

Case For Constructing Portfolios with SPDR® Gold Shares (GLD®)

Strategic Allocation to GLD in a Global Multi-Asset Portfolio

A recent paper, "What is the Portfolio of Assets Held by the World," 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 noninvestable 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 bond 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 December 31, 2020, 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 (0.54) and highest cumulative return (175.09%);
- Portfolio D had the lowest maximum drawdown (-29.72%).

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.

Figure 1 Hypothetical Blended Portfolio Results

Hypothetical Portfolio	GLD Allocation (%)	Annualized Return (%)	Cumulative Return (%)	Annualized Standard Deviation (%)	Sharpe Ratio*	Maximum Drawdown (%)
Portfolio A	0	6.12	158.75	9.89	0.49	-33.55
Portfolio B	2	6.20	161.99	9.82	0.50	-32.79
Portfolio C	5	6.33	166.89	9.73	0.52	-31.65
Portfolio D	10	6.53	175.09	9.64	0.54	-29.72

Assumes risk-free rate of Citigroup 3-month T-bills. Source: Bloomberg Finance L.P., FactSet, State Street Global Advisors, as of December 31, 2020. **Past performance is not a guarantee of future results.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. 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 2, according to their weightings detailed in Figure 2. Performance of the hypothetical blended portfolio assumes no transaction and rebalancing costs, so actual results will differ. Performance of GLD reflects an 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.

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

Asset Class	Investable Market Indices & ETF	Weighting (%)			
		Portfolio A	Portfolio B	Portfolio C	Portfolio D
Equity	MSCI AC World Daily TR Index	40	39	37.5	35
Total Equity		40	39	37.5	35
Government Bonds	Bloomberg Barclays Global Aggregate Government Bond Index TR	25	24	22.5	20
IG Credit	Bloomberg Barclays Global Aggregate Corporation Bond TR Index	17	17	17	17
Inflation Linked Bonds	Bloomberg Barclays World Inflation Linked Bond TR Index	2	2	2	2
HY Bonds	Bloomberg Barclays Global Corporate High Yield Bond TR Index	1	1	1	1
EM Debt	Bloomberg Barclays Emerging Markets USD Aggregate Bond TR Index	3	3	3	3
Total Fixed Income		48	47	45.5	43
Real Estate	Global Property Research General TR Index	6	6	6	6
Private Equity	LPX Composite Listed Private Equity TR Index	3	3	3	3
Commodities	Bloomberg Commodity Index TR	3	3	3	3
Gold	SPDR® Gold Shares (GLD®)	0	2	5	10
Total Alternative		12	14	17	22
Portfolio Total		100	100	100	100

Source: State Street Global Advisors, as of December 31, 2020.

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 December 31, 2020

Portfolio	Cumulative Returns			Annualized Returns				Since Inception 11/18/2004 (%)
	1 Month (%)	QTD (%)	YTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	
NAV	7.26	0.12	23.68	23.68	12.95	11.17	2.56	9.00
Market Value	7.01	0.70	24.81	24.81	12.98	11.93	2.54	8.95
LBMA Gold Price PM	7.09	0.04	24.61	24.61	13.49	12.22	2.99	9.42

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. Performance returns for periods of less than one year are not annualized.

Endnote

- 1 **Frederic Dodard**, CFA®, FRM®, EMEA Head of ISG, **Amy Le**, CFA®, Macro-Investment Strategist, Global Macro Policy Research and **Amlan Roy**, PhD, Head of Global Macro Policy Research, What is the Portfolio of Assets Held by the World, State Street Global Advisors Worldwide Entities, 2019.

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Glossary

Asset Allocation A method of diversification which positions assets among major investment categories. Asset Allocation may be used in an effort to manage risk and enhance returns. It does not, however, guarantee a profit or protect against loss. Diversification does not ensure a profit or guarantee against loss.

Bloomberg Barclays Emerging Markets USD Aggregate Bond TR Index A flagship hard currency Emerging Markets debt benchmark that includes USD-denominated debt from sovereign, quasi-sovereign, and corporate EM issuers.

Bloomberg Barclays Global Aggregate Corporate Bond TR Index Corporate Index is a flagship measure of global investment grade, fixed-rate corporate debt. This multi-currency benchmark includes bonds from developed and emerging markets issuers within the industrial, utility and financial sectors.

Bloomberg Barclays Global Corporate High Yield Bond TR Index A multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive.

Bloomberg Barclays Global Aggregate Government Bond Index TR Government index is a measure of investment grade rated debt from 25 local currency markets. This multi-currency benchmark includes treasury and government-related fixed-rate bonds from both developed and emerging markets issuers.

Bloomberg Barclays World Inflation Linked Bond TR Index Measures the investment-grade, government inflation-linked debt from 12 different developed market countries. Investability is a key criterion for inclusion of markets in this index, and it is

designed to include only those markets in which a global government linker fund is likely and able to invest.

Bloomberg Commodity Index TR A broadly diversified commodity price index distributed by Bloomberg Indexes that tracks 22 commodity futures and seven sectors. No one commodity can compose less than 2 percent or more than 15 percent of the index, and no sector can represent more than 33 percent of the index.

Diversification A strategy of combining a broad mix of investments and asset classes to potentially limit risk, although diversification does not guarantee protection against a loss in falling markets.

Global Property Research General Index A broad-based global real estate benchmark that contains all listed real estate companies that conform to General Property Research's index-qualification rules, bringing the number of index constituents to more than 650. The index's inception date was Dec. 31 1983.

Hypothetical Blended Portfolio Performance Methodology Returns shown in Figure 1 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, 2020. 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. It is not possible to invest directly in an index. Performance of GLD reflects annual expense ratio of 0.40%. The impact of adding GLD to an investor's portfolio will vary based upon an investor's asset allocation decisions and market performance, among other things.

LPX Composite Listed Private Equity Index A broad global listed private equity index whose number of constituents is not limited. The LPX Composite includes all major private equity companies listed on global stock exchanges that fulfils the index provider's liquidity criteria. The index composition is well diversified across listed private equity categories, styles, regions and vintage years. The index has two versions: a price index (PI) and a total return index (TR) that includes all payouts.

MSCI ACWI Index, or MSCI All Country World Index Captures large and mid cap representation across 23 Developed Markets (DM) and 26 Emerging Markets (EM) countries. With 3,050 constituents, the index covers approximately 85% of the global investable equity opportunity set.

Sharpe Ratio A measure for calculating risk-adjusted returns that has become the industry standard for such calculations. It was developed by Nobel laureate William F. Sharpe. The Sharpe ratio is the average return earned in excess of the risk-free rate per unit of volatility or total risk. The higher the Sharpe ratio the better.

Standard Deviation A statistical measure of volatility that quantifies the historical dispersion of a security, fund or index around an average. Investors use standard deviation to measure expected risk or volatility, and a higher standard deviation means the security has tended to show higher volatility or price swings in the past. As an example, for a normally distributed return series, about two-thirds of the time returns will be within 1 standard deviation of the average return.

Important Risk Information

The views expressed in this material are the views of the SPDR® Gold Strategy Team 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

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Additional Risk Information

This communication is not intended to be an investment recommendation or investment advice and should not be relied upon as such.

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

ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETFs' net asset value.

There can be no assurance that a liquid market will be maintained for ETF shares.

Diversification does not ensure a profit or guarantee against loss.

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

Important Information Relating to GLD: 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 detailed 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, GLD 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 GLD 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.

GLD shares trade like stocks, are subject to investment risk and will fluctuate in market value. 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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