

Gold for Australian investors

A portfolio diversifier with staying power

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Executive summary

In this paper we provide an outline of the primary benefits and drawbacks gold may offer portfolios relative to other major asset classes over the long run. We also present a case study to examine how including gold in a hypothetical multi-asset portfolio would impact its risk-return characteristics. Results from this case study highlighted that holding between 2% and 10% of gold between April 2010 and March 2025, improved the hypothetical portfolio's cumulative return and lowered its maximum drawdowns, as compared to a portfolio without any gold-backed investments. These results may support the case for investors considering gold as part of a strategic allocation framework.

For these investors, despite competitive historical long-term returns, we would only recommend a smaller allocation to gold in the region of 2–5%. The main reason for caution is that throughout gold's history, there are multi-year periods, especially in high growth, low inflation environments when gold underperforms. Allocations of between 2–5% allow investors to have differentiated sources of return through each stage of an economic cycle while still taking advantage of gold's undoubted role as a diversifier.

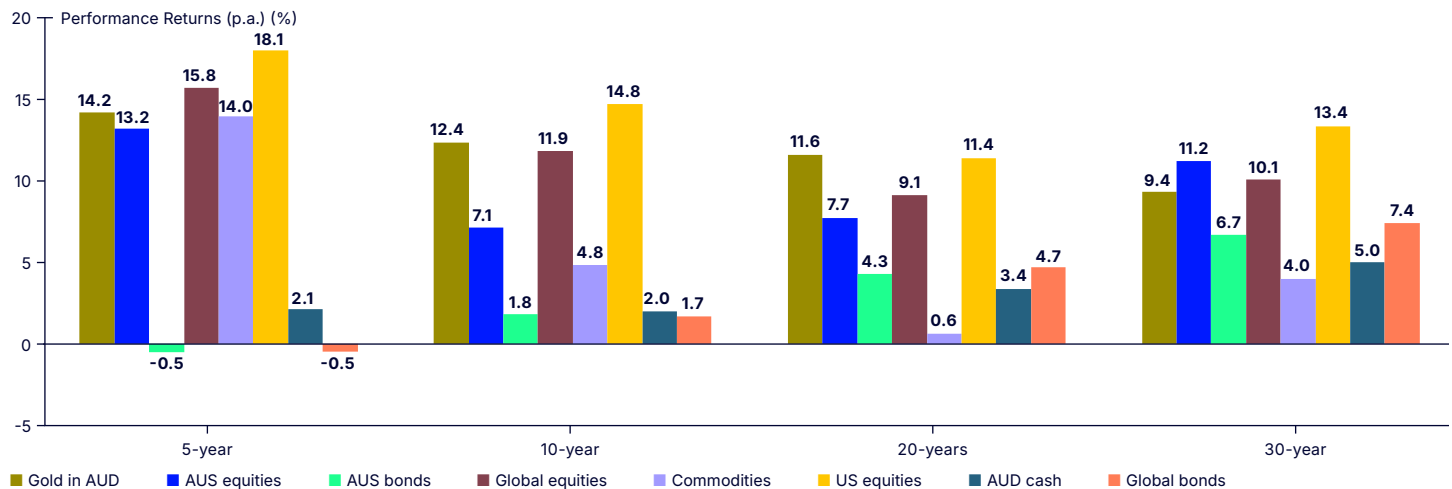
The current outlook for gold is attractive, supported by a range of structural and cyclical factors. These include continuing central bank demand, increased geopolitical tensions and inflation hedging. Longer term factors such as an overvalued USD, concerns around the US budget deficit and potential de-dollarisation are also supportive of gold.

Introduction

Gold can be a polarising asset class, eliciting differing views among investors about its potential benefits and drawbacks. There are many motivating factors for when and why to allocate to gold, with these frequently emerging during extreme periods — either significant market turmoil spurring investors to seek defensive positions, or extreme market rallies in the gold price attracting interest.

This reactionary, or tactical, treatment of gold drastically overlooks its potential and unique characteristics as a core strategic position for long-term investment 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. An additional, and often overlooked, factor is gold's strong historical return record.

Figure 1: Gold has provided competitive returns over various investing horizons



*Data history for gold spot price in AUD begins in 1995.

Source: Bloomberg Finance, L.P., State Street Investment Management. Data as of 31 March 2025. Gold: gold spot price in Australian dollars, AUD Cash: Bloomberg Ausbond Bank Bill Index, Aus Bonds: Bloomberg Ausbond Composite Index, Global bonds: Bloomberg Global Aggregate Total Return Index AUD hedged, Commodities: Bloomberg Commodity Index AUD, Aus Equities: S&P/ASX 200 Total Return Index, Global Equities: MSCI World ex-Australia Total Return AUD Index, US Equities: S&P 500 Total Return Index AUD. Past performance is not a reliable indicator of future performance. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable. All the index performance results referred to are provided exclusively for comparison purposes only. It should not be assumed that they represent the performance of any particular investment. Performance returns are calculated in Australian dollars.

A wealth-preservation tool with liquidity

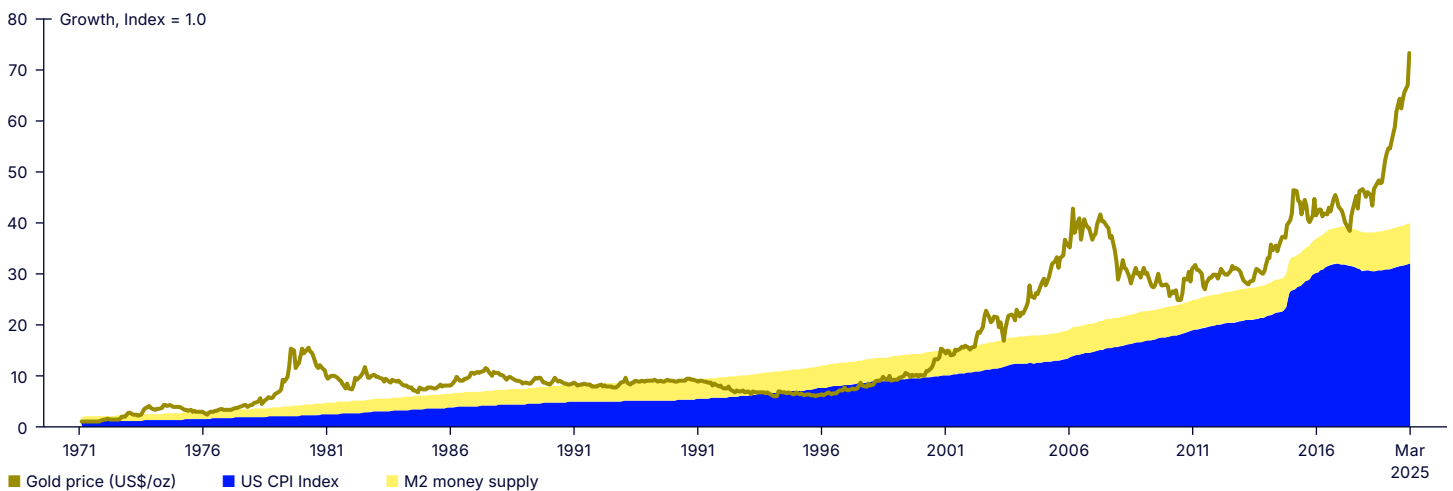
Perhaps the longest and most well-known utility for gold has been as a store of value. Gold is a naturally rare element that does not tarnish, rust, or erode — properties that make it a reliable vehicle for maintaining and accumulating wealth for centuries. It has also been used as money and linked to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

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 8.3%, rising from US\$43/oz to US\$3,115/oz as of 31

March 2025. 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 (likely via currency debasement), gold's performance over the long run synchronizes more closely. 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.

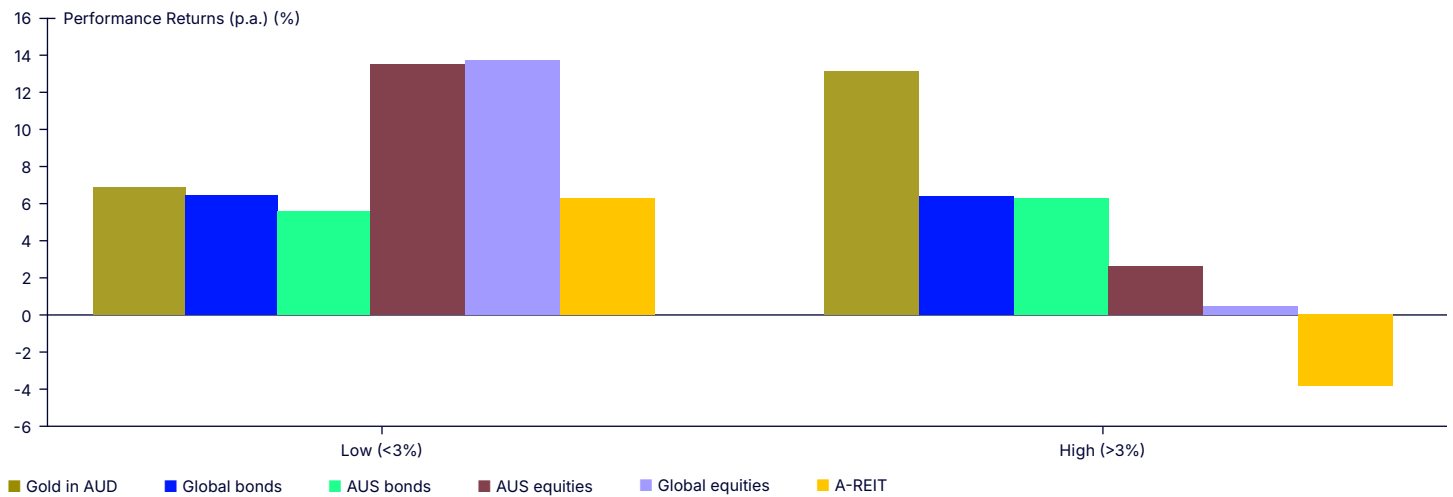
Gold is commonly lauded as an inflation-hedging asset, however, there is more nuance to how and in what environments gold behaves against rising prices and inflationary pressures in any given economy. Gold's overall inflation sensitivity during periods of low or moderate price changes has been average compared to other asset classes. In reality, gold has been most effective at protecting against periods of extreme price increases.

Figure 2: Gold price has appreciated alongside both price and monetary inflation since 1971



Source: Bloomberg Finance, L.P., State Street Investment Management. Data from 31 July 1971 to 31 March 2025.

Figure 3: Gold has outperformed historically during periods of elevated prices



Source: Bloomberg Finance L.P., State Street Investment Management. Data from 30 June 1992 to 31 March 2025. Gold: gold spot price in Australian dollars, Global Equities: MSCI World ex-Australia Total Return AUD Index, Aus Equities: S&P/ASX 200 Total Return Index, Aus Bonds: Bloomberg Aus bond Composite Index, Global bonds: Bloomberg Global Aggregate Total Return Index AUD hedged, A-REIT: S&P/ASX 200 A-REIT Index. Past performance is not a reliable indicator of future performance. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable. All the index performance results referred to are provided exclusively for comparison purposes only. It should not be assumed that they represent the performance of any particular investment. Performance returns are calculated in Australian dollars.

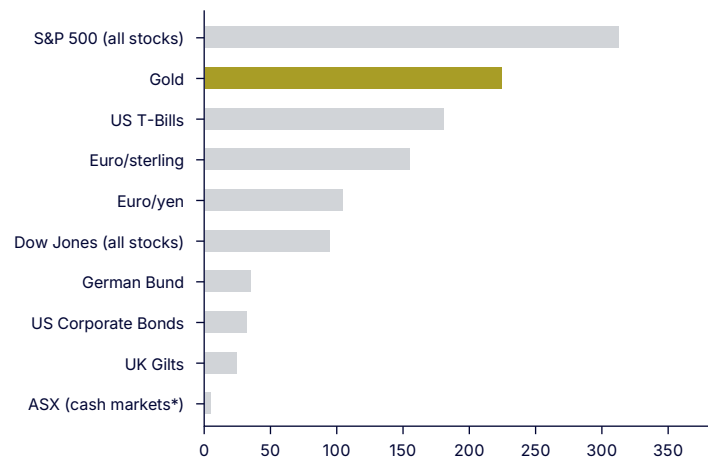
Looking more closely at Australian price inflation, gold has preserved purchasing power across multiple inflation environments. Yet it tends to fare best during periods of extreme price levels. Over the last 30 years, gold has provided an average annual real return of 13.1% when Australian CPI exceeded 3% year-over-year, compared to 6.3% and 2.6% on average for Australian bonds and equities respectively.

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. Two recent examples are the onset of the global pandemic in 2020 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 2024, gold's average daily volume was over US\$223 billion, keeping pace with the trading activity of US T-Bills 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.

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 harvest the illiquidity premium and generate alpha. Historically, many of these alternative investments have helped portfolio performance. 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.

Figure 4: Average daily trading volumes (USD billions)

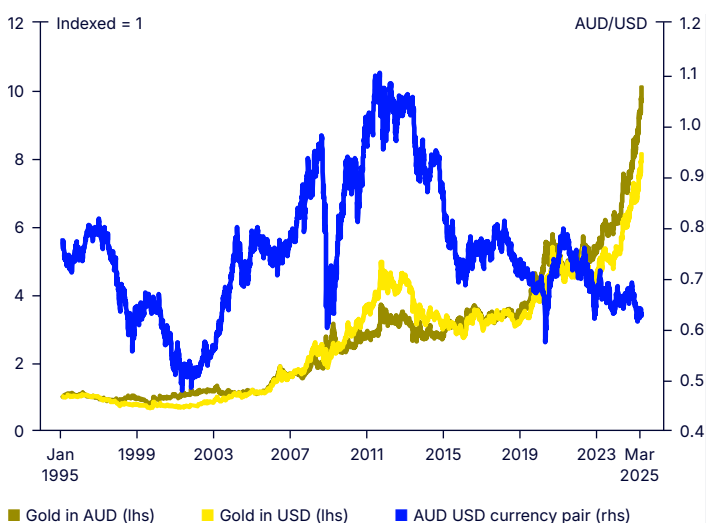


* Including stocks, interest rate and warrant trades.
Source: World Gold Council, ASX, State Street Investment Management. Average daily volumes from 1 January 2023 to 31 December 2024, except for currencies that correspond to April 2022 volumes due to data availability. Fixed income trading volumes 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.

Gold for an AUD-base portfolio

A perennial question for Australian investors has been whether to hold in gold in USD or in AUD base. The main concern cited is the potential impact of currency movements, specifically the AUDUSD exchange rate, on the performance of gold in an AUD-base portfolio. Fortunately the historical data shows that this fear should not be a major concern for Australian investors as the performance of gold in AUD closely mirrors that of gold in USD over the medium term despite exchange rate fluctuations. This intuitively makes sense as all that is changing is the currency in which you measure performance, not the performance of the underlying asset itself.

Figure 5: Gold performance in AUD not strongly impacted by currency movements



Source: Bloomberg Finance, L.P., State Street Investment Management. Data from 1 January 1995 to 31 March 2025. Past performance is not a reliable indicator of future performance.

The historical correlation, based on daily data since 1 January 1995, between gold in AUD and the AUDUSD rate was -0.38 , suggesting that daily currency movements had a weak negative correlation with the price of gold. This is as expected with gold in AUD providing some protection against depreciation of the AUD which can happen during times of market stress. Incidentally, over the same period, the correlation between gold in AUD and in USD is high at 0.73 . Comparing returns in AUD and USD across various time periods shows how close the risk and returns are for gold measured in both currencies.

Figure 6: Gold risk and return in USD and AUD similar across time periods

Gold in US dollars	Returns (%)	Volatility (%)	Risk-adjusted returns
1-year	40.1	12.1	3.31
5-years (p.a.)	14.6	14.9	0.98
10-years (p.a.)	10.2	14.0	0.73
20-years (p.a.)	10.4	16.8	0.62
30 years (p.a.)	8.7	15.7	0.55

Gold in Australian dollars	Returns (%)	Volatility (%)	Risk-adjusted returns
1-year	46.0	13.9	3.31
5-years (p.a.)	14.2	14.0	1.02
10-years (p.a.)	12.4	13.8	0.90
20-years (p.a.)	11.6	16.2	0.72
30-years (p.a.)	9.4	15.4	0.61

Source: Bloomberg Finance, L.P., State Street Investment Management. Data as of 31 March 2025. All performance returns are calculated on an annualised basis. Past performance is not a reliable indicator of future performance.

The result is expected as the value of gold is not driven by or dependent on currency over the medium and long term. This suggests that Australian investors may consider holding gold in the currency that aligns with their investment objectives and risk tolerance. For AUD base investors, gold is simply an alternative and largely independent safe haven to the USD.

Given this close relationship between gold in AUD and USD and the limited history of data in AUD, we will supplement our analysis of the impact gold has on multi-asset portfolios with examples using gold quoted in USD. This also has some relevance for Australian investor portfolios which are increasingly incorporating US and global assets.

A risk-management tool with staying power

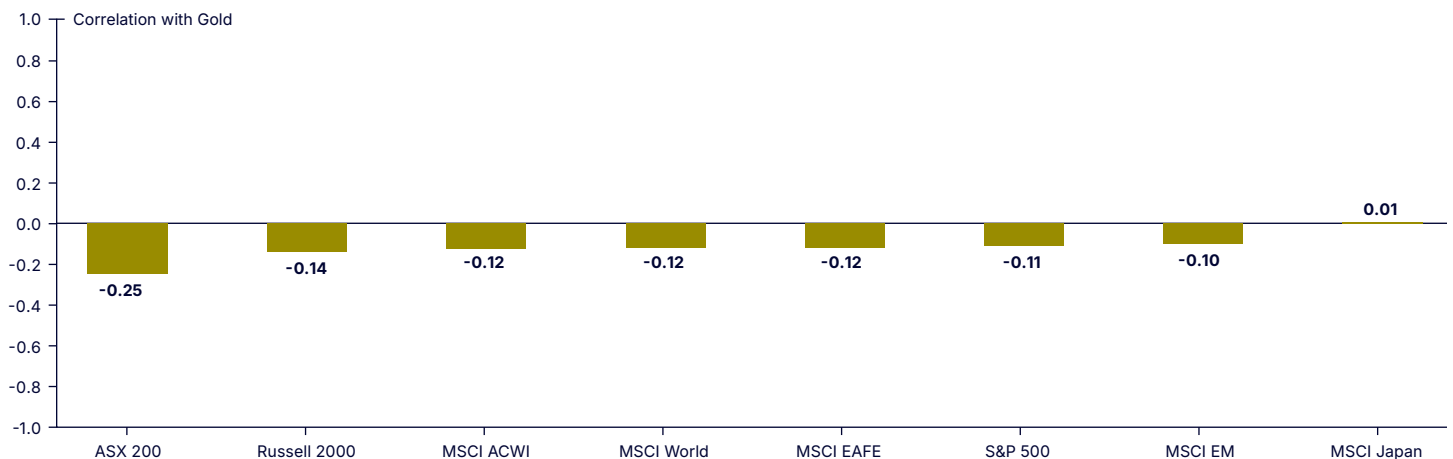
Over the long term, gold stands out as a consistent source of portfolio diversification — a major reason why multi-asset portfolio managers can consider including gold in their portfolio allocations. Gold's diverse, global demand among both cyclical and countercyclical sectors can help drive two key 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. These benefits have been highlighted by the failure of fixed income to provide portfolio diversification in recent years.

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.

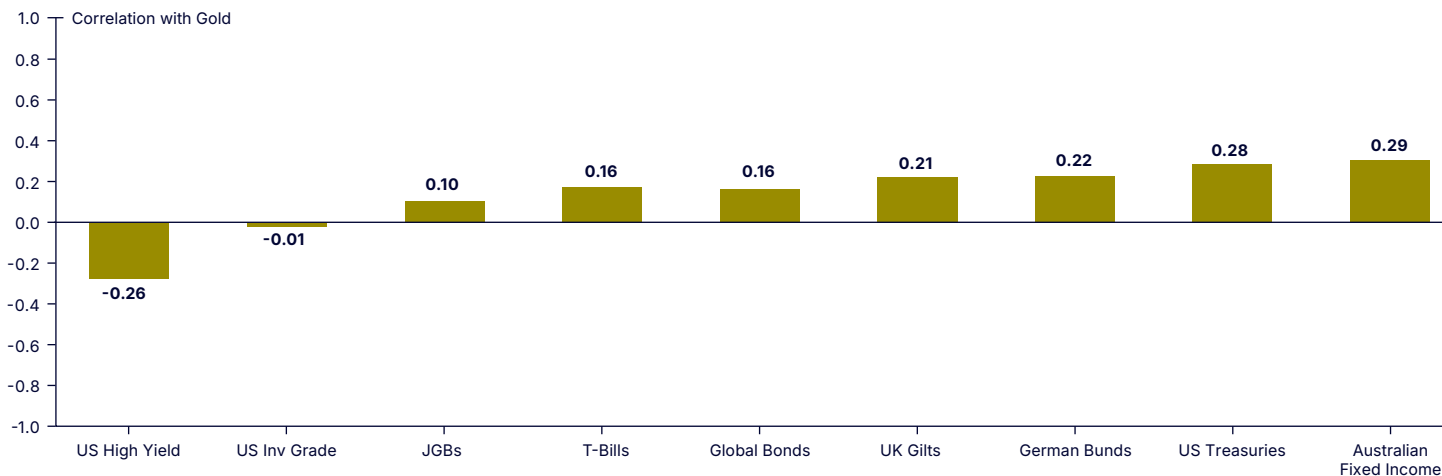
A low correlation between the asset classes in a multi-asset portfolio can help lower portfolio volatility and therefore, all else being equal, increase diversification and enhance the overall risk-adjusted return of a portfolio. Comparing gold's behaviour to global equity and fixed income indices highlights its low correlation over the last 30 years. Among major equity markets including the ASX 200, the correlation to gold ranges from near zero to negative (see Figure 7), while the highest fixed income index correlation (0.29 to Australian composite bonds) is still relatively low (see Figure 8).

Figure 7: Gold exhibited a low 30-year correlation to major equity indices



Source: Bloomberg Finance, L.P., State Street Investment Management. Data as of 31 March 2025. Gold correlation calculation based on monthly data. Global: MSCI All Country World (ACWI) Index, Developed World: MSCI World Index, Japan: MSCI Japan Index, Australia: S&P/ASX 200 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. Data calculated in Australian dollars. Past performance is not a reliable indicator of future performance.

Figure 8: Gold exhibited a low 20-year correlation to major fixed income indices

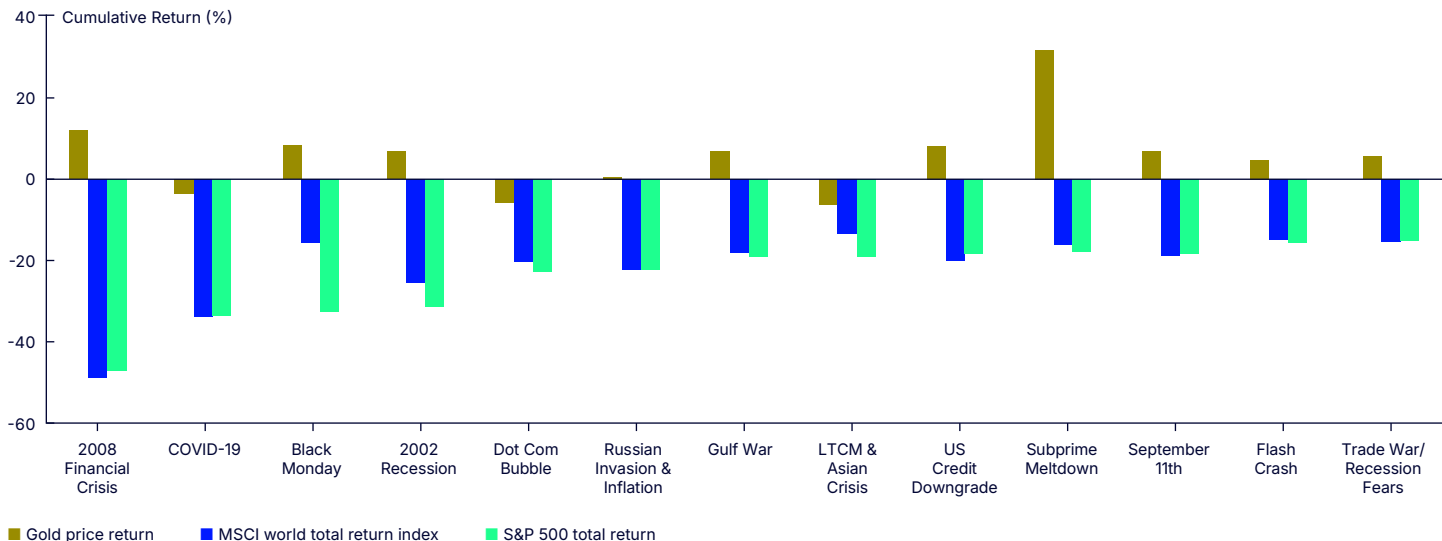


Source: Bloomberg Finance, L.P., State Street Investment Management. Data as of 31 March 2025. Gold correlation calculation based on monthly data. T-Bills: ICE BofAML US 3-Month Treasury Bill Index, US Treasuries: ICE BofAML US Treasury Index, Australian Fixed Income: Bloomberg Ausbond Composite Index, 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. Data calculated in Australian dollars. Past performance is not a reliable indicator of future performance.

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.

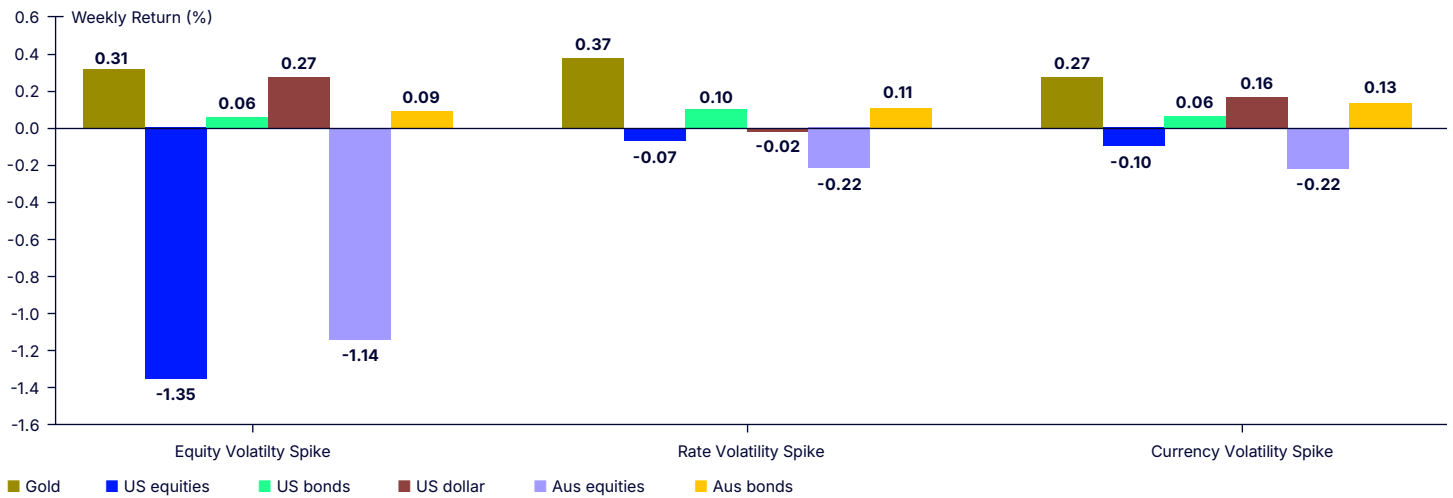
When evaluating major drawdowns in US equity markets, gold has outperformed US equities. As detailed in Figure 9, during peak-to-trough drawdowns greater than 15% on the S&P 500 index, gold averaged 5.7%, compared to -22.1% total return on the S&P 500. Furthermore, during these 13 drawdown events, gold experienced positive returns during 10 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 (maximum drawdown of -6.4%). Furthermore, gold tends to maintain gains over time even as markets recover.

Figure 9: Gold has outperformed relative to us equities during drawdowns greater than 15%



Source: Bloomberg Finance, L.P., State Street Investment Management. US Equity represented by S&P 500 Total Return. Gold: gold spot price in US dollars. Data from 25 August 1987 to 31 March 2025. Drawdown periods include: 2008 Financial Crisis (11/08/08–09/03/09), COVID-19 (19/02/20–23/03/20), Black Monday (25/08/87–04/12/87), 2002 Recession (19/03/02–23/07/02), Dot-Com Bubble (29/09/00–04/04/01), Russian Invasion & Inflation (01/01/22–17/06/22), Gulf War (16/07/90–11/10/90), LTCM and Asian Crisis (17/07/98–31/08/98), US Credit Downgrade (07/07/11–03/10/11), Subprime Meltdown (09/10/07–10/03/08), September 11 (24/08/01–21/09/01), Flash Crash (23/04/10–02/07/10), Trade War/Recession Fears (21/09/18–26/12/18). Performance returns are calculated in US dollars. Past performance is not a reliable indicator of future performance. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable. All the index performance results referred to are provided exclusively for comparison purposes only. It should not be assumed that they represent the performance of any particular investment.

Figure 10: Gold's average weekly returns have outperformed during periods of elevated volatility



Source: Bloomberg Finance L.P., State Street Global Advisor. Data from 1 January 2005 to 31 March 2025. 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, US Equities: S&P 500 Price Index. Aus Equities: S&P/ASX 200 Index, Aus Bonds: Bloomberg Ausbond Composite Index. Data calculated in US dollars. Past performance is not a reliable indicator of future performance.

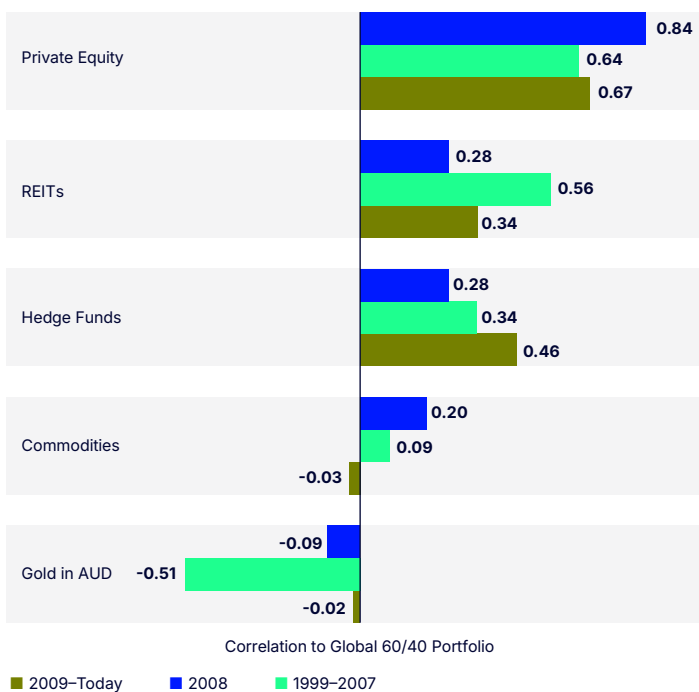
Gold not only helps mitigate risk during sustained equity market drawdowns, but also may help protect against shorter-term bouts of volatility driven by market technicals or transient events. During trading weeks exhibiting elevated implied volatility for US equity, US Treasury, and foreign exchange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

Portfolio impact that stands out among other liquid alternatives

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. During the peak of the crisis in 2008, gold significantly improved its diversification properties. Among these asset classes, only gold has remained negatively correlated to a stock-bond portfolio in the years following 2008.

Figure 11: Gold has maintained a low correlation to a 60/40 portfolio post-2008 financial crisis



Source: Bloomberg Finance, L.P., State Street Investment Management. Data from 31 January 1995 to 31 March 2025. Gold: gold spot price in Australian 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. Data is calculated in Australian dollars. Past performance is not a reliable indicator of future performance.

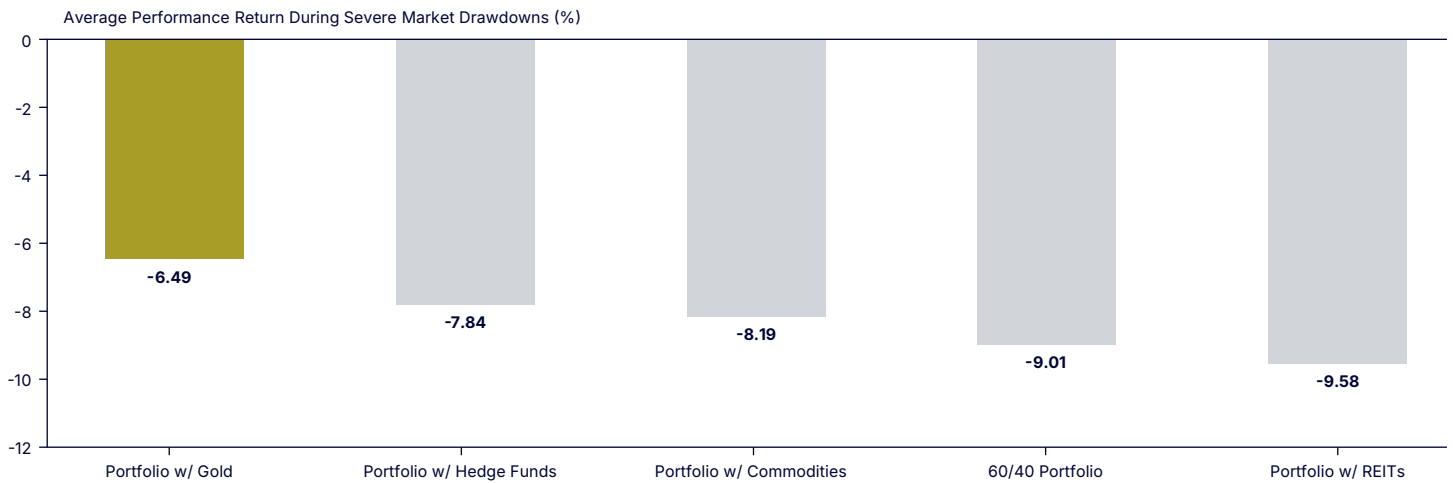
Mitigating portfolio drawdowns remains incredibly important particularly as easy global monetary policies of the prior decade have spurred portfolios to seek higher potential returns by going further out on the risk curve in traditional asset classes such as stocks and bonds. Adding liquid alternative 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 multi-asset portfolios more effectively.

Even in more recent years with further adoption of liquid alternative investments and the emergence of new non-traditional assets, gold remains the best option for achieving dependable 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 jewellery, 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 a global stock-bond portfolio. This shows that their performance is more determined by these markets, and may result in a less-effective source of portfolio diversification.

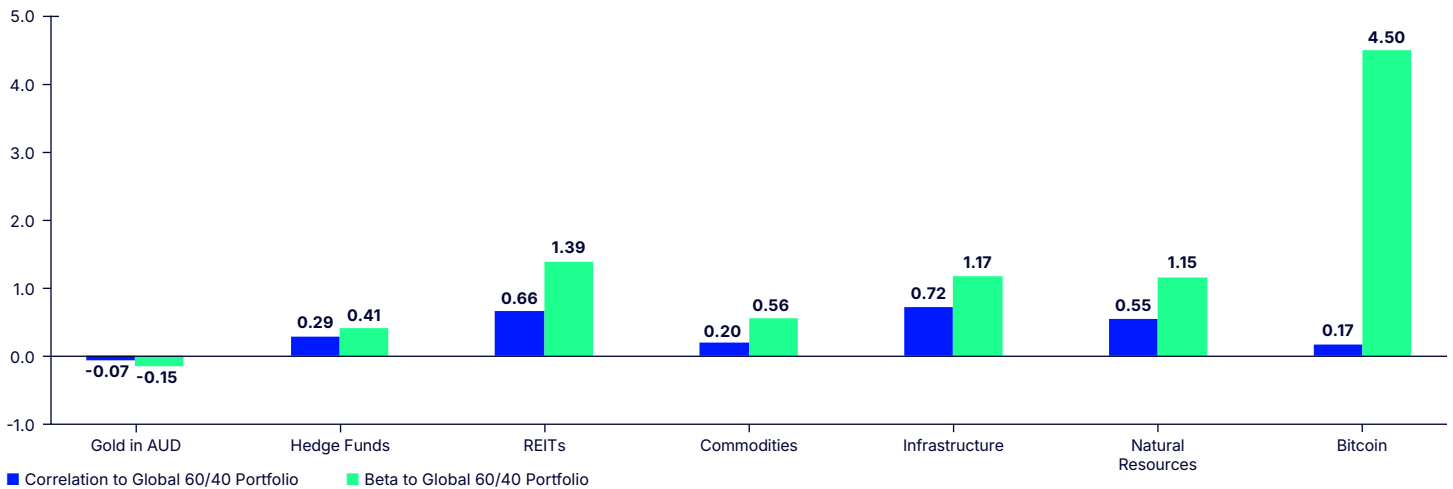
This aspect of portfolio downside protection is on display during major market drawdown events. As shown in Figure 12, adding a prorated 10% portfolio allocation to gold would have reduced portfolio drawdowns by 2.52% on average compared to a traditional 60/40 portfolio, while the same allocation to other liquid alternatives would not have had as large an impact.

Figure 12: Gold has led other liquid alternatives in its ability to help reduce portfolio drawdowns in tail events



Source: Bloomberg Finance L.P., State Street Investment Management. Data from 16 July 1990 to 31 March 2025; 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 Australian 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 (01/01/22–17/06/2022), COVID-19 (19/02/20–23/03/20), 2008 Financial Crisis (11/08/08–09/03/09), 2002 Recession (19/03/02–23/07/02), Dot-Com Bubble (29/09/00–04/04/01), LTCM & Asian Crisis (17/07/98–31/08/98), US Credit Downgrade (07/07/11–03/10/11), Subprime Meltdown (09/10/07–10/03/08), September 11 (24/08/01–21/09/01), Flash Crash (23/04/10–02/07/10), Trade War/Recession Fears (21/09/18–26/12/18). Performance returns are calculated in Australian dollars. Past performance is not a reliable indicator of future performance. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends. All the index performance results referred to are provided exclusively for comparison purposes only. It should not be assumed that they represent the performance of any particular investment.

Figure 13: Correlation and beta to a global stock and bond allocation



Source: Bloomberg Finance L.P., State Street Investment Management. Data from 31 July 2010 to 31 March 2025. 60/40 Global Portfolio = 60% MSCI ACWI, 40% Bloomberg Global Aggregate Index; Gold: gold spot price in AUD, 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. Unless otherwise stated, all indices in Australian dollars. Past performance is not a reliable indicator of future performance. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends. All the index performance results referred to are provided exclusively for comparison purposes only. It should not be assumed that they represent the performance of any particular investment.

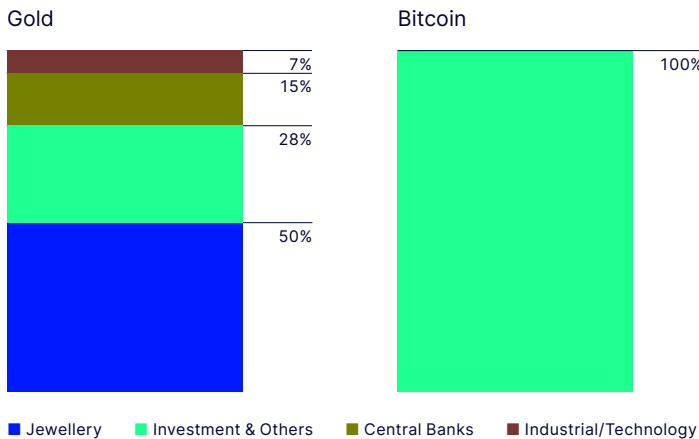
Bitcoin: The new gold?

In recent years cryptocurrencies, Bitcoin in particular, have been likened to gold. The main similarity often cited is their perceived ability to protect investors from currency debasement because neither are tied to a specific country's currency. This has led many investors to dub Bitcoin "the new gold". Here we briefly highlight three key differences between gold and Bitcoin that should dispel the notion that Bitcoin is a substitute for gold in investor portfolios.

1 Real world demand

Unlike bitcoin, the majority of global gold demand is tied to tangible uses as a real world commodity. These diverse sources of demand — both cyclical and counter cyclical — have been the source of gold's low historical correlation to financial assets and its unique ability to provide key strategic portfolio functions.

Figure 14: Fundamentally different sources of demand

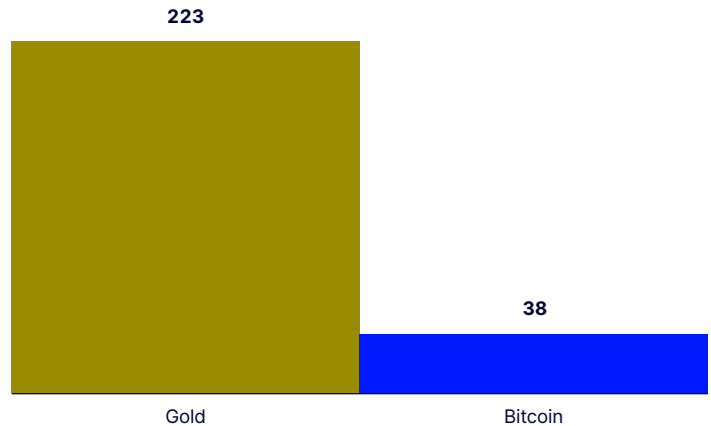


Source: State Street Investment Management, World Gold Council. Gold demand based on annual demand data for the year ended 2024. Past performance is not a reliable indicator of future performance. The information contained above is for illustrative purposes only.

2 Liquidity

Gold is a well-established asset with liquidity in line with the most liquid traditional asset classes. While Bitcoin continues to be adopted by institutional and retail investors, gold's average daily trading volumes are still nearly 6 times larger than Bitcoin's.

Figure 15: Daily liquidity of bitcoin pales in comparison to gold



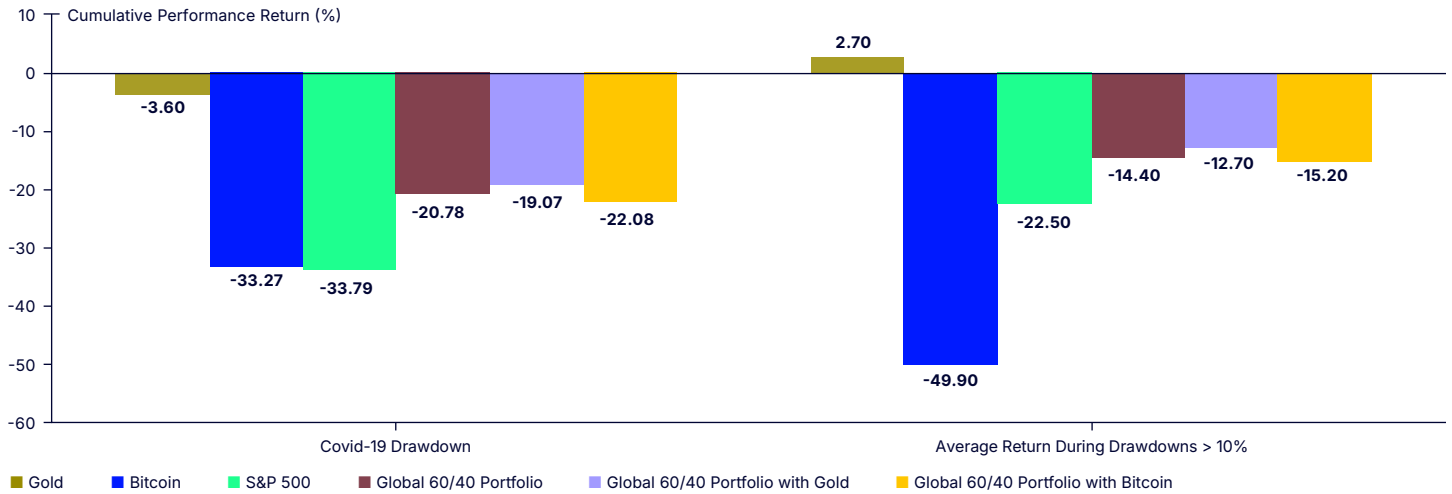
Source: World Gold Council, State Street Investment Management, CoinMarketCap.com. Average daily volumes from 1 January 2023 to 31 December 2024.

3 Protection against risks

Historically, gold has served as an effective hedge against heightened volatility, geopolitical turmoil, and significant risk off events resulting in equity market drawdowns. Meanwhile, Bitcoin has behaved in line with risk assets during significant tail risk events and market volatility. This is in line with the earlier observation of Bitcoin's high beta to a 60/40 portfolio and equities in particular. During US equity drawdowns greater than 15%, a 10% gold allocation in a global 60/40 portfolio would have reduced the average drawdown of the portfolio by 1.7% compared to a portfolio without gold. On the other hand, a 10% bitcoin allocation in a global 60/40 portfolio would have increased the portfolio's average drawdown by 0.8%.

The primary motivation for gold investment is defensive in nature. Investors look to gold for downside protection, portfolio diversification, while providing risk-adjusted real returns over time. Bitcoin's primary investment motivation is speculative in nature and driven by upside-potential making it a more volatile pro-cyclical asset.

Figure 16: Gold and Bitcoin's performance during US equity drawdowns greater than 15%



Source: Bloomberg Finance L.P., State Street Investment Management. Volatility data from 31 July 2010 to 31 March 2025. COVID-19 Drawdown = 19/02/20–23/03/20. Global 60/40 Portfolio: 60% MSCI ACWI Total Return Index, 40% Bloomberg Global Aggregate Total Return Index; US Equities: S&P 500 Total Return Index; Gold: gold spot price in US\$/oz; Bitcoin: bitcoin spot price in US\$. Performance returns are calculated in US dollars. Past performance is not a guarantee of future results. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends. All the index performance results referred to are provided exclusively for comparison purposes only. It should not be assumed that they represent the performance of any particular investment.

Case for constructing portfolios with gold

In order to examine the potential results of adding strategic allocation to gold we conducted a backtest based on actual returns data since 2010. Many Australian investors have moved on from a traditional 60/40 portfolio and have built globally diversified investment portfolios. So we constructed a hypothetical Australian multi-asset portfolio as a starting point, based on our observations of asset classes and allocations typical among clients.

This exercise involved adding a 2%, 5%, or 10% strategic allocation to gold into this multi-asset portfolio (Portfolio A). Then the percentage to be allocated to gold (in AUD) was subtracted equally from the equity and aggregate bond asset classes (the four asset classes with the highest weights) to add in gold at 2% (Portfolio B), 5% (Portfolio C), and 10% (Portfolio D).

Figure 17a identifies the asset class weightings in each of the hypothetical portfolios constructed. It is important to note that the impact of adding gold to an investor's portfolio will vary based on fees and transaction costs, among other things.

Figure 17a: 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 ACWI Index	30.00	29.50	28.50	27.00
Domestic equity	S&P/ASX 200 Index	30.00	29.50	28.50	27.00
Domestic bonds	Bloomberg AusBond Composite 0+ Yr Index	15.00	14.50	14.00	13.50
Global bonds	Bloomberg Global-Aggregate Total Return Index Value Hedged	10.00	9.50	9.00	8.50
HY bonds	Bloomberg Global High Yield Corporate Total Return Index Hedged	2.00	2.00	2.00	2.00
EM bonds	Bloomberg Emerging Markets Sovereign TR Index Value Unhedged	3.00	3.00	3.00	3.00
Real estate	FTSE EPRA Nareit Developed Index Net TRI	4.50	4.50	4.50	3.50
Private equity	LPX50 Listed Private Equity Index TR	3.25	3.25	3.25	3.25
Commodities	Bloomberg Commodity Index Total Return	2.25	2.25	2.25	2.25
Gold	XAUAUD Spot Exchange Rate — Price of 1 XAU	0.00	2.00	5.00	10.00

Source: State Street Investment Management. The information contained above is for illustrative purposes only.

In Figure 17b, from a risk-adjusted return perspective, our hypothetical blended portfolio results shows that adding a 2%, 5%, or 10% allocation to gold would have lowered the volatility of the portfolio over the backtest period. This hypothetical scenario would have outperformed a multi-asset portfolio on a risk-adjusted basis. From a risk-management perspective, hypothetical portfolios with a gold allocation had lower maximum drawdowns, with a 10% allocation to gold reducing maximum drawdown by 165 bps.

Given that adding a 2% to 10% strategic asset allocation to gold improved risk-adjusted return and reduced maximum drawdown, Australian investors may consider including gold in their portfolios as a strategic holding.

Figure 17b: Hypothetical blended portfolio performance from 1 January 2010 to 31 March 2024

Portfolio	Gold allocation (%)	Annualized return (%)	Annualized standard deviation (%)	Return/risk	Maximum drawdown (%)
A	0	7.99	7.70	1.04	-11.41
B	2	8.05	7.54	1.07	-11.14
C	5	8.11	7.28	1.11	-10.68
D	10	8.18	6.88	1.19	-9.76

Source: Bloomberg Finance L.P., State Street Investment Management. The data displayed for the gold price back-test is a hypothetical example of Back-Tested Performance for illustrative purposes only and is not indicative of the past or future performance of any SSGA product. Back-Tested Performance does not represent the results of actual trading but is achieved by means of the retroactive application of a model designed with the benefit of hindsight. Actual performance results could differ substantially, and there is the potential for loss as well as profit. The Back-Tested Performance may not take into account material economic and market factors that would impact the adviser's actual decision-making. The performance does not reflect management fees, transaction costs, and other fees expenses a client would have to pay. Performance returns are calculated in Australian dollars.

Arguments against large allocations to gold

While the results from the portfolio construction exercise above are impressive and show an improvement on risk-return metrics as the gold allocation increases, we would caution against large strategic allocations. The main reason for caution is that throughout gold's history, there are multi-year periods, especially in high growth, low inflation (risk-on) environments when gold underperforms.

Recent examples include the periods between 1995–2004 and 2011–2018 where gold averaged annual returns of only 1.3% and 3.4% respectively. This can be a drag on overall portfolio performance for a meaningful amount of time. This is exacerbated by gold's lack of cash flows, at a time when traditional assets may be generating strong returns. In the periods highlighted above, Australian equities generated 12.3% p.a. and 6.9% p.a. respectively; while Australian bonds returned 8.6% p.a. and 5.5% p.a. respectively.

Using the same hypothetical portfolio from above, we see the impact this underperformance would have had in the tables below. In the 2011–2018 period the negative return impact on the portfolio from a 10% holding in gold would have been 0.48% p.a., and 0.89% p.a. in the 1995–2004 period. However, it is worth noting that, even in these periods, gold still provided diversification benefits as evidenced by the lower volatility and drawdowns in the portfolios containing gold. This further highlights that motivations for allocations to gold should be defensive rather than return-seeking.

Figure 18a: Hypothetical blended portfolio performance from 1 January 2011 to 31 December 2018

2011–2018 portfolio	Gold allocation (%)	Annualized performance return (%)	Annualized standard deviation (%)	Return/risk	Maximum drawdown (%)
A	0	7.98	6.17	1.29	-3.84
B	2	7.90	6.06	1.30	-3.70
C	5	7.76	5.89	1.32	-3.46
D	10	7.50	5.66	1.33	-3.46

Source: Bloomberg Finance L.P., State Street Investment Management. The data displayed for the gold price back-test is a hypothetical example of Back-Tested Performance for illustrative purposes only and is not indicative of the past or future performance of any SSGA product. Back-Tested Performance does not represent the results of actual trading but is achieved by means of the retroactive application of a model designed with the benefit of hindsight. Actual performance results could differ substantially, and there is the potential for loss as well as profit. The Back-Tested Performance may not take into account material economic and market factors that would impact the adviser's actual decision-making. The performance does not reflect management fees, transaction costs, and other fees expenses a client would have to pay. Performance returns are calculated in Australian dollars.

Figure 18b: Hypothetical blended portfolio performance from 1 January 1995 to 31 December 2004

1995–2004 portfolio	Gold allocation (%)	Annualized performance return (%)	Annualized standard deviation (%)	Return/risk	Maximum drawdown (%)
A	0	9.72	6.42	1.51	-4.83
B	2	9.54	6.20	1.54	-4.61
C	5	9.27	5.91	1.57	-4.29
D	10	8.83	5.49	1.61	-3.75

Source: Bloomberg Finance L.P., State Street Investment Management. The data displayed for the gold price back-test is a hypothetical example of Back-Tested Performance for illustrative purposes only and is not indicative of the past or future performance of any SSGA product. Back-Tested Performance does not represent the results of actual trading but is achieved by means of the retroactive application of a model designed with the benefit of hindsight. Actual performance results could differ substantially, and there is the potential for loss as well as profit. The Back-Tested Performance may not take into account material economic and market factors that would impact the adviser's actual decision-making. The performance does not reflect management fees, transaction costs, and other fees expenses a client would have to pay. Performance returns are calculated in Australian dollars.

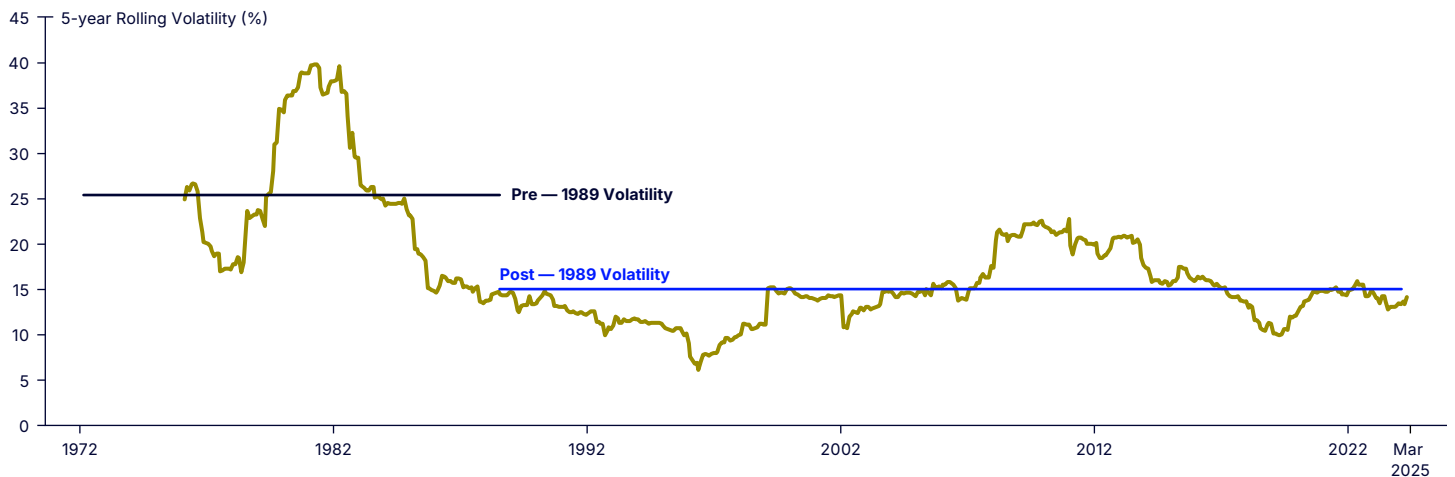
When reviewing rolling returns, long cyclical periods of gold under and outperformance suggest that there are definitely periods when owning gold is beneficial, but others when not. This is one reason why it would not be prudent to include a large long-term allocation to gold in a multi-asset portfolio. This is especially true for investors who are sensitive to periodic performance variability or are assessed against benchmarks that do not include gold. Additionally, a large allocation to gold could create a significant drag from the lack of income given current fixed income yields and expectations that these may be higher going forward than has been the case in the past decade.

Another reason for caution would be the stand-alone risk for gold. The standard deviation of gold returns is generally in line with Australian equities (and a bit higher than global equities), and there has been a wide range of five year rolling volatility. However, it is worth noting that since the late 1980s, the range of outcomes has been more muted (Figure 19) — perhaps coinciding with the advent of more explicit inflation targeting by central banks around the world. On a risk adjusted basis, the return/risk ranges from 0.2–0.9 annually, averaging about 0.5. This puts it in line with or below equities on various time

periods and well below fixed income. So, despite very low correlation with other asset classes, adding large allocations to gold to a portfolio could overwhelm the diversification benefits it brings and actually increase overall portfolio risk and reduce the expected return/risk ratio.

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 jewellery but also in certain technology products and industrial applications. However, investment demand may slow during these periods as interest in gold investment increases during economic downturns. Central bank demand tends not to be influenced by economic cycles and, while the source and amount of that central bank demand has been variable, we would expect that to continue. This leads to a base level of demand for the metal providing a stabilising effect on gold price performance. Applying a long-run perspective across market cycles highlights that gold's expected returns are more comparable to bonds than equities — as seen in the 30 year history gold returns in AUD of 9.4% p.a. being between the 7.4% p.a. of global bonds and 10.1% p.a. for global equities (Figure 1).

Figure 19: 5-year rolling volatility of gold price 30 June 1971 to 31 March 2024

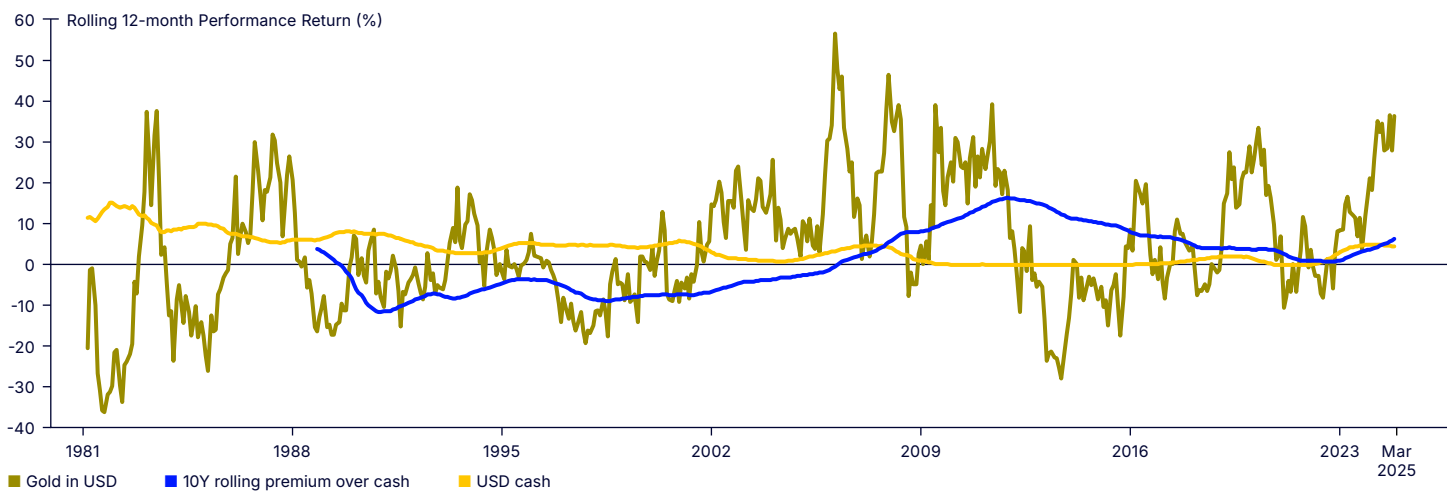


Source: Bloomberg Finance L.P., State Street Investment Management. Data from 1 June 1972 to 31 March 2024. Data is calculated in US dollars. Past performance is not a guarantee of future results.

Finally, the most difficult part of determining a role for gold in strategic asset allocation is to forecast an expected return for gold. Given the lack of cash flow from gold, it is very difficult to do a traditional fair value estimate similar to other asset classes. We acknowledge that beyond the specific fundamental drivers for the price (jewellery, industrial production, and currency reserves), there has been demand historically as a safe haven and inflation hedging asset. However, this demand is difficult to forecast with any confidence. To come up with some estimate for future returns, we looked at gold relative to other asset classes to determine historical relative premia. We also reviewed gold relative to broader macro variables such as money supply. Based on various ways to look at this question, a premium of 2–4% over cash has been a range that is historically consistent (since 1971, the average premium has been 2.50% p.a.). Using this premium gives us an expected return/risk ratio over the medium term that is comparable to riskier equity segments like small caps but lower than large cap equities and bonds.

So, despite competitive historical long-term returns, we would only recommend an allocation to gold in the region of 2–5%. There are obvious benefits to holding gold in the long term but given the need for investors to have diversified sources of return through each stage of an economic cycle — there can be significant drawbacks as well. Smaller allocations will allow investors to take advantage of gold’s undoubted role as a diversifier while not materially impacting short term performance in periods when gold underperforms. Multi-asset portfolios will benefit from having gold complementing the downside hedging exposures from fixed income and real asset allocations.

Figure 20: Rolling 12-month gold return vs. Cash returns



Source: Bloomberg Finance L.P., State Street Investment Management. Data from 1 January 1981 to 31 March 2025. USD Cash: ICE BofAML US 3-Month Treasury Bill Index. Performance returns are calculated in US dollars. Past performance is not a reliable indicator of future performance. Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income as applicable. All the index performance results referred to are provided exclusively for comparison purposes only. It should not be assumed that they represent the performance of any particular investment.

Find the right gold for your portfolio

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, managed 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.

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 realised.

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. 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 managed funds that invest only a small portion of their assets in gold. Physically backed gold ETFs 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 to the market price of gold. ETFs may also provide deep liquidity and access to the market to rebalance and position exposures.

Gold managed 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 managed 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. As with ETFs, investors need to filter for managed funds that invest exclusively in gold bullion. Another aspect for investors to be mindful of is that managed funds have a wide range of expense ratios so these need to be compared against ETFs to achieve a lower fee drag. Depending on the size of the allocation, this option may provide investors with more flexibility than ETFs.

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.

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 over the medium and longer term.

Conclusion

We have presented a case covering the benefits and risks of considering gold as a strategic holding for Australian investors. While historical analysis is not predictive of future outcomes, gold has provided portfolio benefits in different economic scenarios. 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 strategic role in multi-asset portfolios.

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* This figure is presented as of March 31, 2025 and includes ETF AUM of \$1,553.58 billion USD of which approximately \$106.42 billion USD in gold assets with respect to SPDR products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated. Please note all AUM is unaudited.

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