

Case For Constructing Portfolios with SPDR® Gold Shares

Gold

October 2023

Strategic Allocation to SPDR Gold Shares in a Global Multi-Asset Portfolio

A recent paper, “Global Market Portfolio: Value of Investable Assets Touches All-time High,” 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 SPDR Gold Shares 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 SPDR Gold Shares 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, 2023, 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 (0.43) and highest cumulative return (176.18%);
- Portfolio D had the lowest maximum drawdown (-31.16%).

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 SPDR Gold Shares right after the ETF’s inception, the portfolios with allocations to SPDR Gold Shares (Portfolios B, C and D) have outperformed the multi asset portfolio with identical exposure to indices but without equivalent allocations to SPDR Gold Shares (Portfolio A). From an asset allocation perspective, hypothetical portfolios with a SPDR Gold Shares allocation had better risk-adjusted returns.

Figure 1 Hypothetical Blended Portfolio Results

Hypothetical Portfolio	SPDR Gold Shares Allocation (%)	Annualised Return (%)	Cumulative Return (%)	Annualised Standard Deviation (%)	Sharpe Ratio*	Maximum Drawdown (%)
Portfolio A	0	5.05	151.91	10.55	0.35	-35.25
Portfolio B	2	5.09	153.47	10.40	0.36	-34.20
Portfolio C	5	5.20	158.92	10.30	0.37	-33.07
Portfolio D	10	5.40	167.91	10.18	0.39	-31.16

* Assumes risk-free rate of Citigroup 3-month bills. Source: Bloomberg Finance L.P., FactSet, State Street Global Advisors, as of September 30, 2023. **Past performance of the scheme is not necessarily indicative of the future performance of the scheme.** 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 SPDR Gold Shares reflects an annual expense ratio of 0.40 percent. All data based on monthly measures of performance. SPDR Gold Shares' 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 [ssga.com](https://www.ssga.com) for most recent month end performance.

Sample portfolio returns shown above are hypothetical and are based on the returns of the underlying market indices in the proportions shown above. Market indices are unmanaged and not subject to fees and expenses which would lower returns. Neither index performance nor sample portfolio performance is intended to represent the performance of any particular mutual fund, exchange-traded fund or product offered by SSGA Funds Management, Inc. SSGA Funds Management, Inc. has not managed any accounts or assets in the strategies represented by the sample portfolios above. Actual performance may differ substantially from the hypothetical performance presented. **Past performance of the scheme is not necessarily indicative of the future performance of the scheme.**

Figure 2

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

		Weighting (%)			
Asset Class	Investable Market Indices & ETF	Portfolio A	Portfolio B	Portfolio C	Portfolio D
Equity	MSCI AC World Daily TR Index	43	42	40.5	38
Total Equity		43	42	40.5	38
Government Bonds	Bloomberg Global Aggregate Government Bond Index TR	24	23	21.5	19
IG Credit	Bloomberg Global Aggregate Corporation Bond TR Index	15	15	15	15
Inflation Linked Bonds	Bloomberg World Inflation Linked Bond TR Index	2	2	2	2
HY Bonds	Bloomberg Global Corporate High Yield Bond TR Index	1	1	1	1
EM Debt	Bloomberg Emerging Markets USD Aggregate Bond TR Index	3	3	3	3
Total Fixed Income		45	44	42.5	40
Real Estate	Global Property Research General TR Index	5	5	5	5
Private Equity	LPX Composite Listed Private Equity TR Index	4	4	4	4
Commodities	Bloomberg Commodity Index TR	3	3	3	3
Gold	SPDR® Gold Shares	0	2	5	10
Total Alternative		12	14	17	22
Portfolio Total		100	100	100	100

Source: State Street Global Advisors, as of September 30, 2023.

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.

Sample portfolio returns shown above are hypothetical and are based on the returns of the underlying market indices in the proportions shown above. Market indices are unmanaged and not subject to fees and expenses which would lower returns. Neither index performance nor sample portfolio performance is intended to represent the performance of any particular mutual fund, exchange-traded fund or product offered by SSGA Funds Management, Inc. SSGA Funds Management, Inc. has not managed any accounts or assets in the strategies represented by the sample portfolios above. Actual performance may differ substantially from the hypothetical performance presented. **Past performance of the scheme is not necessarily indicative of the future performance of the scheme.**

Figure 3

SPDR® Gold Shares Standard Performance as of September 30, 2023

Portfolio	Cumulative Returns			Annualised Returns				Since Inception 11/18/2004 (%)
	1 Month (%)	QTD (%)	YTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	
NAV*	-3.73	-2.28	2.90	11.44	-0.69	9.08	3.08	7.75
Market Value	-4.76	-3.83	1.07	10.85	-1.08	8.74	2.95	7.70
LBMA Gold Price PM	-3.70	-2.18	3.13	11.89	-0.29	9.51	3.49	8.50

Past performance of the scheme is not necessarily indicative of the future performance of the scheme. 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. All results are historical and assume the reinvestment of dividends and capital gains. Visit ssga.com for most recent month end performance. Gross Expense Ratio: 0.40%. The gross expense ratio is the SPDR Gold Trust (the Trust) total annual operating expense ratio. It is gross of any fee waivers or expense reimbursements. It can be found in the Trust's most recent prospectus. **Performance returns for periods of less than one year are not annualised.** * NAV return on the scheme is calculated on a single pricing basis (US\$), on the assumption that all dividends and distributions are reinvested, taking into account all charges which would have been payable upon such reinvestment. **Past performance of the scheme is not necessarily indicative of the future performance of the scheme. Effective 20 March 2015, The SPDR Gold Trust adopted The LBMA Gold Price PM as the reference benchmark price of gold in calculating the NET Asset Value (NAV) of the Trust. Prior to that date, the Trust used the London PM fix as the reference benchmark price in calculating the NAV.**

	Calendar Year Returns (%)				
	2022	2021	2020	2019	2018
NAV*	-0.82	-4.14	23.68	18.36	-1.54
Market Value	-0.77	-4.15	24.81	17.86	-1.94
LBMA Gold Price PM	0.44	-4.33	24.61	18.43	-0.93

Source: Bloomberg Finance L.P. & State Street Global Advisors, as of March 31, 2022. **Past performance of the scheme is not necessarily indicative of the future performance of the scheme.**

* NAV return on the scheme is calculated on a single pricing basis (US\$), on the assumption that all dividends and distributions are reinvested, taking into account all charges which would have been payable upon such reinvestment. **Past performance of the scheme is not necessarily indicative of the future performance of the scheme. Effective 20 March 2015, The SPDR Gold Trust adopted The LBMA Gold Price PM as the reference benchmark price of gold in calculating the NET Asset Value (NAV) of the Trust. Prior to that date, the Trust used the London PM fix as the reference benchmark price in calculating the NAV.**

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, Global Market Portfolio: Value of Investable Assets Touches All-time High, 2022.

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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 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 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 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 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 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 Global Aggregate Government Bond Index, Bloomberg Aggregate Global Corporate Bond Index, Bloomberg Emerging Markets Debt Index, Global Property Research General Index, S&P Listed Private Equity Index, Bloomberg World Inflation Linked Bond Index, Bloomberg Global Corporate High Yield Index, S&P GSCI Index, and SPDR® Gold Shares between January 1, 2005 and March 31, 2023. 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 SPDR Gold Shares reflects annual expense ratio of 0.40%. The impact of adding SPDR Gold Shares 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

Singapore: State Street Global Advisors Singapore Limited, 168 Robinson Road, #33-01 Capital Tower, Singapore 068912 (Company Reg. No: 200002719D, regulated by the Monetary Authority of Singapore). T: +656826-7555. F: +65 6826-7501. This advertisement or publication has not been reviewed by the Monetary Authority of Singapore.

All forms of investments carry risks, including the risk of losing all of the invested amount. Such activities may not be suitable for everyone.

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. Brokerage commissions and

ETF expenses will reduce returns. Frequent trading of ETFs could significantly increase commissions and other costs such that they may offset any savings from low fees or costs. While the shares of ETFs are tradable on secondary markets, they may not readily trade in all market conditions and may trade at significant discounts in periods of market stress.

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.

The offering documents of the Trust may be obtained upon request from SSGA and can be downloaded from the Trust's website: spdrgoldshares.com.

The prospectus in respect of the Singapore offer of the shares (the "Shares") in the SPDR Gold Trust (the "Trust") is available and may be obtained upon request from State Street Global Advisors Singapore Limited ("SSGA") (Co. Reg. No: 200002719D). The value of Shares in the Trust and the income accruing to the Shares, if any, may fall or rise. Investors should read the prospectus of the Trust before deciding whether to purchase Shares. Shares in the Trust are not obligations of, deposits in, or guaranteed by, World Gold Trust Services, LLC, SSGA or any of their affiliates. You may wish to seek advice from a financial adviser before making a commitment to purchase Shares. In the event that you choose not to seek advice from a financial adviser, you should consider whether the Trust is suitable for you. Investors

have no right to request the Sponsor to redeem their Shares while the Shares are listed. It is intended that holders of Shares may only deal in their Shares through trading on the SGX-ST. Listing of the Shares on the SGX-ST does not guarantee a liquid market for the Shares.

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