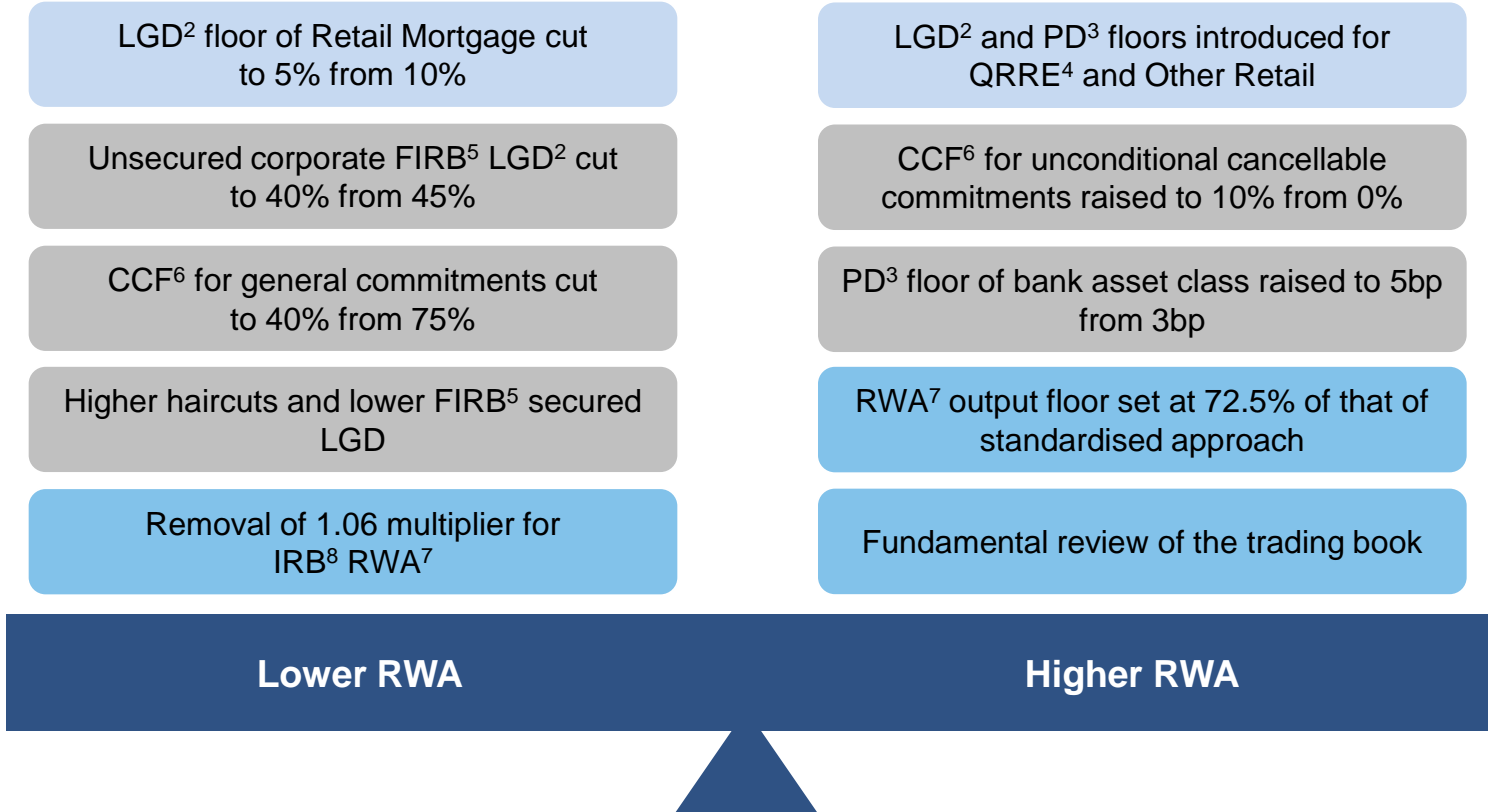
– Consultation Paper by the Monetary Authority of Singapore, June 2015

Source: BCBS

1. Liquidity Coverage Ratio
2. Net Stable Funding Ratio
3. Standardised Approach for measuring Counterparty Credit Risk exposure (MAS has not announced implementation date)
4. Fundamental Review of the Trading Book (MAS has not announced implementation date)
5. Total Loss Absorbing Capacity (not applicable to Singapore banks)
6. Basel IV: Reducing variation in credit risk-weighted assets

# Impact of Basel IV<sup>1</sup> Likely to be Manageable

- Retail credit
- Wholesale credit
- Others



Source: BCBS

1. Basel IV: Reducing variation in risk-weighted assets
2. Loss given default
3. Probability of default
4. Qualifying revolving retail exposures

5. Foundation internal rating-based approach
6. Credit condition factor
7. Risk weighted assets
8. Internal rating-based approach

# Thank You

