

Case Study

CONSTRUCTING PORTFOLIOS WITH SPDR[®] GOLD SHARES (GLD[®])

Strategic Allocation to GLD in a Global Multi-Asset Portfolio

A recent paper, "A Case for Global Diversification: Harnessing the Global Multi-Asset Market Portfolio" by State Street Global Advisors Investment Solutions Group (ISG),¹ examined the global investable opportunity set and its implications for investors. They defined the Global Multi-Asset Market Portfolio (GMP) as the portfolio consisting of all investable capital assets, where the proportion invested in each asset corresponds to that asset's market value divided by the sum of the market value of all assets in the portfolio. It is the sum of all investors' holdings and a de facto proxy for the investable opportunity set available to all investors globally, or what is usually known as the 'market portfolio.'

We examined the results of adding an allocation to GLD comprising 2%, 5%, and 10% of a multi-asset portfolio under a hypothetical scenario. The hypothetical portfolio is based on the concept of the GMP developed by State Street Global Advisors ISG and incorporates additional assumptions for the purpose of our case study. We constructed the hypothetical global multi-asset portfolio by:

- Replicating the asset classes in the GMP with non-investable market indices;
- Slightly adjusting each asset weighting in the GMP to also include commodities in the portfolio and assume no gold exposure at the start (Portfolio A) and;

- Subtracting the weight equally from the equities and government-bonds asset classes (two asset classes with the highest weights) to add in GLD at 2% (Portfolio B), 5% (Portfolio C) and 10% (Portfolio D).

Returns of the hypothetical blended portfolios cover the period between January 1, 2005 and June 30, 2019, and the hypothetical portfolios were rebalanced every 12 months to maintain target portfolio weights.

From the results shown in Figure 1, we found that under our hypothetical scenario:

- Portfolios B, C and D had higher Sharpe ratios, lower maximum drawdowns and lower standard deviations with higher returns compared to Portfolio A;
- Portfolio D had the highest Sharpe Ratio (0.52) and highest cumulative return (135.88%);
- Portfolio D had the lowest maximum drawdown (-29.43%).

The results illustrated that under this hypothetical scenario using broad indices to represent various asset classes that includes allocations of anywhere from 2% to 10% to GLD right after the ETF's inception, the portfolios with allocations to GLD (Portfolios B, C and D) have outperformed the multi asset portfolio with identical exposure to indices but without equivalent allocations to GLD (Portfolio A). From an asset allocation perspective, hypothetical portfolios with a GLD allocation had better risk-adjusted returns.

¹ Frederic Dodard and Abigail Greenway, A Case For Global Diversification: Harnessing the Global Multi-Asset Market Portfolio, IQ Insights, State Street Global Advisors ISG EMEA, 2015.

Figure 1: Hypothetical Blended Portfolio Results

Portfolio	GLD Allocation %	Annualized Return %	Cumulative Return %	Annualized Standard Deviation %	Sharpe Ratio*	Maximum Drawdown (%)
A	0	5.74	124.48	9.52	0.47	-33.29
B	2	5.80	126.44	9.46	0.48	-32.54
C	5	5.92	130.17	9.37	0.49	-31.39
D	10	6.10	135.88	9.31	0.52	-29.43

* Assumes risk-free rate of Citigroup 3-month T-bills.

Source: Bloomberg Finance L.P., FactSet State Street Global Advisors, as of June 30, 2019.

Past performance is not a guarantee of future results. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income. Returns do not represent those of a specific product managed by State Street Global Advisors Funds Management, Inc, but were achieved by mathematically combining the actual performance data of the constituents as listed in Figure 1, according to their weightings detailed in Figure 1. Performance of the hypothetical blended portfolio assumes no transaction and rebalancing costs, so actual results will differ. Performance of SPDR® Gold Shares (GLD™) reflects annual expense ratio of 0.40 percent.

All data based on monthly measures of performance.

GLD's performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted.

Visit spdrs.com for most recent month end performance.

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Figure 2: Asset Class Weightings for Hypothetical Blended Portfolios A, B, C and D

Asset Class	Index	Weighting (%)			
		Portfolio A	Portfolio B	Portfolio C	Portfolio D
Equity	MSCI All Country World Index	40	39	37.5	35
Total Equity		40	39	37.5	35
Government Bonds	Bloomberg Barclays Global Aggregate Government Bond Index	25	24	22.5	20
IG Credit	Bloomberg Barclays Global Aggregate Corporation Bond Index	16	16	16	16
Inflation Linked Bonds	Bloomberg Barclays World Inflation Linked Bond Index	2	2	2	2
HY Bonds	Bloomberg Barclays Global Corporate High Yield Bond Index	2	2	2	2
EM Debt	Bloomberg Barclays Emerging Markets USD Aggregate Bond Index	5	5	5	5
Total Fixed Income		50	49	47.5	45
Real Estate	Global Property Research General Index9286	4	4	4	4
Private Equity	LPX Composite Listed Private Equity Index	4	4	4	4
Commodities	Bloomberg Commodity Index	2	2	2	2
Gold	SPDR® Gold Shares (GLD®)	0	2	5	10
Total Alternative		10	12	15	20
Hypothetical Portfolio Total		100	100	100	100

Source: State Street Global Advisors as of June 30, 2019.

The asset allocation scenario is for hypothetical purposes only and is not intended to represent a specific asset allocation strategy or recommend a particular allocation. Each investor's situation is unique and asset allocation decisions should be based on an investor's risk tolerance, time horizon and financial situation. It is not possible to invest directly in an index.

Figure 3: SPDR® Gold Shares Standard Performance as of June 30, 2019

	1 Month (%)	QTD (%)	YTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	Since Inception 11/18/2004 (%)
NAV	8.73	8.66	9.72	12.23	1.77	0.99	3.78	7.82
Market Value	8.00	9.17	9.86	12.26	1.73	0.79	3.87	7.74
LBMA Gold Price PM	8.76	8.77	10.16	12.68	2.18	1.39	4.19	8.25

Performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. Visit spdrs.com for most recent month end performance.

Gross Expense Ratio: 0.40%. The gross expense ratio is the fund's total annual operating expense ratio. It is gross of any fee waivers or expense reimbursements. It can be found in the fund's most recent prospectus.

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Hypothetical blended portfolio performance methodology

Returns do not represent those of a fund but were achieved by mathematically combining the actual performance data of MSCI AC World Daily TR Index, Bloomberg Barclays Global Aggregate Government Bond Index, Bloomberg Barclays Aggregate Global Corporate Bond Index, Bloomberg Barclays Emerging Markets Debt Index, Global Property Research General Index, S&P Listed Private Equity Index, Bloomberg Barclays World Inflation Linked Bond Index, Bloomberg Barclays Global Corporate High Yield Index, S&P GSCI Index, and SPDR® Gold Shares (GLD®) between January 1, 2005 and June 30, 2019. Each portfolio is re-balanced at the beginning of each year to maintain target portfolio weights. The performance assumes no transaction and rebalancing costs, so actual results will differ.

Important Risk Information

The views expressed in this material are the views of George Milling-Stanley, Robin Tsui and Diego Andrade and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

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Investing involves risk, and you could lose money on an investment in GLD.

Investing involves risk, and you could lose money on an investment in SPDR® Gold Trust ("GLD®").

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Commodities and commodity-index linked securities may be affected by changes in overall market movements, changes in interest rates, and other factors such as weather, disease, embargoes, or political and regulatory developments, as well as trading activity of speculators and arbitrageurs in the underlying commodities.

Diversification does not ensure a profit or guarantee against loss.

Investing in commodities entails significant risk and is not appropriate for all investors.

Important Information Relating to SPDR® Gold Trust ("GLD®"):

The SPDR Gold Trust ("GLD") has filed a registration statement (including a prospectus) with the Securities and Exchange Commission ("SEC") for the offering to which this communication relates. Before you invest, you should read the prospectus in that registration statement and other documents GLD has filed with the SEC for more complete information about GLD and this offering. Please see the GLD prospectus for a more discussion of the risks of investing in GLD shares. The GLD prospectus is available by clicking here. You may get these documents for free by visiting EDGAR on the SEC website at sec.gov or by visiting spdrgoldshares.com. Alternatively, the Trust or any authorized participant will arrange to send you the prospectus if you request it by calling 866.320.4053.

GLD is not an investment company registered under the Investment Company Act of 1940 (the "1940 Act") and is not subject to regulation under the Commodity Exchange Act of 1936 (the "CEA"). As a result, shareholders of the Trust do not have the protections associated with ownership of shares in an investment company registered under the 1940 Act or the protections afforded by the CEA.

The value of GLD shares relates directly to the value of the gold held by GLD (less its expenses), and fluctuations in the price of gold could materially and adversely affect an investment in the shares. The price received upon the sale of the shares, which trade at market price, may be more or less than the value of the gold represented by them. GLD does not generate any income, and as GLD regularly sells gold to pay for its ongoing expenses, the amount of gold represented by each Share will decline over time to that extent.

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