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# **Invest in Gold**

## A Portfolio Diversifier With Staying Power

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**SPDR® Gold Strategy Team**

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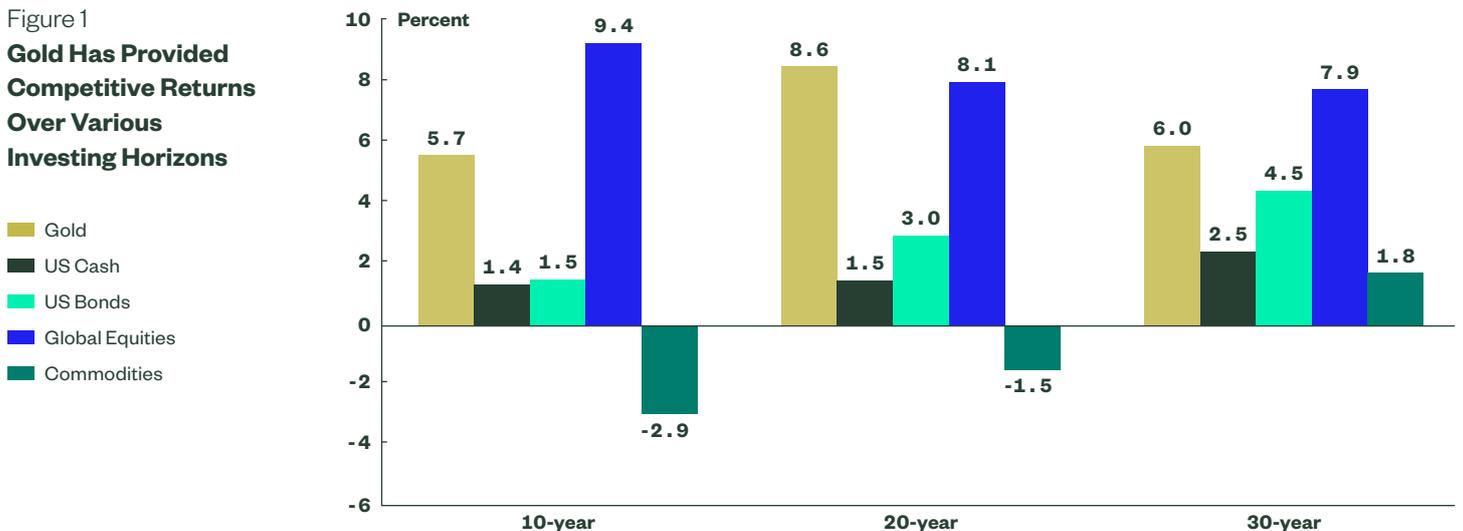
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# Executive Summary

Gold can often appear polarizing, with differing views among investors expressed about its potential benefits. There are many motivating factors for when and why to allocate to gold, with these frequently emerging strongest during extreme periods — either significant market turmoil spurring investors to seek defensive positions, or extreme market rallies in the gold price attracting interest.

Yet, this reactionary treatment of gold drastically overlooks its relevance and unique characteristics as a core strategic position for various long-term investing horizons. From a portfolio perspective, a primary utility for gold is as an effective and robust risk-management tool, a durable mechanism to preserve wealth, and an efficient source of portfolio diversification.

Figure 1  
**Gold Has Provided Competitive Returns Over Various Investing Horizons**



Source: Bloomberg Finance, L.P., State Street Global Advisors. Data as of March 31, 2024. Gold: gold spot price in US dollar, US Cash: ICE BofAML US 3-Month Treasury Bill Index, US Bonds: Bloomberg US Aggregate Total Return Index, Global Equities: MSCI World Total Return Index, Commodities: S&P GSCI Total Return Index. **Past performance is not necessarily indicative of the future performance.**

This paper provides an outline of the primary benefits gold may offer portfolios relative to other major asset classes as well as its distinct contribution to portfolio strategy over the long run. It also examines how including gold in a hypothetical multi-asset portfolio may improve its risk-return characteristics. Results from this case study highlighted that holding between 2% and 10% of SPDR® Gold Shares between January 1, 2005<sup>1</sup> and March 31, 2024, improved each hypothetical portfolio's cumulative return and Sharpe ratio and lowered its maximum drawdowns, as compared to a portfolio without any gold-backed investments.

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# 1 A Risk-Management Tool With Staying Power

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Over the long term, gold stands out as a persevering source of portfolio diversification — a major reason why multi-asset portfolio managers can consider including gold in their portfolio's allocations. Gold's diverse, global demand among both cyclical and countercyclical sectors can help drive two key strategic benefits for portfolios: its persistently low correlations to other asset classes and its ability to protect against tail risks. These characteristics may aid in providing efficient portfolio diversification while reducing portfolio drawdowns and volatility resulting in improved risk-adjusted portfolio performance.

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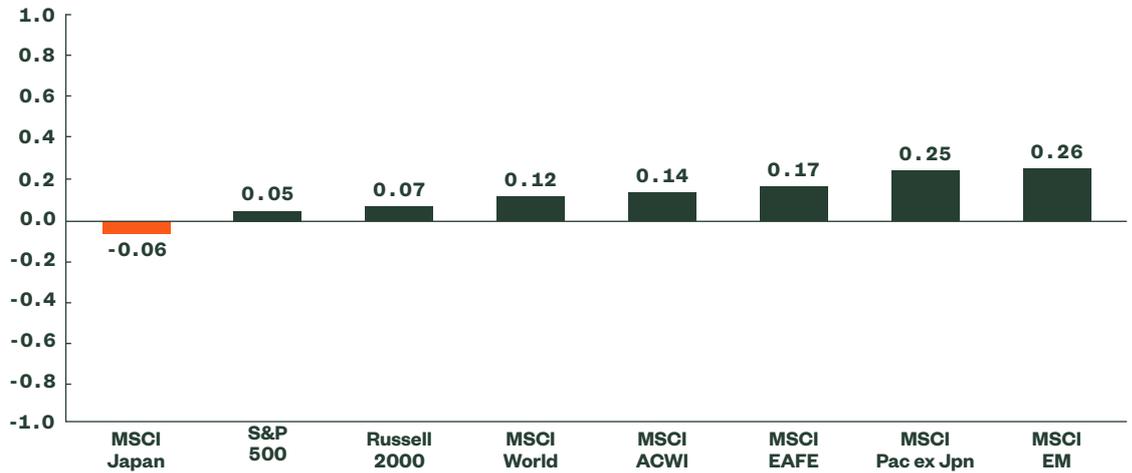
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## Gold Has Maintained a Low Correlation to Financial Assets

All investments carry some degree of risk; the higher the potential return on investment, the more risk an investor must take. When building a multi-asset portfolio, investors must consider not only the potential or forecasted risk-return characteristics of a particular asset class, but also how that asset class or market segment behaves relative to other investments and the impact on the portfolio as a whole. Although many investors tend to focus on constructing portfolios with asset classes offering high forecasted risk-adjusted returns, there are potential benefits to including asset classes that may also move differently relative to one another.

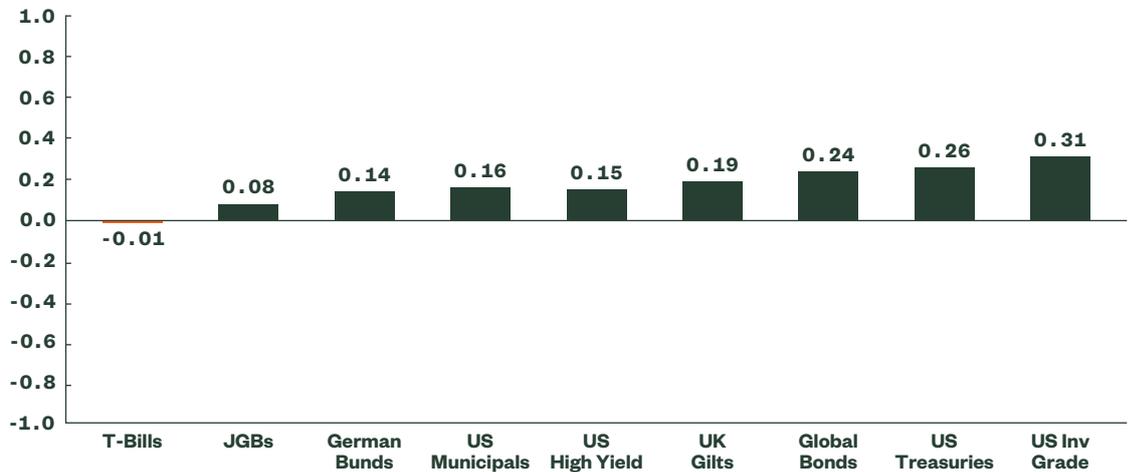
A low correlation between the asset classes in a multi-asset portfolio can potentially help lower portfolio volatility and therefore, all else being equal, increase diversification and enhance the overall risk-adjusted return of a portfolio. Comparing gold's behavior to global equity and fixed income indices highlights its low correlation over the last 30 years. Among major equity markets such as the US and Japan, the correlation to gold ranges from near zero to negative (see Figure 2), while the highest fixed income index correlation (0.31 to US investment-grade bonds) is still relatively low (see Figure 3). This persistent low correlation to financial assets aids in gold's ability to provide continued portfolio diversification and potentially improve risk-adjusted portfolio performance.

Figure 2  
**Gold Exhibited a Low 30-Year Correlation to Major Equity Indices**



Source: Bloomberg Finance, L.P., State Street Global Advisors. Data ending March 31, 2024. Gold correlation calculation based on monthly data. Global: MSCI All Country World (ACWI) Index, Developed World: MSCI World Index, Japan: MSCI Japan Index, Pacific ex Japan: MSCI Pacific ex Japan Index, Emerging Markets: MSCI Emerging Markets (EM) Index, EAFE: MSCI EAFE Index, US Large Cap: S&P 500 Index, US Small Cap: Russell 2000 Index. The correlation coefficient measures the strength and direction of a linear relationship between two variables. It measures the degree to which the deviations of one variable from its mean are related to those of a different variable from its respective mean, with 0 being uncorrelated and 1 being perfectly correlated. **Past performance is not necessarily indicative of the future performance.**

Figure 3  
**Gold Exhibited a Low 30-Year Correlation to Major Fixed Income Indices**



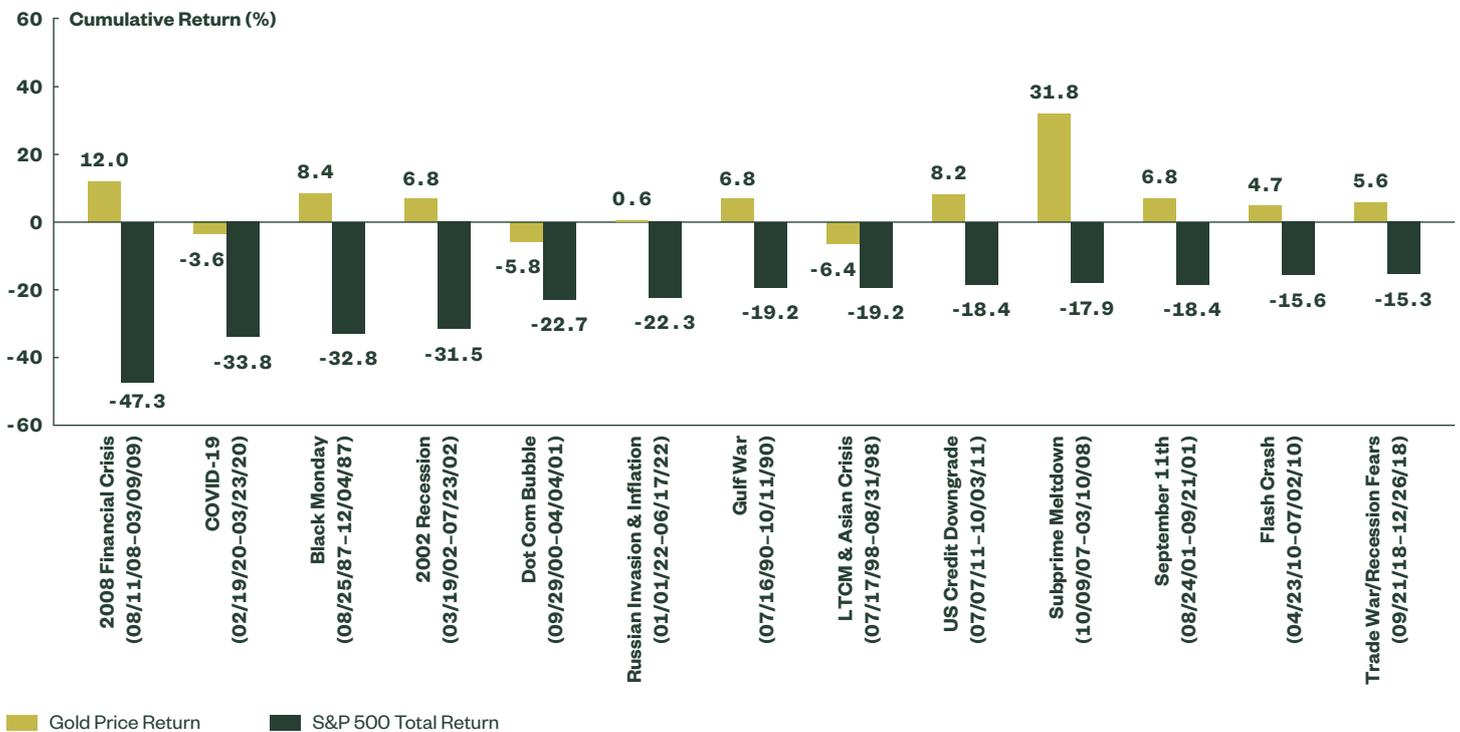
Source: Bloomberg Finance, L.P., State Street Global Advisors. Data ending March 31, 2024. Gold correlation calculation based on monthly data. T-Bills: ICE BofAML US 3-Month Treasury Bill Index, US Treasuries: ICE BofAML US Treasury Index, US Municipals: ICE BofAML US Municipal Securities Index, US High Yield: ICE BofAML US High Yield Index, Global Bonds: Bloomberg Global Aggregate Total Return Index Value Hedged USD, German Bunds: ICE BofAML German Government Index, UK Gilts: ICE BofAML UK Gilt Index, JGBs: ICE BofAML Japan Government Index, US Investment (Inv) Grade: ICE BofAML US Corp BBB-A Index. The correlation coefficient measures the strength and direction of a linear relationship between two variables. It measures the degree to which the deviations of one variable from its mean are related to those of a different variable from its respective mean, with 0 being uncorrelated and 1 being perfectly correlated. **Past performance is not necessarily indicative of the future performance.**

## Gold as a Robust, Multifaceted Risk-Management Tool

Beyond providing low correlations to financial assets over multiple market cycles, gold has a strong track record of protecting against both short- and long-term market volatility. Its ability to protect portfolios against systemic market shocks and tail events emanating from various catalysts (financial, health-related, economic, geopolitical, credit/liquidity) may help reduce portfolio drawdowns, resulting in potential improvement of portfolio performance over time.

When evaluating major drawdowns in US equity markets, gold has not only outperformed relative to US equities on a relative basis, but also on an absolute basis in the majority of cases. As detailed in figure 4, during peak-to-trough drawdowns greater than 15% on the S&P 500® Index, gold averaged 5.83%, compared to -24.19% total return on the S&P 500. Furthermore, during these 13 drawdown events, gold experienced positive returns during nine of them. During the three periods when gold's return was negative, it still reduced portfolio drawdowns and volatility when compared to a portfolio with no allocation to gold. Furthermore, gold tends to maintain gains over time even as markets recover.

Figure 4  
**Gold Has Outperformed Relative to US Equities During Drawdowns Greater Than 15%**



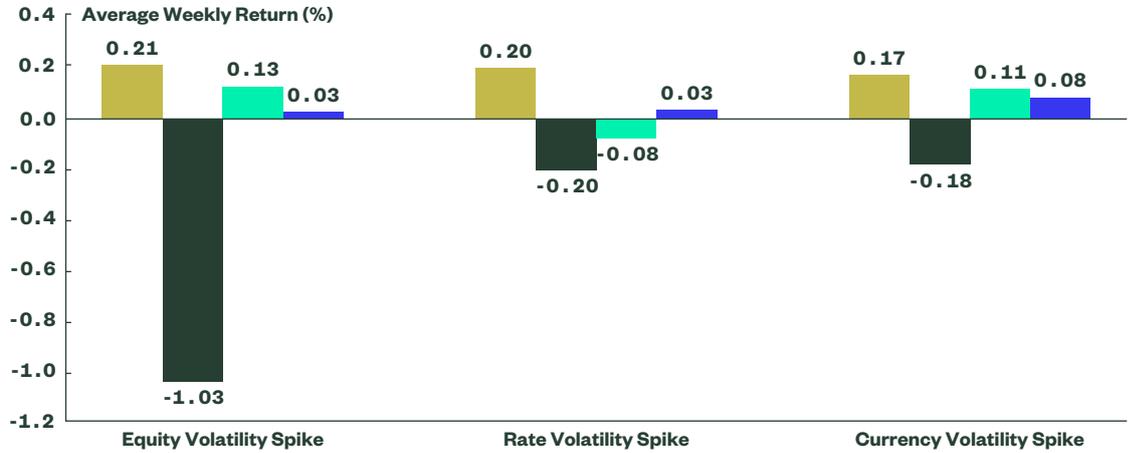
Source: Bloomberg Finance, L.P., State Street Global Advisors. US Equity represented by S&P 500 Total Return. Gold: gold spot price in US dollars. Data from August 25, 1987 to March 31, 2024. **Past performance is not necessarily indicative of the future performance.** Index returns reflect all items of income, gain and loss and the reinvestment of dividends. Performance of an index is not indicative of the performance of any product managed by SSGA.

Gold not only helps mitigate risk during sustained equity market drawdowns, but also may help protect against shorter-term bouts of volatility driven by market technicals or transient events. When evaluating measurements of implied volatility for equity, interest rate, and currency volatility, gold has served as a better potential hedge. During trading weeks exhibiting elevated implied volatility for US equity, US Treasury, and foreign exchange (FX) markets, gold's average weekly performance was positive and outperformed defensive assets like bonds and the US dollar, on average.

Figure 5

**Gold's Average Weekly Returns Have Outperformed During Periods of Elevated Volatility**

- Gold
- S&P 500 Index
- US Bonds
- US Dollar



Source: Bloomberg Finance L.P., State Street Global Advisor. Data from January 1, 1990 to March 31, 2024. Equity volatility spike represented by one standard deviation rise in CBOE Volatility Index (VIX Index) on weekly basis. Rate volatility spike represented by one standard deviation rise in ICE BofA MOVE Index on weekly basis. Currency volatility spike represented by one standard deviation rise in JP Morgan Global FX Volatility Index on weekly basis. Gold: gold spot price in US Dollars, US Bonds: Bloomberg US Aggregate Index, US Dollar: US dollar spot index, S&P 500: S&P 500 price index. **Past performance is not necessarily indicative of the future performance.** Index returns reflect all items of income, gain and loss and the reinvestment of dividends. Performance of an index is not indicative of the performance of any product managed by SSGA.

# A Wealth-Preservation Tool With Liquidity

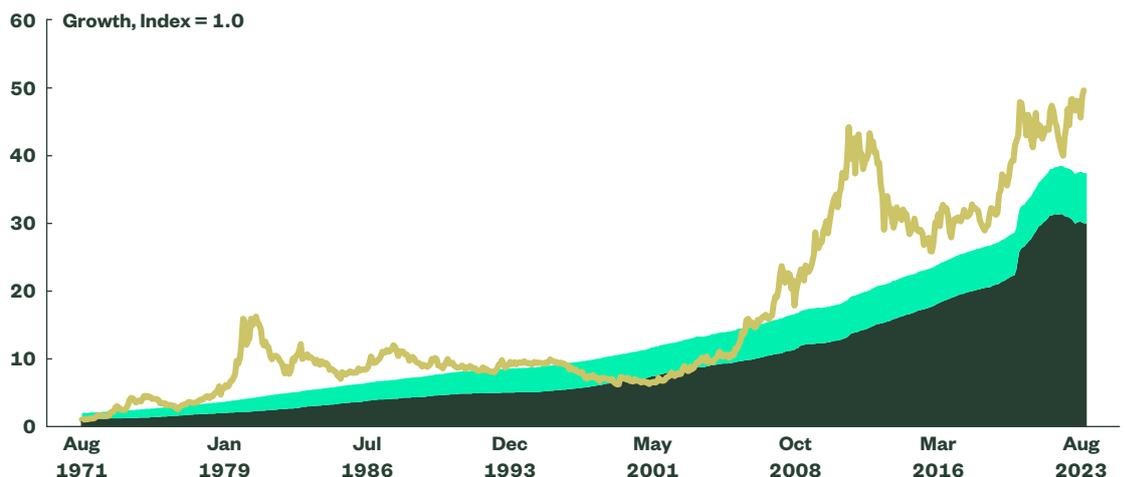
Perhaps the longest and most well-known utility for gold has been as a store of value. Gold is a naturally rare element that does not tarnish, rust, or erode — making it a reliable vehicle for maintaining and accumulating wealth for centuries. It has also been used as money and linked to currency systems throughout history. Coupled with the depth and liquidity of the gold market, these characteristics serve as a cornerstone behind its designation as a reserve asset today among global central banks and other institutions. This highlights gold’s further value for diversified portfolios: maintaining wealth while protecting against rising prices and currency debasement and providing positive real returns across various inflationary environments.

## Gold May Preserve Spending Power Against Sources of Inflation

Since 1971 when US President Richard Nixon removed the US dollar from the gold standard, and gold began trading in a free market, the price of gold (in USD) has increased at a compound annual growth rate (CAGR) of 7.79%, rising from US \$43.28/oz to US\$2,214/oz, today.<sup>2</sup> Over the course of those five decades, consumer prices increased as well, though not at the same rate as gold’s appreciation. When factoring in monetary inflation, gold’s performance over the long run synchronizes more closely. Broadly speaking, gold keeps up with price fluctuations over time. This, in conjunction with keeping pace with monetary inflation (likely via currency debasement), provides gold’s robust ability to preserve wealth and purchasing power. Therefore, when evaluating gold as a store of value against inflation, it’s important to account for both price inflation as well as sources of monetary inflation such as rising money supply and fiat currency depreciation.

Figure 6  
**Gold Price Has Appreciated Alongside Both Price and Monetary Inflation Since 1971**

- Gold Price (US\$/oz)
- M2 Money Supply
- US Consumer Price Index (CPI)



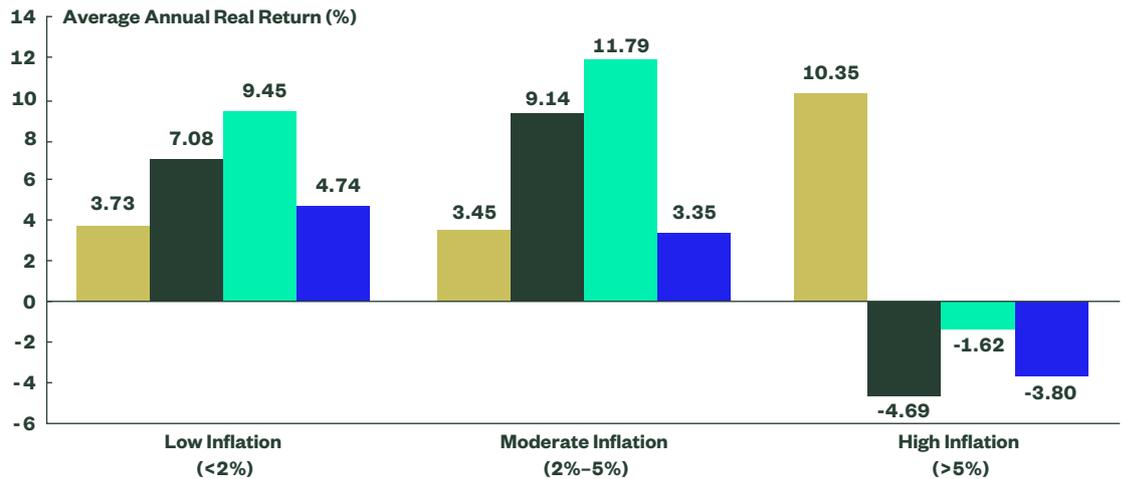
Source: Bloomberg Finance L.P., State Street Global Advisors. Data from July 31, 1971 to February 29, 2024. **Past performance is not necessarily indicative of the future performance.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses.

Gold is commonly lauded as an inflation-hedging asset, particularly against rising price inflation as measured by common indices like the Consumer Price Index (CPI). As a global asset, however, there is more nuance to how and in what environments gold behaves against rising prices and inflationary pressures in any given region or economy. Although the price of gold tends to keep pace with general price fluctuations, its overall inflation sensitivity during periods of low or moderate price changes has been average compared to other asset classes. In reality, gold has been most effective at protecting against periods of *extreme* price instability.

Looking more closely at price inflation, gold has preserved purchasing power across multiple price-inflation environments. Yet it tends to fare best during periods of extreme price levels. Over the last 50 years, gold has provided an average annual real return of 10.35% when US CPI exceeded 5% year-over-year, compared to negative returns on average for both global and US equities as well as US Treasuries (see Figure 7).

Figure 7  
**Gold Has Outperformed Historically During Periods of Elevated Prices**

■ Gold  
■ Global Equities  
■ US Equities  
■ US Treasuries



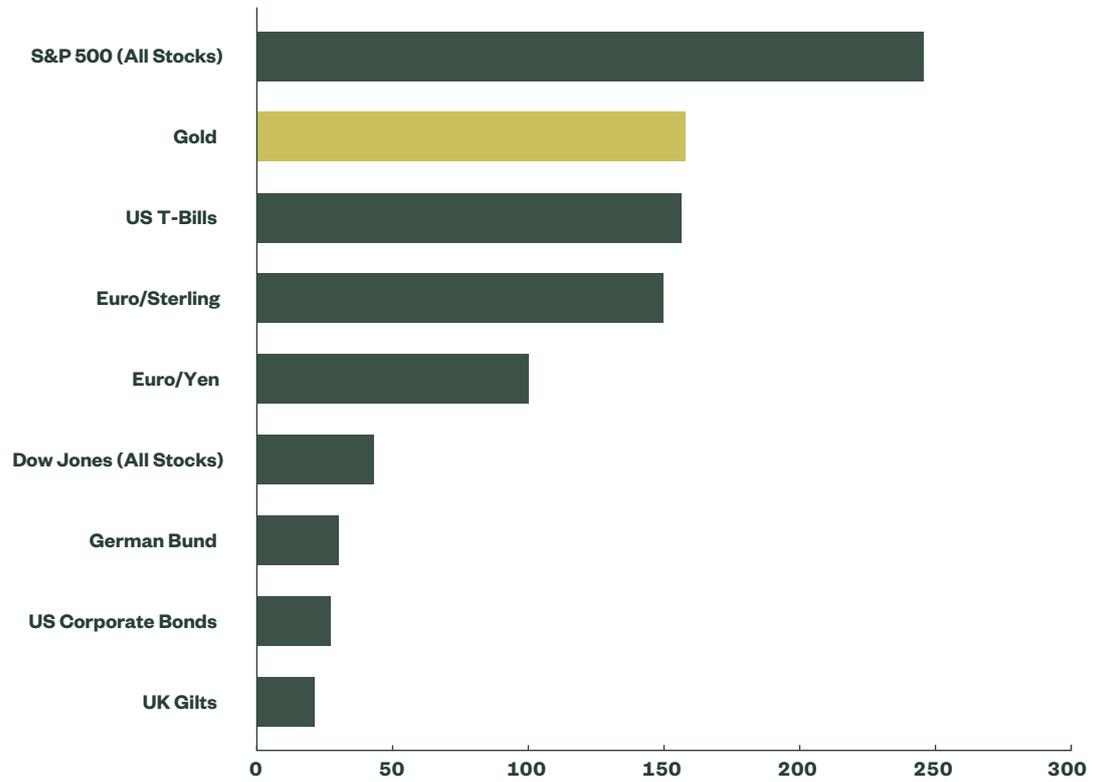
Source: Bloomberg Finance L.P., State Street Global Advisors. Data from August 31, 1971 to February 29, 2024. **Past performance is not necessarily indicative of the future performance.** Gold: gold spot price in US dollar, Global Equities: MSCI World Total Return Index, US Equities: S&P 500 Index Total Return, US Treasuries: Bloomberg US Treasury Index Total Return. Data start date for US Treasuries is January 1, 1973.

## Gold Is a Global Asset With Deep Liquidity

Another key aspect for a store-of-value asset is liquidity. This is even more important in today's investment landscape as volatile markets have showcased how quickly an asset's market liquidity can diminish, as witnessed in 2020 at the onset of the global pandemic and in 2008 during the Global Financial Crisis.

The global gold market is deep and liquid, on par with that of many global currency, debt, and equity markets. In 2023, gold's average daily volume was over US\$ 163 billion, keeping pace with the trading activity of 1-3 year US Treasuries and Euro/British Pound Sterling currency volume. Gold's liquidity is a key component in its role as a reserve asset among central banks as well as a source of liquidity for investors and households globally.

Figure 8  
**Average Daily Trading  
 Volumes (USD Billions)**



Source: World Gold Council, State Street Global Advisors. Average daily volumes from January 1, 2023 to December 31, 2023, except for currencies that correspond to April 2022 volumes due to data availability. Fixed income trading volumes include primary dealer statistics only due to data availability. Gold liquidity includes estimates of OTC transactions and published statistics on futures exchanges, and gold-backed exchange-traded products.

With the rise of non-traditional asset classes, gold’s liquidity characteristics become ever more prominent. Alternative investments such as hedge funds, private equity, real estate, and private debt have become more popular in the last decade as the low-real-rate environment has encouraged investors to shift to riskier and less-liquid assets to generate alpha. Historically, many of these alternative investments have helped portfolio performance. But they are often considered less liquid due to their longer-term strategies that offer potential upside but carry illiquidity premiums. Generally speaking, these assets are not marked-to-market as frequently as stocks and bonds, which could be an issue for investors during risk-off environments. The increased appetite for less-liquid investments strengthens the case for gold, given that it may provide the capital and liquidity needed during market selloffs.

# 3 Portfolio Impact That Stands Out Among Other Liquid Alternatives

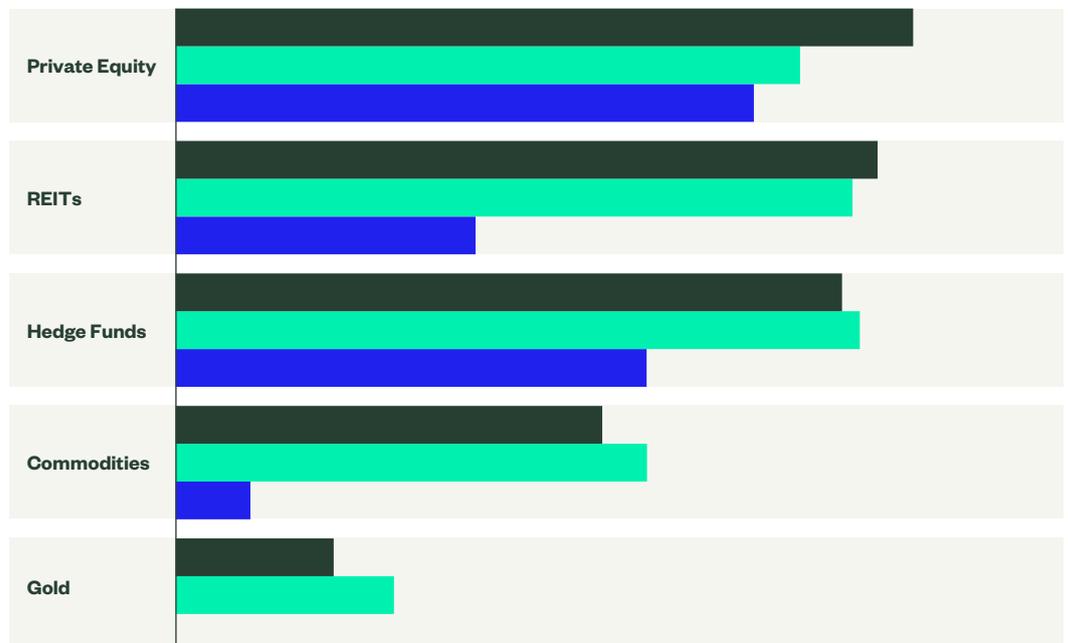
Economic growth is a key strategic driver affecting gold’s long-term performance and potential investment benefits. Economic expansions lead to cyclical increases in demand for gold, as it is a key component not only in jewelry but also in certain technology products and industrial applications. Economic growth also tends to increase demand from savers. Applying a long-run perspective highlights that gold’s expected returns are more comparable to bonds than equities. This makes sense, considering that gold and bonds are sensitive to long-term interest rate cycles.

A wide range of asset classes and investment strategies have been touted as portfolio diversifiers in recent decades. Many of these proposed diversifiers have failed to deliver when it counted, exhibiting high correlations to stock and bond portfolios during times of crisis.

For example, during the period leading up to the 2008 financial crisis, broad commodities, real estate investment trusts (REITs), and hedge funds joined gold in sporting relatively low correlations to a global stock-bond portfolio. Correlations rose during the peak of the crisis in 2008, as most assets were sold to meet liquidity needs. Among these asset classes, only gold’s correlation reverted to pre-crisis levels in the years following 2008.

Figure 9  
**Gold Has Maintained a Low Correlation to a 60/40 Portfolio Post-2008 Financial Crisis**

■ 2009–today  
 ■ 2008  
 ■ 1994–2007

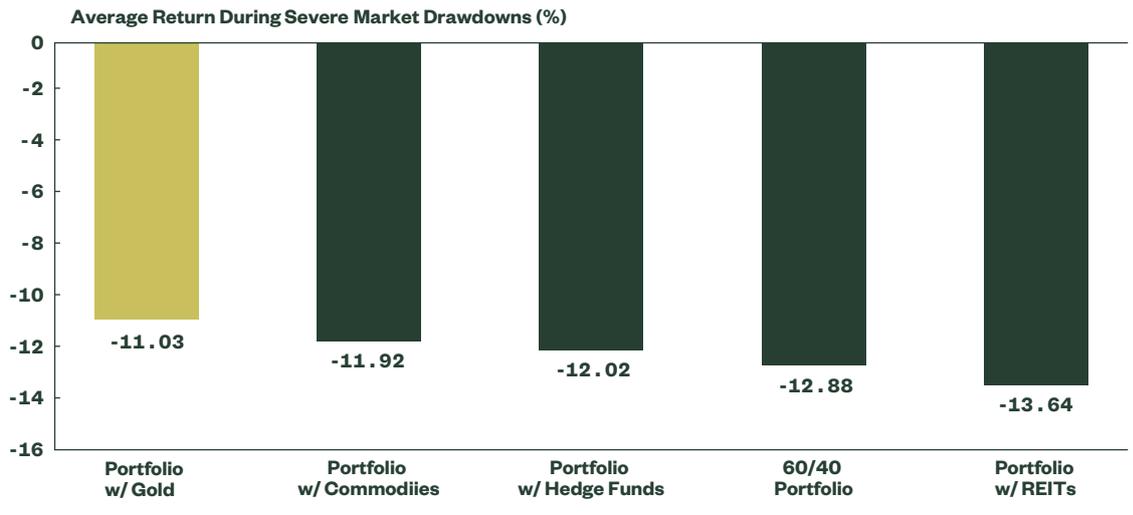


Source: Bloomberg Finance, L.P., State Street Global Advisors. Data from December 31, 1993 to March 31, 2024. Gold: gold spot price in US dollars. Commodities: S&P GSCI Total Return Index, Hedge Funds: Credit Suisse Hedge Fund Index, REITs: FTSE NAREIT All Equity REITS Total Return Index, Private Equity: LPX50 Listed Private Equity Index Total Return. **Past performance is not necessarily indicative of the future performance.**

Mitigating portfolio drawdowns remains incredibly important particularly as easy global monetary policies of the prior decade have spurred portfolios to seek higher potential returns by going further out on the risk curve in traditional asset classes such as stocks and bonds. Adding liquid alternative asset classes may potentially help investors mitigate risk in a traditional 60/40 portfolio. But gold, the original liquid alternative, has historically shown it may serve portfolios more effectively.

This aspect of portfolio downside protection is on display during major market drawdown events. As shown in Figure 10, adding a prorated 10% portfolio allocation to gold would have reduced portfolio drawdowns by 185 basis points (bps) on average compared to a traditional 60/40 portfolio, while the same allocation to most other liquid alternatives would have had the same impact.

Figure 10  
**Gold Has Led Other Liquid Alternatives in Its Ability to Help Reduce Portfolio Drawdowns in Tail Events**



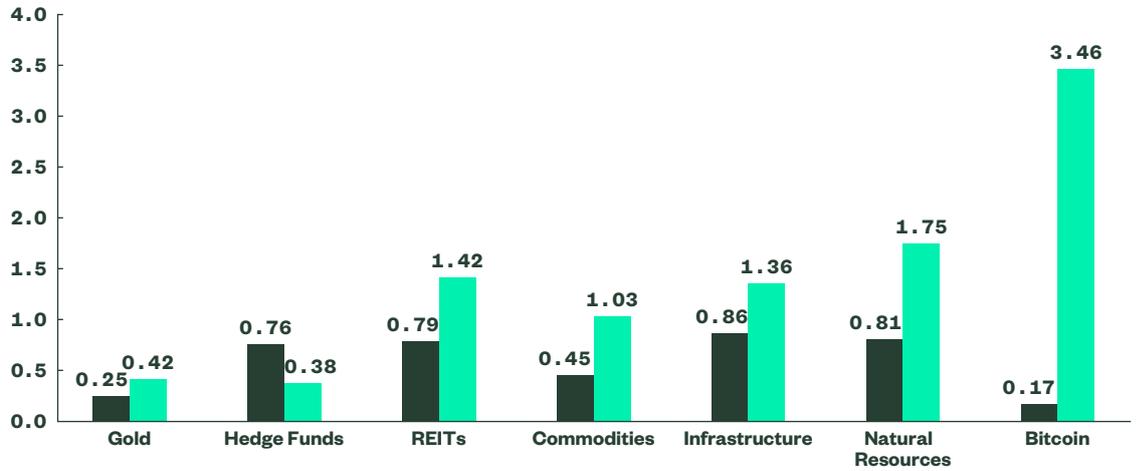
Source: Bloomberg Finance L.P., State Street Global Advisors. Data from July 16, 1990 to March 31, 2024; 60/40 Global Portfolio = 60% MSCI World Total Return Index, 40% Bloomberg Global Aggregate Index. 10% allocation to stated alternative asset was added to 60/40 portfolio on pro-rated basis. Gold: gold spot price in US dollars, REITs: FTSE NAREIT All Equity REITS Total Return Index, Commodities: S&P GSCI Index, Hedge Funds: Credit Suisse Hedge Fund Index. Drawdown periods include: Russian Invasion & Inflation (01/01/22–06/17/2022), COVID-19 (02/19/20–03/23/20), 2008 Financial Crisis (08/11/08–03/09/09), 2002 Recession (03/19/02–07/23/02), Dot-Com Bubble (09/29/00–04/04/01), Gulf War (07/16/90–10/11/90), LTCM & Asian Crisis (07/17/98–08/31/98), US Credit Downgrade (07/07/11–10/03/11), Subprime Meltdown (10/09/07–03/10/08), September 11 (08/24/01–09/21/01), Flash Crash (04/23/10–07/02/10), Trade War/Recession Fears (09/21/18–12/26/18). **Past performance is not necessarily indicative of the future performance.** Index returns reflect all items of income, gain and loss and the reinvestment of dividends. Performance of an index is not indicative of the performance of any product managed by SSGA.

Even in more recent years with further adoption of liquid alternative investments and the emergence of new nontraditional assets, gold remains the best option for achieving proper and efficient portfolio diversification. Gold has not only exhibited a low correlation to global stock/bond portfolios, but also exhibited a low beta as well. While correlation showcases directional tendencies in the movement of two assets, beta attempts to measure the explanatory power and quantify possible cause and effect.

Gold's performance is explained by more than just the fluctuations of global equity and debt markets. Gold is driven by its own market's fundamentals — gold demand in the form of jewelry, technology, central banks, and investment along with changes in gold supply globally. Compared to gold, other liquid alternatives and cryptocurrencies such as Bitcoin have higher betas to global stock/bond portfolio. This shows that their performance is determined by these markets, and may result in a less-effective source of portfolio diversification.

Figure 11  
**Correlation and Beta to a Global Stock and Bond Allocation**

■ Correlation to Global 60/40 Portfolio  
 ■ Beta to Global 60/40 Portfolio



Source: Bloomberg Finance L.P., State Street Global Advisors. Data from July 31, 2010 to March 31, 2024. 60/40 Global Portfolio = 60% MSCI ACWI, 40% Bloomberg Global Aggregate Index; Gold: gold spot price in US dollars, Infrastructure: S&P Global Infrastructure Net Total Return Index, REITs: FTSE NAREIT All Equity REITS Total Return Index, Natural Resources: S&P Global Natural Resources Total Return Index, Commodities: S&P GSCI Index, Hedge Funds: Credit Suisse Hedge Fund Index, Bitcoin: bitcoin price (1 XBT) in US dollars. **Past performance is not necessarily indicative of the future performance.** Index returns reflect all items of income, gain and loss and the reinvestment of dividends. Performance of an index is not indicative of the performance of any product managed by SSGA.

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# Case for Constructing Portfolios With SPDR® Gold Shares

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In a recent whitepaper by State Street Global Advisors' Investment Solutions Group (SSGA ISG) entitled "What Is the Portfolio of Assets Held by the World," a global multi-asset market portfolio (GMP) was developed, a portfolio consisting of all investable capital assets. Each asset's weighting within the GMP corresponds proportionately to that asset's market value divided by the sum of the market value of all assets in the portfolio. The GMP 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." This may represent a good starting point for investors looking to build a globally diversified investment portfolio.

To examine the potential results of adding a 2%, 5%, or 10% strategic allocation to SPDR Gold Shares into a multi-asset portfolio, we constructed hypothetical global multi-asset portfolios based on the concept of this GMP model by:

- Replicating the asset classes in the GMP with non-investable market indices
- Slightly adjusting each asset weighting in the GMP to include commodities and assume no gold exposure at the start (Portfolio A)
- Subtracting the percentage to be allocated to gold equally from the equity and government bond asset classes (the two asset classes with the highest weights) to add in SPDR Gold Shares at 2% (Portfolio B), 5% (Portfolio C), and 10% (Portfolio D)

Figure 12a identifies the asset class weightings in each of the hypothetical portfolios constructed. It's important to note that the impact of adding SPDR Gold Shares to an investor's portfolio will vary based on an investor's asset allocation decisions and market performance, among other things.

Figure 12a

### Hypothetical Weights for Adding Gold to a Multi-Asset Portfolio

Asset Class	Investable Market Indices & ETF	Weighting in Hypothetical Portfolios (%)			
		Portfolio A	Portfolio B	Portfolio C	Portfolio D
Global Equity	MSCI All Country World Index	43	42	40.5	38
<b>Total Equity</b>		<b>43</b>	<b>42</b>	<b>40.5</b>	<b>38</b>
Government Bonds	Bloomberg Global Aggregate Government Bond Index	24	23	21.5	19
IG Credit	Bloomberg Global Aggregate Corporate Bond Index	15	15	15	15
Inflation-Linked Bonds	Bloomberg World Inflation Linked Bond Index	2	2	2	2
High Yield Bonds	Bloomberg Global Corporate High Yield Bond Index	1	1	1	1
EM Debt	Bloomberg Emerging Markets USD Aggregate Bond Index	3	3	3	3
<b>Total Fixed Income</b>		<b>45</b>	<b>44</b>	<b>42.5</b>	<b>40</b>
Real Estate	Global Property Research General Index	5	5	5	5
Private Equity	LPX Composite Listed Private Equity Index	4	4	4	4
Commodities	Bloomberg Commodity Index	3	3	3	3
Gold	SPDR Gold Shares	—	2	5	10
<b>Total Alternatives</b>		<b>12</b>	<b>14</b>	<b>17</b>	<b>22</b>
<b>Portfolio Total</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Bloomberg Finance L.P., FactSet, State Street Global Advisors, as of March 31, 2024. The asset allocation scenario is for hypothetical purposes only and is not intended to represent a specific asset allocation strategy or recommend 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. The information contained above is for illustrative purposes only.

From a risk-adjusted return perspective, our hypothetical blended portfolio results showed that adding a 2%, 5%, or 10% allocation to SPDR Gold Shares in the portfolio would have improved Sharpe ratios. Further, the results demonstrated that this hypothetical scenario would have outperformed multi-asset portfolios with identical index exposure but without equivalent allocations to SPDR Gold Shares. From a risk-management perspective, hypothetical portfolios with a SPDR Gold Shares allocation had lower maximum drawdowns, with a 10% allocation to SPDR Gold Shares reducing maximum drawdown by almost 409 bps.

Given that adding a 2% to 10% strategic asset allocation to SPDR Gold Shares in a hypothetical multi-asset portfolio between January 1, 2005 and March 31, 2024, improved risk-adjusted return and reduced maximum drawdown compared with the portfolio without any exposure to gold-backed investments, global multi-asset portfolio managers should consider the merits of including gold in their portfolios.

From the results shown below, we found that in our hypothetical scenario:

- Portfolios B, C, and D had higher Sharpe ratios, lower maximum drawdowns, and lower standard deviations with higher returns compared with Portfolio A, the portfolio with no exposure to gold.
- Portfolio D had the highest Sharpe ratio (0.44) and the highest annualized return (5.97%).
- Portfolio D also had the lowest maximum drawdown (-31.16%).

Figure 12b  
**Hypothetical Blended  
 Portfolio Performance  
 from January 1, 2005  
 to March 31, 2024**

	<b>SPDR Gold Shares Allocation (%)</b>	<b>Annualized Return (%)</b>	<b>Cumulative Return (%)</b>	<b>Annualized Standard Deviation (%)</b>	<b>Sharpe Ratio*</b>	<b>Maximum Drawdown (%)</b>
Portfolio A	0	5.61	185.94	10.61	0.39	-35.25
Portfolio B	2	5.64	187.63	10.46	0.40	-34.20
Portfolio C	5	5.77	194.35	10.35	0.41	-33.07
Portfolio D	10	5.97	205.56	10.23	0.44	-31.16

Source: Bloomberg Finance L.P., FactSet, State Street Global Advisors, as of March 31, 2024. \* Assumes risk-free rate of Citigroup 3-month T-bills. 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. Index returns reflect all items of income, gain and loss and the reinvestment of dividends. Performance of an index is not indicative of the performance of any product managed by SSGA. Returns do not represent those of a specific product but were achieved by mathematically combining the actual performance data of the constituents as listed in Figure 12a according to their weightings detailed in Figure 12a. Performance of the hypothetical blended portfolio assumes no transaction and rebalancing costs, so actual results will differ. Performance of SPDR® Gold Shares reflects 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 not necessarily indicative of the future performance. 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. The information contained above is for illustrative purposes only.

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# Find the Right Gold for Your Portfolio

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Investors have several options to consider when looking to gain exposure to gold and tap into its diverse potential benefits. Understanding the potential advantages and considerations for the different gold investment vehicles — be they ETFs, mutual funds, gold bars and coins, or gold mining stocks — can help an investor to determine which option is best suited to their personal investment situation.

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## Comparing Gold Investment Vehicles

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**Gold-backed ETFs** offer investors gold exposure through the many benefits of passive ETF investing, including the access and transparency of intraday trading on national exchanges and lower average expense ratios than those of many of the other options. Physically backed gold ETFs, such as SPDR® Gold Shares, provide a cost-effective way to access gold bullion through a historically low-transaction-cost vehicle with low bid-ask spreads and low tracking error<sup>3</sup> to the market price of gold.

ETFs may also provide deep liquidity and access to the market to rebalance and position exposures. But it's important for investors to note that not all gold ETFs are created equal — nor do they all invest exclusively in gold bullion — and investors should carefully review the holdings to determine how much of the ETF's portfolio is invested in physical gold. This is especially true when comparing gold mining ETFs and gold mutual funds that invest only a small portion of their assets in gold.

**Gold Mutual Funds** provide investors with the same daily liquidity as gold ETFs do, but they do not trade intraday on national exchanges, as do ETFs. And many mutual funds that hold gold in their portfolio of investments may not exclusively invest in gold, which means they may not track gold's price movements and reap the full value of gold's diverse potential benefits. Mutual funds also tend to maintain a higher total expense ratio than that of many ETFs.<sup>4</sup>

**Gold Mining Stocks and ETFs** are another way that investors can gain exposure to gold. But investing in these companies is not the same as directly investing in gold bullion or a gold-backed ETF. These represent investments in gold mining companies and operations, and these companies may be impacted by certain additional factors beyond the price of gold — such as profitability, industry competition, and other financial and operational decisions.

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**Gold Bars and Coins** remain the most popular way that global investors access gold. But that habit may be shifting — especially in recent years as gold-backed ETFs have seen record global inflows. Although directly holding bars and coins has a high level of transparency with physical possession, investors are often required to pay a premium over the spot price of gold for their purchase. Cost and liquidity considerations also come into play when holding bars and coins outright — including costs for insurance, transportation and safekeeping, each of which can impact the underlying performance benefits realized.

**Gold Futures** are often used by larger or institutional investors looking to leverage their portfolios. Gold futures provide intraday trading and a way to manage underlying risks of other securities held in their portfolio. Gold futures require unique knowledge about the gold market and are not typically the vehicle of choice for the average investor. Also, gold futures contracts are not physically backed by gold, and they do carry defined expiration dates, which require holders to roll over the contract according to a scheduled expiry to maintain their gold exposure. Although gold futures are generally traded in larger positions with lower brokerage commissions due to their size, the associated brokerage and roll costs need to be considered when determining the total cost of ownership.

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## Choosing ETFs for Gold Exposure

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For many investors, the case for gold ETFs may be strong relative to those for other gold investment vehicles, particularly in terms of accessibility, transparency, and cost. ETFs often provide a higher degree of flexibility for investors at a potentially lower overall cost than many of the other options do — and gold-backed ETFs are no exception. Gold ETFs have grown to record levels in terms of popularity and AUM since 2004, when SPDR ETFs introduced the first physically backed gold ETF designed to track the price of gold bullion, SPDR® Gold Shares.

Physically backed gold ETFs like SPDR Gold Shares may help to eliminate many of the issues mentioned above, as ETFs seek to provide investors a relatively transparent and cost-effective way to track the price of gold. The arrival of SPDR® Gold Shares in November 2004 transformed gold into an accessible liquid investment. It was the first gold-backed ETF in the US, and made it convenient and cost-effective for investors to hold gold in their portfolios.

As the size and the number of investable asset classes continue to grow, gold — a risk-management asset that uniquely maintains its value over the long term — may play a more central strategic role in multi-asset portfolios. And SPDR gold ETFs offer investors transparency, liquidity, and convenience in one cost-effective wrapper.

## Appendix

### Performance

Figure 13a

#### SPDR® Gold Shares Performance as of March 31, 2024

	Cumulative Returns			Annualized Returns				
	1 Month (%)	QTD (%)	YTD (%)	1 Year (%)	3 Years (%)	5 Years (%)	10 Years (%)	Since Inception 11/18/2004 (%)
NAV*	8.09	7.26	7.26	11.41	8.96	10.86	5.11	8.24
Market Value	8.67	7.61	7.61	12.28	8.74	11.00	5.22	8.19
LBMA Gold Price PM	8.12	6.54	6.54	11.85	9.39	11.31	5.53	8.67

Source: ssga.com. **Past performance is not necessarily indicative of the future performance. 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. Performance returns for periods of less than one year are not annualized.** The market price used to calculate the Market Value return is the midpoint between the highest bid and the lowest offer on the exchange on which the shares of the Fund are listed for trading, as of the time that the Fund's NAV is calculated. If you trade your shares at another time, your return may differ. Gross and Net 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. Effective March 20, 2015, the SPDR® Gold Shares 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. \*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.

Figure 13b

#### SPDR Gold Shares Calendar Year Returns

	2023 (%)	2022 (%)	2021 (%)	2020 (%)	2019 (%)
NAV*	13.35	-0.82	-4.14	23.68	18.36
Market Value	12.69	-0.77	-4.15	24.81	17.86
LBMA Gold Price PM	14.59	0.44	-4.33	24.61	18.43

Source: Bloomberg Finance, L.P., and State Street Global Advisors. Data as of December 31, 2023. **Past performance is not a reliable indicator of future performance.** \*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. Effective March 20, 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.

### Contributors

**Maxwell Gold, CFA**  
Head of Gold Strategy

**Diego Andrade**  
Senior Gold Strategist

**George Milling-Stanley**  
Chief Gold Strategist

**Robin Tsui, CAIA**  
APAC Gold Strategist

### Endnotes

- January 1, 2005, is start of first full calendar quarter of data available for SPDR Gold Shares following its inception on November 18, 2004.
- Bloomberg Finance, L.P., State Street Global Advisors. Data from August 13, 1971 to March 31, 2024.
- Bloomberg Finance, L.P., State Street Global Advisors. SPDR Gold Shares Trust average daily bid-ask spread is 0.01% and tracking error is 0.000399 from January 1, 2011 to March 31, 2024. Effective March 20, 2015, the
- SPDR Gold Shares 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.
- Morningstar Direct. Average gross expense ratio (%) for ETFs and mutual funds are 0.55% and 0.89%, respectively. Average prospectus net expense ratio for ETFs and open-end mutual funds oldest share class as defined by Morningstar, as of March 31, 2024.

**Information Classification: General Access**

**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.

**Credit Suisse Hedge Fund Index** was the industry's first, and remains the leading, asset-weighted hedge fund index. The Index uses a rules-based construction methodology, identifies its constituent funds, and minimizes subjectivity in the index member selection process as a result of the rules-based method. It aims to achieve maximum representation of the index universe.

**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.

**Fiat Currency** Currency that a government declares to be legal tender, but that it is not backed by a physical commodity. The value of fiat money is linked to supply and demand rather than the value of the material that the money is made of, such as gold or silver historically. Fiat money's value is instead based solely on the faith and credit of the economy.

**Global Financial Crisis** The economic crisis that occurred from 2007-2009 that is generally considered one of the biggest economic challenge since the Great Depression of the 1930s. The GFC was triggered largely by the sub-prime mortgage crisis, which led to the collapse of systemically vital US investment banks such as Lehman Brothers. The crisis began with the collapse of two Bear Stearns hedge funds in June 2007, and the stabilization period began in late 2008 and continued until the end of 2009.

**Gold Standard** A monetary standard under which the basic unit of currency is defined by a stated quantity of gold. In 1971 US President Richard Nixon ended the ability to convert US dollars into gold at the fixed price of \$35 per ounce.

**Hypothetical Blended Portfolio Performance Methodology** Returns shown in Figure 12b 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, 2024. 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.

**Real Rate of Return** The return realized on an investment, usually expressed annually as a percentage, which is adjusted to reflect the effects of inflation or other external factors, on the so-called nominal return. The real rate of return is calculated as follows: Real Rate of Return = Nominal Interest Rate – Inflation.

**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.

**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 US Aggregate Bond Index TR** A benchmark that provides a measure of the performance of the US dollar denominated investment grade bond market, which includes investment grade government bonds, investment grade corporate bonds, mortgage pass through securities, commercial mortgage backed securities.

**Bloomberg US Treasury Bond Index TR** A benchmark of US dollar denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index.

**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.

**Bloomberg Global Aggregate Index** The Bloomberg Global Aggregate Index is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

**Bloomberg US Treasury Index Total Return** The Bloomberg US Aggregate Bond Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate pass-throughs), ABS and CMBS (agency and non-agency).

**Bitcoin Spot Price** Bitcoin was proposed in a white paper in 2008 by a pseudonymous software developer going by the name of Satoshi Nakamoto. It is a decentralized, fully independent, digital or virtual currency also known as a cryptocurrency. No institution controls the Bitcoin network and it is not tied to a country as transactions can be performed cryptographically without the need for a central issuing authority.

**CBOE Volatility Index (VIX Index)** The VIX Index is a financial benchmark designed to be an up-to-the-minute market estimate of the expected volatility of the S&P 500® Index, and is calculated by using the midpoint of real-time S&P 500 Index (SPX) option bid/ask quotes.

**Consumer Price Inflation (CPI) Index** This CPI represents changes in prices of all goods and services purchased for consumption by urban households on a year over year basis.

**FTSE NAREIT All Equity REITS Total Return Index** A free-float adjusted market-capitalization-weighted index that includes all tax qualified REITs listed in the NYSE, AMEX, and NASDAQ National Market.

**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.

**ICE BofAML US 3-Month Treasury Bill Index** An index comprised of a single issue purchased at the beginning of the month and held for a full month. At the end of the month that issue is sold and rolled into a newly selected issue.

**ICE BofAML US Treasury Index** An index that tracks the performance of US dollar denominated sovereign debt publicly issued by the US government in its domestic market.

**ICE BofAML US Municipal Securities Index** An index that tracks the performance of US dollar denominated investment grade tax-exempt debt publicly issued by US states and territories, and their political subdivisions, in the US domestic market.

**ICE BofAML US High Yield Index** An index that tracks the performance of US dollar denominated below investment grade corporate debt publicly issued in the US domestic market.

**ICE BofAML German Government Index** An index that tracks the performance of EUR denominated sovereign debt publicly issued by the German government in the German domestic or eurobond market.

**ICE BofAML UK Gilt Index** An index that tracks the performance of GBP denominated sovereign debt publicly issued by the UK government in its domestic market.

**ICE BofAML Japan Government Index** An index that tracks the performance of JPY denominated sovereign debt publicly issued by the Japanese government in its domestic market.

**ICE BofAML US Corp BBB-A Index** An index that tracks the performance of US dollar denominated investment grade corporate debt publicly issued in the US domestic market.

**ICE BofA MOVE Index** This is a yield curve weighted index of the normalized implied volatility on 1-month Treasury options.

**JP Morgan Global FX Volatility Index** Indexes tracking the level of implied volatility in G7 and emerging market economies.

**LBMA Gold Price** Determined twice each business day – 10:30 am London time (i.e., the LBMA Gold Price AM) and 3:00 pm London time (i.e., the LBMA Gold Price PM) by the participants in a physically settled, electronic and tradable auction.

**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.

**M2 Money Supply** M2 is a measure of the money supply that includes cash, checking deposits, and easily-convertible near money.

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

**MSCI EAFE Index** The index is a free-float weighted equity index. The index was developed with a base value of 100 as of December 31, 1969. The MSCI EAFE region covers DM countries in Europe, Australasia, Israel, and the Far East.

**MSCI Emerging Markets (EM) Index** The index is a free-float weighted equity index that captures large and mid cap representation across emerging market (EM) countries.

**MSCI Japan Index** Designed to measure the performance of the large and mid cap segments of the Japanese market. With 324 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Japan.

**MSCI Pacific ex Japan Index** An index that captures large and mid cap representation across 4 of 5 developed market (DM) countries in the Pacific region (excluding Japan).

**MSCI World Total Return Index** The index is a free-float weighted equity index. It was developed with a base value of 100 as of December 31, 1969. Index includes developed world markets, and does not include emerging markets.

**Russell 2000 Index** The index is comprised of the smallest 2000 companies in the Russell 3000 Index, representing approximately 8% of the Russell 3000 total market capitalization.

**S&P 500 Index** Widely regarded as the best single gauge of large-cap US equities and serves as the foundation for a wide range of investment products. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.

**S&P GSCI Total Return Index** The index is widely recognized as a leading measure of general price movements and inflation in the world economy. It provides investors with a reliable and publicly available benchmark for investment performance in the commodity markets.

**S&P Global Infrastructure Net Total Return Index** The index is designed to track 75 companies from around the world chosen to represent the listed infrastructure industry while maintaining liquidity and tradability. To create diversified exposure, the index includes three distinct infrastructure clusters: energy, transportation, and utilities.

**S&P Global Natural Resources Total Return Index** The index includes 90 of the largest publicly-traded companies in natural resources and commodities businesses that meet specific investability requirements, offering investors diversified liquid and investable equity exposure across 3 primary commodity-related sectors: Agribusiness, Energy, and Metals & Mining.

**US Dollar Spot Index (USDX)** The index indicates the general international value of the USD. The USDX does this by averaging the exchange rates between the USD and major world currencies.

#### Important Risk Information

SPDR® Gold Trust (the "Trust") is an exchange traded fund designed to track the price of gold (net of Trust expenses).

The trading price of the shares may be different from the underlying NAV per share.

**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: +65 6826-7555. F: +65 6826-7501.

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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.

There are risks associated with investing in Real Assets and the Real Assets sector, including real estate, precious metals and natural resources. Investments can be significantly affected by events relating to these industries.

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 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.

Investing in REITs involves certain distinct risks in addition to those risks associated with investing in the real estate industry in general. Equity REITs may be affected by changes in the value of the underlying property owned by the REITs, while mortgage REITs may be affected by the quality of credit extended. REITs are subject to heavy cash flow dependency, default by borrowers and self-liquidation. REITs, especially mortgage REITs, are also subject to interest rate risk (i.e., as interest rates rise, the value of the REIT may decline).

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