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White Paper

**Multi-Asset Solutions**

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October 2024

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# Portfolio Protection

## A Renaissance for Government Bonds

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# Risk Mitigation Revisited

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For a long time, the considered wisdom prevailed that a 60/40 investment portfolio of equities and bonds could satisfy the needs of most investors, balancing growth assets with the more defensive qualities of government bonds. However, the deep and simultaneous corrections in bonds and equities in 2022 led many to rethink the 60/40 approach amid an excessive focus on rising bond-equity correlations.

Back in 2020, we published a paper<sup>1</sup> that explored whether government bonds could still provide diversification at a time when yields had turned negative. We recommended that investors consider adding other diversifiers such as reserve currencies, inflation-linked bonds, and gold.

Today's relatively generous yields means that sovereign bonds now represent a very different proposition to a few years ago; their capacity to provide meaningful protection for equity investors should be much greater. Just how effective that protection could be hinges on how markets price the risks of inflation and a possible growth shock.

So, despite a likely bond renaissance it still makes sense for investors to keep other diversifiers on their radars and expand the range of assets that can act as "safe havens" in their portfolios to include the likes of cash, gold and selected currencies.

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# Government Bonds: Regaining Safe Haven Status?

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High-quality government bonds had long fulfilled the traditional role of key diversifier in multi-asset portfolios by providing reliable protection when risk assets suffered significant losses. That changed abruptly in 2022 as equities and government bonds simultaneously racked up outsized losses.

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## What is a “Safe Haven” Asset?

At the outset, it is worth defining what constitutes a “safe haven” asset. In the traditional sense, an asset is considered “safe” if it serves as a store of value — i.e., it is expected to retain or increase its value during bouts of uncertainty or market turbulence. Such assets tend to have a low or negative correlation to risky assets. Moreover, these assets tend to be liquid and capable of being readily traded without substantially moving market prices.

The accepted trade-off for holding a safe haven asset in a portfolio is that investors forego some of the higher expected returns from risky assets such as stocks in return for a greater degree of capital security.

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## High-Quality Bonds: A Tarnished Reputation?

Diversification across assets is important in the construction of resilient portfolios. When the returns of individual assets are less than perfectly correlated with one another an investor receives the benefit of reduced expected risk without necessarily having to sacrifice expected returns.

High-quality government bonds had long been a reliable diversifier for equity risk — this is illustrated in Figure 1 where the predominantly negative correlation up until 2014 reflects the capacity of German government bonds to offset losses on global equities. The lowest correlations identify those time windows where German Bunds provided returns that were well above average as equities experienced bigger than average losses, i.e. during the correction following the bursting of the TMT bubble in 2000 and the Global Financial Crisis meltdown in 2008.

Figure 1  
**Rolling 3-year  
Correlations: German  
Government Bonds and  
Global Equities**



Source: Bloomberg Finance L.P., as at 30 June 2024. Past performance is not a reliable indicator of future performance. German Bonds = ICE BofA German Govt Bond Index. World Equities = MSCI World Index. 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.

However, to infer the converse — that high correlations signal losses on both bonds and equities — would be a mistake. In this respect, the dramatic spike in the bond-equity correlation in 2015 represents an interesting test case. The correlation hit a peak of 0.5 in June 2015 — that high marked a 36-month run where both equity and bond returns were fairly synchronized and predominantly *positive*. Positive correlations are not necessarily bad for investors.

That said, the dramatic rise in correlations in 2022 was patently bad and reflected simultaneous and outsized losses on equities and sovereign bonds. These coincident losses raised legitimate concerns around the capacity of government bonds to provide reliable protection in a multi-asset context.

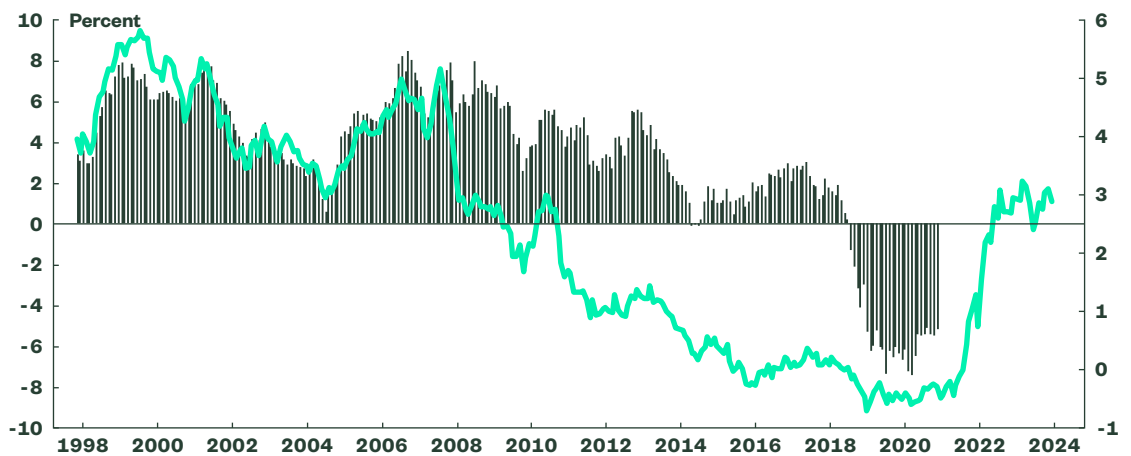
## A Point of Clarity

A robust correlation matrix is key in the design of resilient portfolios. Using an appropriately long lookback period and having an understanding of the inherent limits can help improve asset allocation outcomes. Nonetheless, correlations are historic in nature and do not determine the prospective return of an individual asset class. Correlations can be complemented greatly by the fundamentals that ultimately drive the returns of an asset class — especially when those fundamentals reach extreme levels. Government bonds provided no protection for 60/40 portfolios in 2022, not because of their correlations but because their extreme yields made price losses inevitable. Rising correlations were merely a symptom of the ensuing simultaneous losses in bonds and equities. The damage was caused by ultra-low bond yields — in order to generate a positive return, negative yields were required to continue deeper into negative territory (Figure 2). It turns the causal relationship on its head to attribute the losses to rising correlations!

For that very reason, the prevailing yield environment is a critical part of the answer to the portfolio protection question. Today's high correlations do look daunting, especially those looking at shorter time intervals. Yet, having suffered the worst losses in decades due to extreme valuations in sovereign debt it would be ironic to eschew those now repriced bonds when some corners of the equity universe are close to valuation extremes.

Figure 2  
German Government Bond Yield and Subsequent 3-Year Return

■ Subsequent 3-yr Bond Return  
■ German Gov't Bond Yield (RHS)



Source: Bloomberg Finance L.P., as at 30 June 2024. Past performance is not a reliable indicator of future performance. German Bonds = ICE BofA German Govt Bond Index. World Equities = MSCI World Index. 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.

## A Renaissance for Government Bonds?

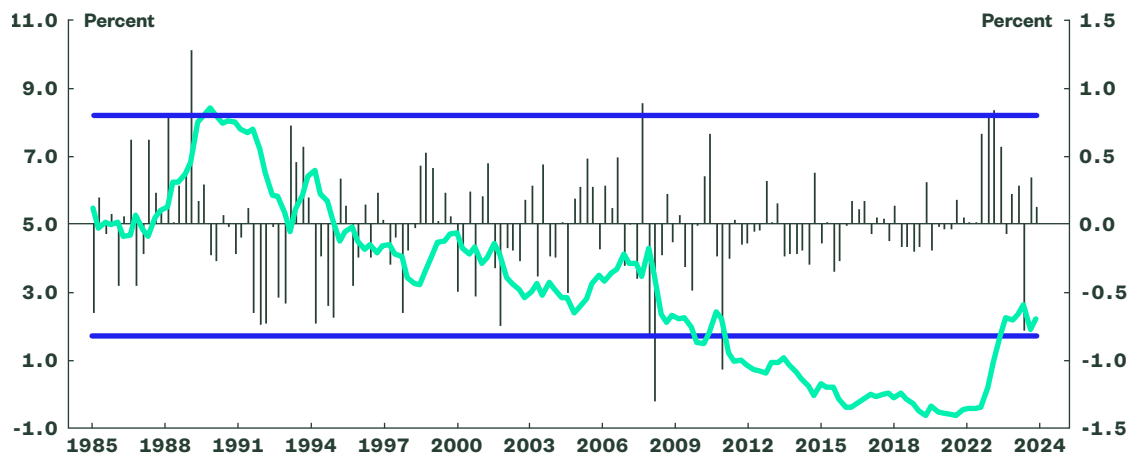
At the time of writing (September 2024), bond yields had dropped significantly in response to a perceived deterioration in the US labour market. Despite this rally, yields are still hundreds of basis points above the lows seen in 2020 and bonds are in a much better position to provide portfolio protection in the event an equity market sell-off. In fact, the plunge in Treasury yields that accompanied the equity market setback at the start of August is a good test case. A degree of correction would not be unexpected (similar to the correction seen in H1 2024) and would provide investors with a more comfortable entry point to add duration as an equity book hedge.

So how much protection can today's yields offer investors? Figure 3 gives us a sense of how the current German (average) market yield stacks up relative to history. It is intuitive to assume that larger falls in yield are more likely to occur when absolute yield levels are higher. The chart supports that intuition: the period up to the Eurozone Debt Crisis (2011, 2012) bore witness to several drops in yield close to and occasionally exceeding two standard deviations (c. 80 basis points) while the ultra-low yield era since then is marked by a striking absence of anything near a two standard deviation decline. The situation has clearly improved recently, and Bunds have regained some of their protective firepower — while not related to an equity market correction, the two-standard deviation drop in yields in Q4 2023 is early evidence of that restored firepower at higher yields.

In an ideal world where Bunds offered a yield of 4.0%, or even 5.0%, we could be quite confident that the desired protection would materialise when needed. Productivity trends and demographic reality impose a soft limit on euro area growth prospects and, by extension, eurozone yields. Investors may therefore need more duration to have greater confidence that their government bond holdings will deliver the required protection in crisis, as we consider below.

Figure 3  
**German Government Bond Yield Level and Quarterly Changes**

- Subsequent Quarter Yield Change (RHS)
- Yield to Maturity
- +/- 2 SD



Source: Bloomberg as at 30 June 2024. Past performance is not a reliable indicator of future performance.

In the past thirty years, there have been 11 occasions when global equities suffered losses of 10% or more in a calendar quarter. For each of those quarters, we have assessed how various government bond benchmark indices performed in order to get a sense of the consistency and scale of protection they provided a euro-based equity investor. As illustrated in Figure 4, German, eurozone, and global government bonds (currency hedged) all provided a similarly attractive degree of protection — apart from Q2 2022 when almost all bonds abjectly failed to offset equity losses. Interestingly, the outlier is global government bonds on an unhedged basis where protection was concentrated to a small, yet substantial, set of occasions.

As noted already, the performance of longer-maturity German government bonds raises an important point on sensitivity of the hedging instrument. For a meaningful impact, investors may want to consider 10+ year German government bonds or equivalent maturity in other high grade markets. These longer-maturity segments have historically been much more responsive when equity markets correct (Figure 4).

Figure 4  
**Quarterly Government Bond Returns During Equity Market Corrections**

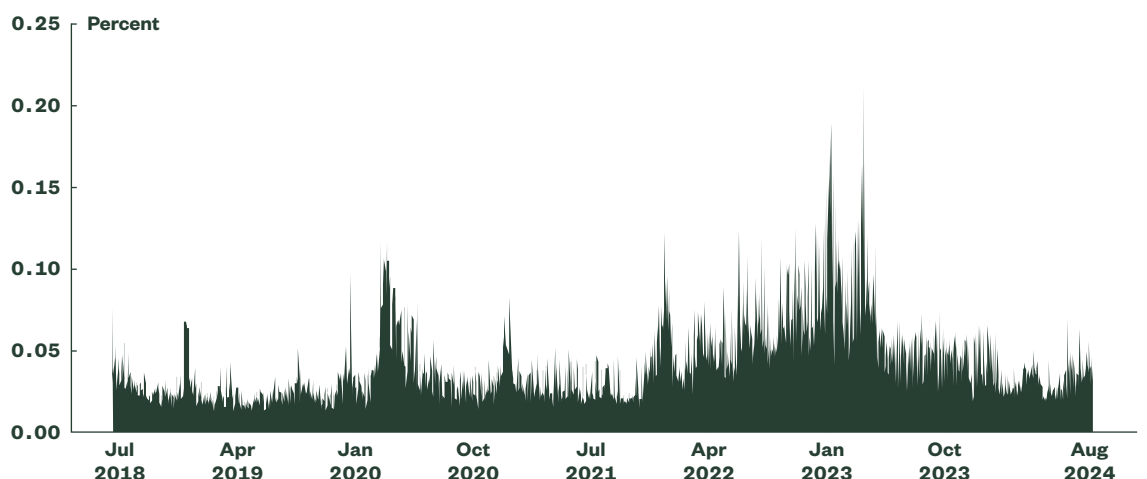
Quarterly Equity Loss 10% or More						
Median Return (%)	-18.0	1.0	3.5	3.1	5.0	3.3
# Negative	11	4	1	1	1	1
	MSCI World (%)	Global Treasury Unhedged (%)	Global Treasury Hedged (%)	German Gov't (%)	Long German Gov't (%)	EMU Gov't (%)
Dec 08	-21.1	10.1	5.9	7.7	14.6	5.9
Sep 01	-20.2	-0.4	3.3	3.1	3.4	3.3
Jun 02	-20.1	-1.6	3.3	3.0	5.4	3.0
Mar 20	-19.7	5.0	3.6	2.0	5.0	0.2
Sep 98	-18.4	0.9	4.9	5.0	9.1	5.0
Sep 02	-18.0	4.1	4.8	4.8	6.8	4.8
Mar 08	-16.0	1.0	2.7	2.6	2.2	2.2
Dec 18	-12.4	3.9	1.6	1.6	3.5	1.5
Dec 00	-12.1	-1.8	3.5	3.4	4.4	3.4
Jun 22	-11.5	-3.0	-4.7	-6.4	-14.8	-7.3
Sep 11	-10.0	11.0	4.3	7.9	17.3	3.8

Source: Bloomberg Finance L.P., as of 30 June 2024. Quarterly returns in euro terms from December 1993 to June 2024. 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.

**A Note of Caution — Liquidity Issues**

An expected characteristic of safe haven assets is liquidity. There have been episodes where market liquidity had become challenged — even in the most liquid government bond markets. While the European Central Bank’s holdings of euro area public sector debt have been declining since July 2023, the pace of reduction has been very modest and the Eurosystem still holds almost €2.25 trillion worth of public debt. The removal of this quantity of debt from the market had clear implications for liquidity, with bid-offer spreads widening significantly during phases of market stress. The first such stress event (in recent years) occurred in Spring 2020, when the coronavirus-induced turbulence caused the bid-offer spread on the August-2028 Bund to balloon out to four times its long-term average of 3 basis points. From early 2022 to early 2023, spreads widened again when soaring inflation caused yields to correct sharply higher. At one point in March 2023, the Bund’s bid-offer spread reached seven times its long-term average (Figure 5).

Figure 5  
**Bid-Offer Price Spread on German 2028 Government Bond**



Source: Bloomberg Finance L.P. as of 19 August 2024. Past performance is not a reliable indicator of future performance.

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While Bunds remain what one might consider a true safe haven, this is a salutary reminder that liquidity can get thinner even in the most liquid of markets. This means that it may not always be possible to buy and sell these bonds cheaply and without moving the price.

Nevertheless, we should not overstate the issue to the point of spurning an asset class that has regained much of its capacity to be a true safe haven asset. A 10 or 20 basis point bid-offer spread should be weighed in the context of equity market corrections measured in hundreds if not thousands of basis points.



# Alternatives to Government Bonds

There are other assets that have historically provided a degree of protection when risk assets suffer significant losses. These alternatives to government bonds have tended to provide a lower degree of absolute return at times of stress for stocks but they can also complement a given bond exposure.

While we believe that high-quality sovereign debt has regained its credentials as a risk-mitigating asset in multi-asset portfolios, investors may also wish to consider alternative options that can offer some degree of offset in a crisis as well as potentially complementing a government bond exposure. We consider a range of asset classes that have provided some offset when equities suffered their worst quarterly losses over the past 30 years. Figure 6 provides a snapshot of their performance.

Figure 6  
**Quarterly Returns of Alternative Assets During Equity Market Corrections**

<b>Quarterly Equity Loss 10% or More</b>									
Median Return (%)	-18.0	0.9	-7.3	0.8	0.5	2.0	-1.3	0.4	-13.2
# Negative	11	5	8	3	5	1	6	4	10
	World Equity (%)	Gold EUR (%)	Commodities (%)	EUR Cash (%)	US Dollar (%)	Swiss Franc (%)	Japanese Yen (%)	FX Basket (%)	MSCI Min Vol (%)
Dec 08	-21.1	-0.8	-27.0	1.2	0.8	5.9	18.1	8.3	-16.5
Sep 01	-20.2	0.9	-10.9	1.1	-6.9	3.2	-2.7	-2.2	-12.6
Jun 02	-20.1	-7.1	-10.7	0.8	-12.1	-0.2	-2.4	-5.0	-14.2
Mar 20	-19.7	8.0	-18.4	-0.2	1.6	2.3	2.7	2.2	-14.2
Sep 98	-18.4	-8.1	-11.8	1.0	-7.3	2.2	-5.7	-3.6	-13.7
Sep 02	-18.0	2.1	7.0	0.8	0.5	0.9	-1.3	0.0	-13.2
Mar 08	-16.0	3.5	3.2	1.0	-7.6	5.5	3.6	0.4	-14.0
Dec 18	-12.4	9.0	-7.3	-0.1	1.2	1.1	4.9	2.4	-6.2
Dec 00	-12.1	-6.1	-5.7	1.2	-6.4	0.2	-11.5	-5.9	-5.2
Jun 22	-11.5	-1.2	0.0	-0.2	5.6	2.0	-5.4	0.7	-4.7
Sep 11	-10.0	16.6	-3.5	0.3	8.3	0.3	13.3	7.4	2.7

Source: Bloomberg Finance L.P., as of 30 June 2024. Quarterly returns in euro terms from December 1993 to June 2024. 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.

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## Cash: From Serial Detractor to Provider of Yield and Diversification

For a long time, the primary reasons European investors held cash was for diversification and security of capital. As market interest rates reached the effective lower bound (the level beyond which the effects of further rate cuts would be harmful for the economy), cash had the dubious advantage of a contained negative return — in contrast to the prospect of deeper losses on duration assets. This was true diversification, but at a cost. At today's prevailing rates, cash is once again a true diversifier but this time with a positive yield. Central banks are widely expected to cut policy rates in the coming quarters and so the money market term structure has declined accordingly — but it is still firmly in positive territory.

However, the trajectory is somewhat opaque especially when we look out into 2025. It seems that the transmission of monetary policy may be different this time around and that even in Europe the path from here is not entirely clear — the unemployment rate across the euro area is only fractionally above its 25-year low, although admittedly this is a lagging indicator.

For our part, we believe the transmission may be delayed but is nevertheless effective. In effect, this brings investors back to duration as their preferred choice of hedge — but that does not strip cash of all its merit. In fact, cash or near-cash instruments could be a complementary exposure for those seeking to contain some of the increased duration inherent in longer-dated sovereign debt.

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## Reserve Currencies

In a stable inflation environment, reserve currencies count among the assets investors regard as safe havens. As highly liquid and high-quality instruments, reserve currencies have typically exhibited negative correlations to risk assets in times of stress. To varying degrees, the US dollar, Swiss franc, and Japanese yen have often proven to be good hedges as they attract inflows during periods of crisis. For example, Japan's net foreign assets (what Japan's residents own abroad minus what they owe to foreigners) are worth over ¥471 trillion (\$3.3 trillion), or more than 75% of its annual GDP. In a crisis, some of that capital typically comes home, pushing up the yen's value.

For euro-based investors, the Swiss franc is a clear favourite among these three reserve currencies. The return from the spot market exposure (i.e. ignoring yield or return arising from any Swiss franc securities held) has been consistent, notching up gains in 10 of the 11 quarters when global stocks fell 10% or more. The dollar and yen offer some degree of safe haven status with correlations dipping at times of crisis but the favourable returns are quite skewed to a few instances, making them less desirable.

As noted earlier, the fundamentals of a safe haven instrument are just as worthy of exploration as the correlations themselves and this raises something of a dilemma for the franc. Its compelling performance over the years has made it quite expensive. On the other hand, the yen is quite cheap versus fair value making it potentially more attractive in future stress events. An equally-weighted basket of the three currencies — a naive but useful starting point — gives a sense of the performance trade-off that pertained historically if investors wish to dilute the implications of an overvalued currency.

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## Gold: Correlation Chameleon

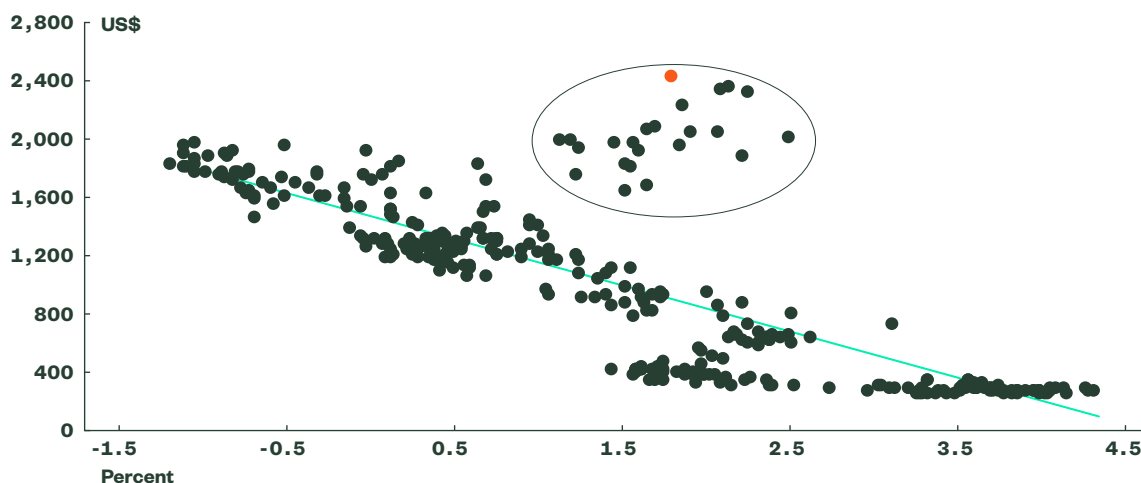
Gold has a number of interesting attributes that make it worthy of consideration for multi-asset investors seeking risk mitigation outside the cash and bond complex. Over the longer term, its correlation with global equities tends to be marginally negative. It also offers a degree of inflation protection, can act as a safe haven at times of geopolitical uncertainty, and is seen as a potential hedge against waning central bank credibility or unchecked government largesse. Many of these qualities make gold a potentially complementary exposure at those times when bonds, cash, and reserve currencies might face a more challenging environment.

Gold is often regarded as a hedge against inflation. In general, the data confirm this but the relationship is nuanced. Gold was an exceptionally effective store of value during the very high inflation years of the 1970s, but gold prices actually fell in the late 1980s and early 1990s even as inflation was running at above-average levels. In the run-up to the Global Financial Crisis, it once again proved an effective inflation hedge. And then during the recent inflation shock, the performance of the precious metal was distinctly underwhelming — rising a mere 5% as annual inflation in the US surged from 0.1% to 9.1%. The hallmark of this more recent episode was a rapidly rising yield environment and gold’s traditional inverse relationship with real yields firmly reasserted itself, leading to gold’s struggle to perform.

The inverse relationship between the price of gold and the real yield on US Treasuries is well-documented and indeed instinctive: a zero-yielding asset with inflation-mitigating qualities becomes more attractive when the yield of its inflation-protected competitor falls or turns negative. The relationship is by no means perfect however, waxing and waning through different economic regimes. There are periods where other factors appear to weigh more heavily — recently, for example, there would appear to be a stronger relationship with US equities.

The scatter plot in Figure 7 shows the relationship between the price of gold and the real yield on 10-year Treasury Inflation-Protected Securities (TIPS). There is a fairly solid inverse relationship for much of the period; but there are also clear outliers, periods where real yields have little if any explanatory power over the price of gold. The circle highlights a recent example — for just over two years the relationship has broken down — gold prices are much higher than the historic relationship with real yields would suggest. That in itself is not necessarily a reason to panic, as other factors may simply explain the relationship better since early 2022.

Figure 7  
**Gold Price and  
 US Real Yield  
 (10-Year TIPS)**  
 Jan 1997–Jul 2024



Source: Bloomberg Finance L.P., as of 31 July 2024. Past performance is not a reliable indicator of future performance.

One such factor may be a re-alignment with risk assets — equities, in particular. Over the past two years, gold’s relationship with equities seems to have turned positive. This is not out of character for gold. Figure 6 reflected that gold can be something of a correlation chameleon — more often than not mitigating equity risk (and strikingly well at times, e.g. Q3 2011) but, at times, exacerbating it. It’s interesting to note that the episodes where gold performed worst as a risk mitigant occurred more than 20 years ago — when 10-year TIPS yielded between 3% and 4%! Once again, we need to be careful on correlation and causation but it seems reasonable that those high real yields undermined gold’s value as a hedge. Our favourable outlook on yields may therefore be consistent with gold having a role to play as an equity risk mitigant.

As noted, in more recent years gold’s relationship with equities turns negative in times of equity market distress. Yet, in a perverse way, its recent run up in tandem with stocks may be for that very reason — having witnessed the horror of high bond-equity correlations in 2022,

equity investors may now be building out more diverse tail risk hedges that rely less heavily on sovereign bonds and more on other risk mitigants like gold on the understanding that the gold-equity correlation will turn negative if things turn sour for stocks.

Finally, gold has a versatility that few other assets possess. With a low correlation to some of the hedging assets mentioned — high-quality government bonds, cash, reserve currencies — gold has the potential to hedge your hedge. So, for example, if you believe that central banks have not yet completed the job of taming inflation, nominal bonds will suffer. Gold tends to be a decent inflation hedge and may help to hedge a nominal bond exposure in such a scenario.

It's interesting to note that broad commodities — a very different animal to precious metals — has had a poor track record in terms of protection during equity market corrections. Its equity correlation and sensitivity are simply too high for it to provide a consistent and reliable offset.

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## **A More Direct Approach**

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All of the foregoing approaches consider the extent to which a hedging asset can provide gains at times of equity market weakness. Investors may also wish to explore techniques that address equity risk directly. Systematic exposure management techniques such as Target Volatility Triggers (TVT) and Managed Target Protection (MTP) can offer compelling and cost-effective solutions. However, some investors need to maintain a level of return and liquidity and cannot easily shed equity exposure. An equity options overlay can offer clear and well-defined protection but it can come at considerable cost in terms of foregone upside, liquidity at longer horizons, market timing risks etc. Alternatively, investors can maintain nominal equity exposure while changing equity sensitivity, with strategies such as Global Defensive Equity or Managed Volatility Equity which are highly effective in reducing equity market beta. Looking back at Figure 6, the final column highlights the effectiveness of a minimum variance benchmark in this regard.

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# The Bottom Line

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Following a substantial correction in recent years, the relatively generous yields currently available means that high-quality sovereign bonds now have a much greater capacity to provide protection for equity investors.

However, multi-asset investors may need to take on more duration to achieve a fully-fledged and meaningful degree of protection. Cash and longer-dated government bonds offer an interesting barbell approach in this regard.

It should be noted that bonds have not yet been fully tested in this new yield environment. Markets continue to grapple with the potential for intransigent inflation and the risk of a growth shock. Investors may be better served by considering a broader array of instruments and strategies to protect a multi-asset portfolio dominated by equity risk — cash, reserve currencies, and gold are worthy candidates. Gold is particularly interesting as its versatility makes it a potential hedge for times when other hedges are less effective.

Another approach is to manage the equity exposure more directly. Two broad avenues exist here: exposure management techniques (TVT and MTP) that systematically adapt exposure to the prevailing risk environment and strategies such as Managed Volatility Equity that are expected to deliver a reliably reduced equity market beta.

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## Endnotes

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- 1 State Street Global Advisors White Paper *Portfolio Protection — Rethinking the Role of Government Bonds*, August 2020.

## About State Street Global Advisors

For four decades, State Street Global Advisors has served the world's governments, institutions, and financial advisors. With a rigorous, risk-aware approach built on research, analysis, and market-tested experience, we build from a breadth of index and active strategies to create cost-effective solutions. As pioneers in index and ETF investing, we are always inventing new ways to invest. As a result, we have become the world's fourth-largest asset manager\* with US \$4.37 trillion<sup>†</sup> under our care.

\* Pensions & Investments Research Center, as of December 31, 2023.

<sup>†</sup> This figure is presented as of June 30, 2024 and includes ETF AUM of \$1,393.92 billion USD of which approximately \$69.35 billion USD is 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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ID2362421-7028203.11.GBL.INST 0924  
Exp. Date: 30/09/2025