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BlackRock

A practitioner's guide

Strategic currency hedging in multi-asset portfolios





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Building globally diversified portfolios introduces important considerations around currency and its potential impact on both risk and return.

The role of currencies in a global portfolio can oscillate through time as factors such as interest rates, cross-currency basis, transaction costs, volatility, and correlations changes.

We therefore look at a dynamic active approach to inform currency hedging over a strategic time horizon.



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There are many potential benefits of creating globally diversified portfolios, yet the introduction of international assets brings with it important considerations around currency risk in the portfolio construction process.

Even investors who have not actively increased allocations to international markets may need to think more about this today as the outperformance of US equities over most other equity markets since the 2008 Financial Crisis¹ has meaningfully increased the proportion of US assets in market cap-weighted indexes. Figure 1 below shows the increasing prevalence of USD assets in a balanced 60/40 global portfolio.²

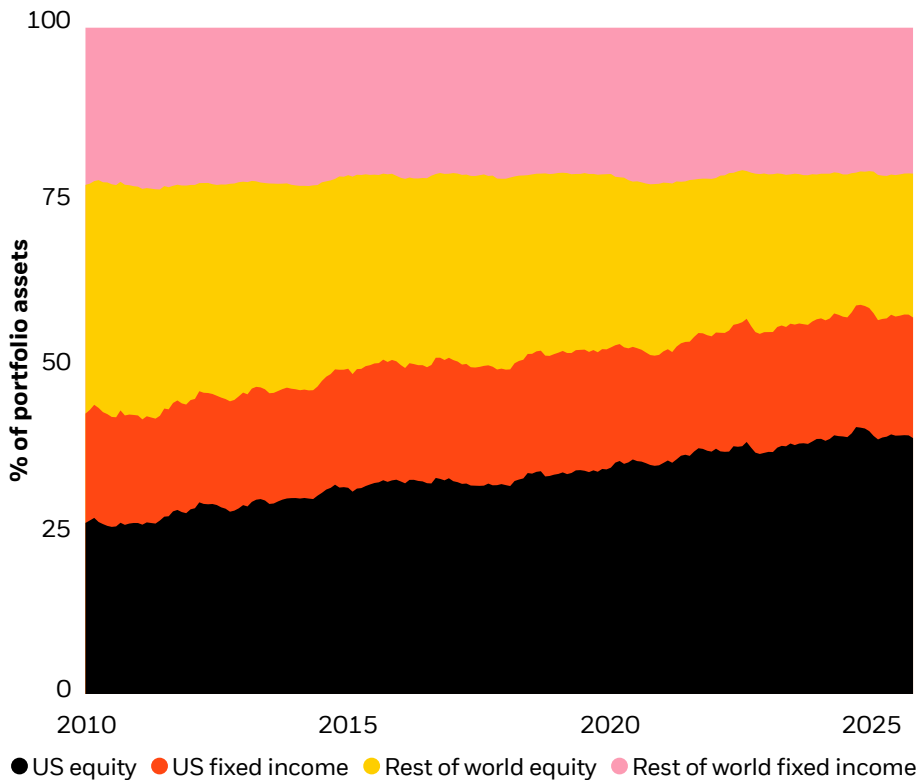


Figure 1
The proportion of US assets in a balanced 60/40 index portfolio has increased by almost 40% in the last 15 years.

Source: BlackRock with data from MSCI, using monthly data from 1 March 2010 to 31 December 2025.

With this in mind, we focused our research effort on designing a strategic currency hedging framework for multi-asset investing, helping global investors better manage foreign currency exposures by balancing hedging costs and risks.

1 Source: Bloomberg, 31 December 2025. **2** 60/40 global portfolio represented by 60% MSCI All Country World Index and 40% Bloomberg Global Aggregate Index.

Our analysis shows that taking a more active approach to currency risk management over a strategic time horizon may lead to better long-term results than a static approach.

Grounded in macro awareness, we believe our quantitative and adaptive approach to currency hedging can help multi-asset investors navigating fast-changing market dynamics. We consider the expected hedging cost (positive or negative) and use a risk model to help determine optimal strategic hedging ratios for any instrument/currency pair and to manage those ratios flexibly.

The aim of this practitioner’s guide will be to illustrate some of the key inputs that can help inform the decision to take on currency risk or to “hedge” it (fully or partially); a decision that is not straightforward and that can change across asset classes over time.

FX can materially impact risk and returns across asset classes

FX can materially impact risk and returns – yet the impact can vary meaningfully across asset classes and time horizons.

There is a strong case for fully hedging developed market fixed income. The risk contribution analysis in Figure 2 below shows that FX risk in an unhedged bond exposure quickly swamps rates risk, potentially defeating the purpose of investing in fixed income in the first place.

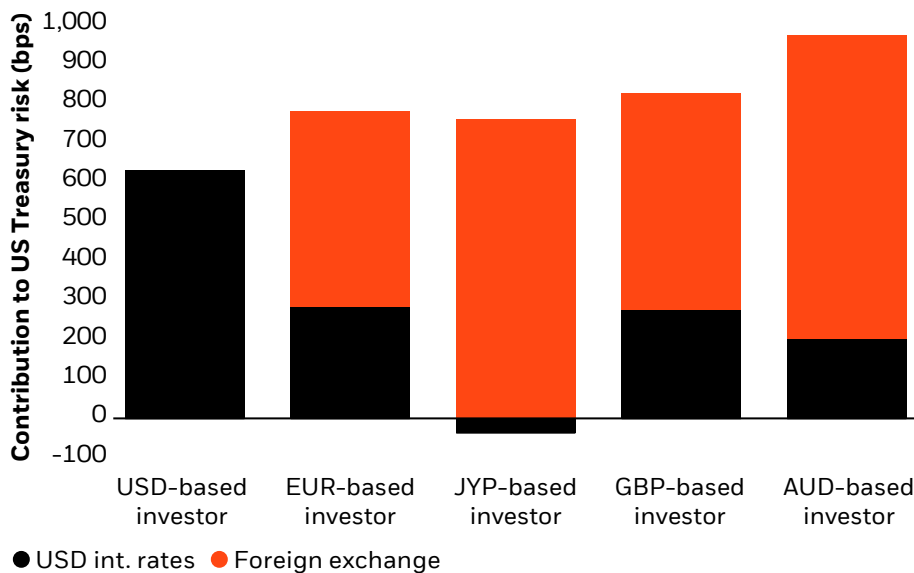


Figure 2
FX risk can disproportionately impact fixed income instruments.

Source: BlackRock, Portfolio Risk Tool (PRT) as of 31 December 2025.
US Treasuries represented by IDC US Treasury 7-10 Year Index.

Equity risk is higher than fixed income risk on average and yet currency risk can also dominate equity returns in the short term. In Figures 3 and 4 we review long-term returns for select G10 currencies main equity indices versus the returns of these same five equity indices for a single calendar year (short-term).

Currency risk can also dominate equity returns in the short term.

We see in Figure 3 that FX returns wash out over the longer-term, consistent with the uncovered interest rate parity theory. In contrast, Figure 4 highlights how much short-term equity returns can be affected by FX. Looking at US equity returns, an investor would have realised a total return of 21.1% in 2017 in local terms versus a mere 12.5% in EUR terms – a 8.6 percentage point difference – over the same period.

Investor numeraire currency	USD	EUR	JPY	GBP	AUD
US Equity (USD)	8.0	8.0	9.2	8.8	7.6
European Equity (EUR)	5.0	4.9	6.1	5.7	4.7
Japanese Equity (JPY)	4.7	4.6	5.6	5.5	4.4
UK Equity (GBP)	4.8	4.8	6.0	5.6	4.5
Australian Equity (AUD)	8.3	8.3	9.6	9.2	8.0

Figure 3
Annualised returns of major equity indices in local returns and after accounting for changes in select G10 currencies. 31 December 1998 to 31 December 2025.

Investor numeraire currency	USD	EUR	JPY	GBP	AUD
US Equity (USD)	21.1	6.2	16.9	10.5	11.9
European Equity (EUR)	28.2	12.5	23.8	17.0	18.5
Japanese Equity (JPY)	24.0	8.8	19.7	13.2	14.5
UK Equity (GBP)	22.6	7.6	18.4	11.9	13.3
Australian Equity (AUD)	19.9	5.2	15.8	9.5	10.8

Figure 4
2017 returns of major equity indices in local returns and after accounting for changes in select G10 currencies.

The figures shown relate to past performance. Past performance is not a reliable indicator of current or future results and should not be the sole factor of consideration when selecting a product or strategy. Indices are unmanaged and it is not possible to invest directly in an index. Source: Bloomberg as of 31 December 2025. US equity represented by S&P 500, European equity by MSCI EMU Index, Japanese equity by MSCI Japan Index, UK equity by FTSE 100 Index and Australian equity by MSCI Australia Index.

Figure 5 further shows the different dimensions on which FX hedging choices can impact a portfolio. More specifically, we note that while FX hedging almost eliminates currency risk, it can impact returns materially.

As shown, a European investor FX hedging their US equity exposure back to EUR would have done so at a cost of approximately 2% p.a. for a similar level of risk. The Japanese investor FX hedging their S&P 500 exposure back to JPY would have experienced an even higher cost but interestingly would have benefited from some risk reduction.

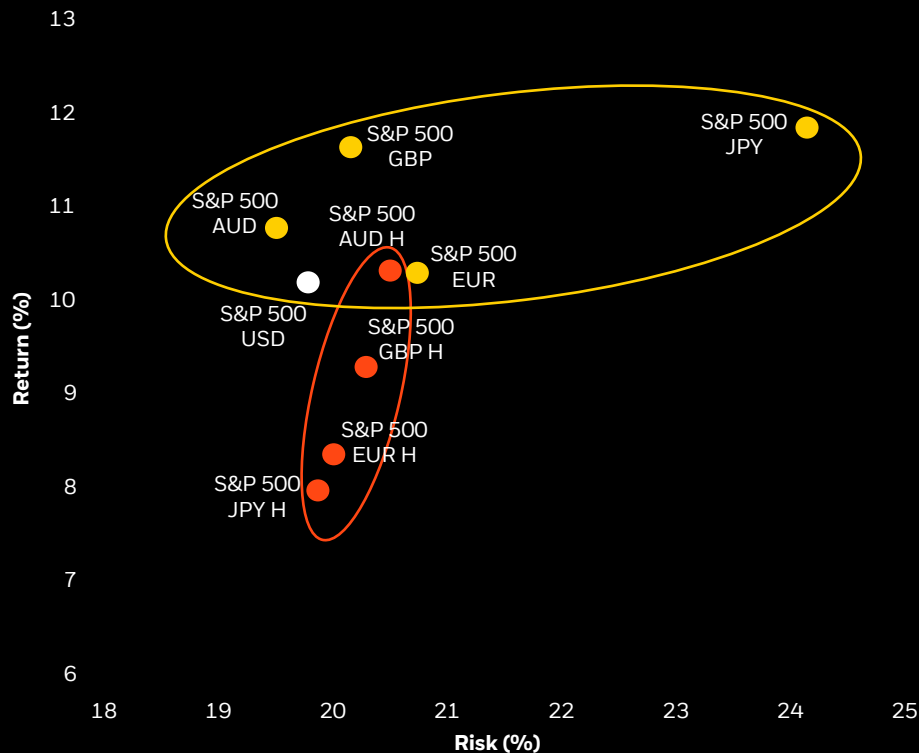


Figure 5

FX-hedged vs. local returns and risk for S&P 500 Index.

NO FX HEDGE: SIMILAR RETURN | HIGHER RISK

Unhedged S&P 500 indices generally exhibited a higher risk than the local index for a similar return (except for the S&P 500 in AUD which outperformed while exhibiting a lower risk).

FX HEDGE: LOWER RETURN | SIMILAR RISK

Apart from the USD/AUD hedged index, FX-hedged S&P 500 indices exhibited a lower return and a similar risk to the local index.

The figures shown relate to past performance. Past performance is not a reliable indicator of current or future results and should not be the sole factor of consideration when selecting a product or a strategy. Indices are unmanaged and it is not possible to invest directly in an index. Source: BlackRock as of December 2025. Return and risk shown for 20-year period (31 December 2005 through 31 December 2025) on an annualised basis. Risk is represented by standard deviation of daily returns.

Another key consideration in the choice to hedge is portfolio diversification. In fact, we find that FX hedging can reduce diversification in some cases. In Figure 6, we look at the total portfolio risk of a 60/40 portfolio at different hedge ratios. The result suggests the risk-minimising hedge ratio is around 60%, meaning that hedging more than 60% of the USD/EUR exposure leads to higher risk.

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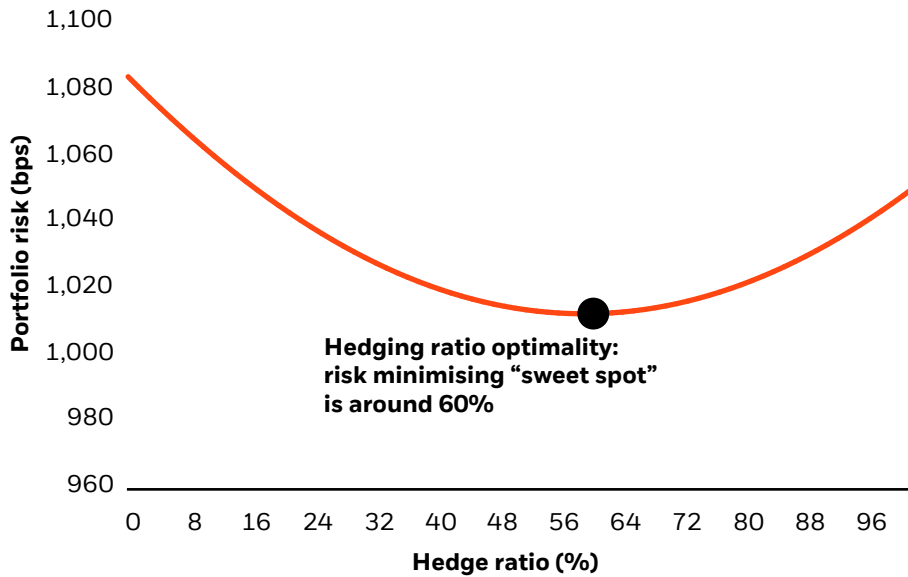


Figure 6
60/40 portfolio risk decomposition as a function of hedging ratio, EUR base currency.

Source: BlackRock (PRT) using exposure and economy date as of 31 December 2025. Portfolio risk is calibrated using monthly data with a 36 month half-life model, 60% MSCI ACWI Ex Europe/40% BBG Barclays Global Aggregate ex Government Index, the USD/EUR FX hedge ratio is incremented in steps of 1.35% from 0 to 100%.

Solving the currency conundrum

Given the range and time-varying nature of both the inputs and impacts of FX hedging, we develop a flexible and dynamic mean-variance optimisation framework that accounts for:

- Hedging costs (largely driven by interest rate differential and cross-currency basis). Negative hedging costs tend to weigh on the hedge ratio.
- Volatilities and correlations. A risk-on currency (e.g. EUR/USD) tends to lift the hedge ratio as the optimiser seeks to hedge out the source

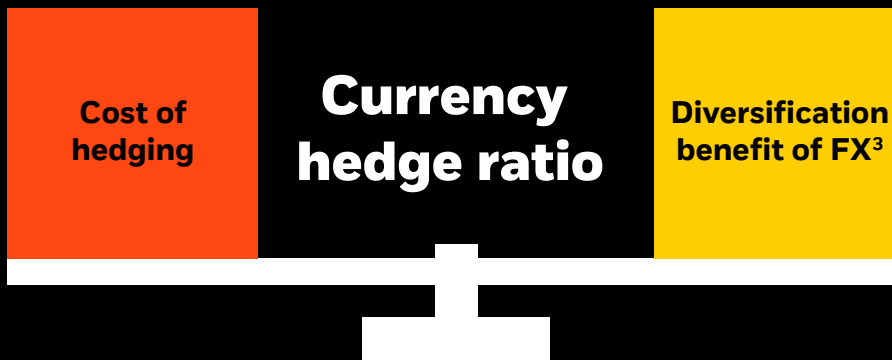


Figure 7
Impact of hedging costs and correlated risk on optimal hedge ratio.

³ Diversification does not guarantee profit or protect against investment loss.

Figure 8 below shows the drivers, sometimes aligned and sometimes antagonistic, that influence the hedge ratio determination in our optimisation framework. In this case, hedging USD back to EUR incurs a cost of hedging (negatively impacting performance) and reduces diversification. It is intuitively leading to a low hedge ratio (or no hedge at all for the cost sensitive investor). Interestingly, the very risk-averse investor would choose a hedge ratio in the region of 50% (see orange line), consistent with the “sweet spot” highlighted in Figure 6.

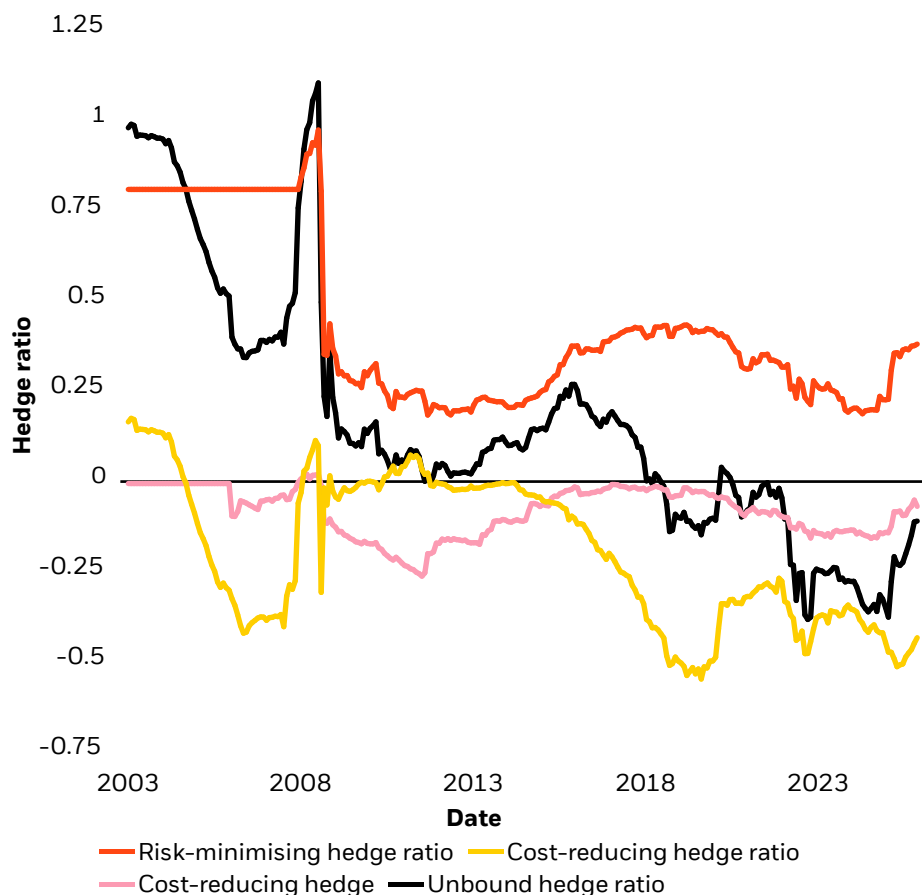


Figure 8
Determining the relative importance of the drivers: Euro investor holding US equity.

Source: BlackRock, 31 December 2025. For illustrative purposes only. The ‘hedge ratio’ is derived from a quadratic utility function and decomposed into ‘risk-minimising hedge ratio’, ‘carry’ and ‘correlation’ components. The series is based on an expanding window with half-life of 60 months for risk and 84 months for correlation estimates. The ‘risk-minimising hedge ratio’ is analytically characterised as beta between the asset’s local return and the currency spot return. ‘Carry’ is the cost of hedging, i.e. the interest rate differential. ‘Correlation’ in this context is the impact associated with the periodic portfolio rebalancing necessary to maintain the hedge. US equities were proxied by S&P 500 Index. Carry was calculated based on the Bloomberg USD and EUR spot rates and 1month and 3month forward points. Index data from Feb 2003 to Dec 2025 was used. Indices are unmanaged and it is not possible to invest directly in an index.

Figure 9 shows the opposite picture to what we see in Figure 8. In this case, hedging EUR back to USD incurs a positive hedging profit-and-loss (positively impacting performance) and reduces risk. It is intuitively leading to a 100% hedge ratio. Interestingly, the risk-averse investor would also opt for a 100% hedge ratio (see orange line), highlighting the historical risk-on characteristics of EUR vs. the safe haven US dollar.

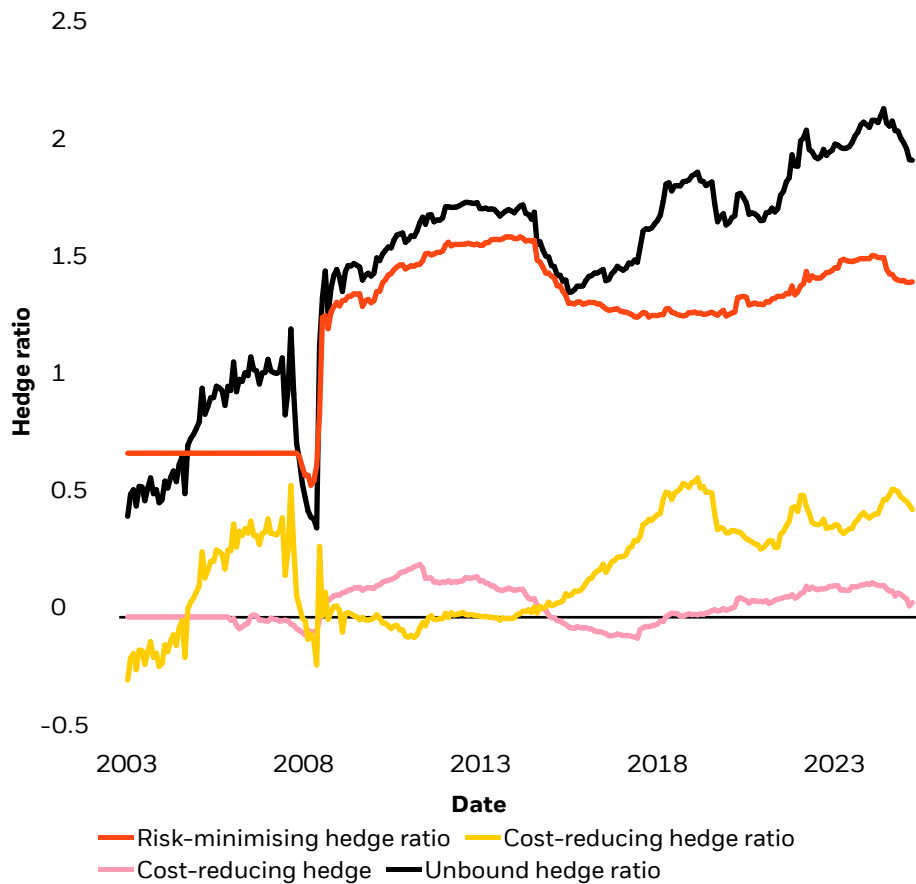


Figure 9
Determining the relative importance of the drivers: US investor holding Euro equity.

Source: BlackRock, 31 December 2025. For illustrative purposes only. The 'hedge ratio' is derived from a quadratic utility function and decomposed into 'risk-minimising hedge ratio', 'carry' and 'correlation' components. The series is based on an expanding window with half-life of 60 months for risk and 84 months for correlation estimates. The 'risk-minimising hedge ratio' is analytically characterised as beta between the asset's local return and the currency spot return. 'Carry' is the cost of hedging, i.e. the interest rate differential. 'Correlation' in this context is the impact associated with the periodic portfolio rebalancing necessary to maintain the hedge. US equities were proxied by MSCI EMU Index. Carry was calculated based on the Bloomberg USD and EUR spot rates and 1month and 3month forward points. Index data from Feb 2003 to Dec 2025 was used. Indices are unmanaged and it is not possible to invest directly in an index.

The characteristics of a currency evolve over time

The role of currencies in a global portfolio can oscillate through time as factors such as interest rates, cross-currency basis, transaction costs, volatility, and correlations changes. The recent change in our stance on FX risk management when allocating to Japanese equities evidences the value of a more active approach. Historically, our model suggested investors leave their exposures to Japanese equities unhedged given the tendency for JPY to perform well in risk-off scenarios providing a structural source of diversification. This is due primarily to the use of JPY as a funding source for “carry” trades with the currencies of economies with higher interest rates. Traditionally, these economies have largely been in emerging markets, however the rapid hiking of interest rates in developed market economies over recent years has now made the developed market carry trade possible. The Japanese Yen safe haven characteristics have been challenged over the last few years and our model now suggests that USD and EUR-based investors partially hedge their exposure to Japanese equities due to the increase in interest rates in the US and in Europe. JPY has also historically benefitted in more volatile periods as investors have looked to unwind their carry trades in periods of heightened risk, selling their exposure to the higher yielding currencies and seeking safety in JPY.

Our dollar, your problem

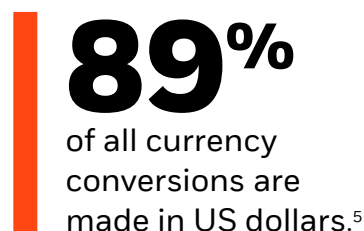
More recently the role of the US dollar has been front and center since “Liberation Day” on 2 April 2025 and its status as a safe haven has been debated at length. We are likely at the start of a USD downcycle on a combination of slowing growth, deteriorating fiscal situation, US policy risks and increased hedging. Although this is a recent development, our model captured the deterioration of the US dollar safe haven characteristics. As can be seen in Figure 8, the risk minimising hedge ratio markedly picked up in Q2 2025 for the euro investor buying US equity.

To what extent this will be a durable trend remains to be seen. We continue to see the US dollar as the dominant currency in the global financial system given its share in global transactions and capital markets (it accounts for 57% of all central bank currency reserve and 89% of all currency conversions). What is certain is market awareness and dynamism are key features our flexible currency management framework can help bring in globally diversified portfolios.

4 Source: Currency Composition of Official Foreign Exchange Reserves (COFER) Dataset, World Aggregates, Third Quarter of 2025, International Monetary Fund (IMF); published 19 December 2025. **5** Source: 2025 Triennial Central Bank Survey, Bank for International Settlements (BIS); published 8 December 2025.



57%
of all central banks
currency reserves
are in US dollars.⁴



89%
of all currency
conversions are
made in US dollars.⁵

Takeaways

Our analysis indicates that bearing currency risk is typically not rewarded in the long-run and taking a static approach to currency hedging can be suboptimal. We therefore propose a systematic approach to inform an active and flexible approach to currency hedging over a strategic time horizon. Our key takeaways, as discussed throughout the article, are:

1.

Developed markets (DM) fixed income instruments should generally be fully FX-hedged given the volatility of currency markets is more significant than that of fixed income markets. On the other hand, EM local debt should generally be left unhedged.

2.

Japanese equities, which our model has historically suggested to be left unhedged for all investors should now be partially hedged for EUR investors and fully hedged for USD investors. Indeed, the change in the interest rate picture in Europe and the US now results in a positive cost of carry and our framework also pointed to the JPY losing some of its safe haven properties.

3.

When it comes to multi-asset investing, hedge ratio optimality also becomes a function of cross-asset correlations and in environments where equities and bonds are positively correlated, such as we find ourselves in today, an active approach to currency management can serve as a much-needed source of diversification.

4.

Ultimately, there is no one-size-fits-all framework for currency hedging, however given the complexities involved, we find a robust quantitative active approach can lead to superior outcomes.



Calendar year performance

Index	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
MSCI EMU in EUR	10.90%	5.50%	13.40%	-11.90%	26.70%	-0.30%	23.10%	-11.70%	19.70%	10.40%	24.70%
MSCI EMU USD Hedged	8.90%	6.00%	14.70%	-10.10%	29.20%	1.00%	23.20%	-9.90%	22.10%	11.40%	26.10%
MSCI EMU GBP Hedged	9.10%	4.60%	13.20%	-11.80%	26.20%	-1.30%	22.60%	-11.80%	20.30%	10.90%	26.20%
MSCI EMU AUD Hedged	9.10%	4.40%	13.30%	-12.80%	24.50%	-4.60%	20.50%	-14.00%	16.40%	7.60%	22.40%
MSCI Japan EUR Hedged	9.70%	-2.50%	19.20%	-16.20%	17.70%	7.90%	12.80%	-4.40%	32.80%	25.00%	26.30%
MSCI Japan USD Hedged	9.70%	-1.20%	21.50%	-13.60%	21.30%	9.70%	13.60%	-2.00%	35.70%	26.70%	28.60%
MSCI Japan	10.30%	-0.40%	20.10%	-14.90%	18.90%	9.20%	13.80%	-4.10%	29.10%	21.10%	24.70%
MSCI Japan AUD Hedged	9.70%	-1.50%	20.20%	-16.20%	17.20%	4.80%	11.30%	-6.00%	30.70%	23.80%	25.50%
MSCI Japan GBP Hedged	9.40%	-3.20%	20.00%	-15.30%	18.50%	8.20%	13.40%	-3.30%	34.30%	26.50%	28.80%
S&P 500 USD	1.40%	12.00%	21.80%	-4.40%	31.50%	18.40%	28.70%	-18.10%	26.30%	25.00%	17.90%
S&P 500 JPY Hedged	0.80%	8.70%	18.70%	-8.70%	27.90%	14.70%	29.50%	-21.60%	17.40%	18.70%	11.80%
S&P 500 EUR Hedged	0.30%	9.60%	18.70%	-7.80%	26.80%	15.10%	27.00%	-21.00%	22.20%	22.50%	15.10%
S&P 500 GBP Hedged	0.30%	10.10%	19.60%	-6.80%	27.60%	14.90%	27.70%	-20.30%	23.70%	24.00%	17.60%
S&P 500 AUD Hedged	2.40%	12.20%	21.60%	-5.90%	28.90%	13.50%	27.40%	-20.90%	22.80%	23.00%	16.90%
MSCI Australia	3.20%	13.90%	12.90%	-0.50%	25.50%	0.20%	18.20%	3.60%	16.00%	13.10%	7.90%
MSCI Australia EUR Hedged	-4.30%	9.90%	1.00%	-11.50%	19.30%	-3.00%	13.20%	-3.80%	6.20%	4.00%	-2.20%
MSCI Australia GBP Hedged	-5.30%	4.30%	4.50%	-7.60%	16.40%	-2.70%	11.80%	-2.40%	10.50%	8.20%	3.60%
MSCI Australia JPY Hedged	-5.40%	5.40%	4.00%	-8.30%	15.30%	-1.90%	11.90%	-3.60%	4.80%	2.40%	-0.60%
MSCI Australia USD Hedged	—	10.70%	10.10%	-2.10%	24.20%	2.20%	16.70%	3.90%	16.80%	12.90%	7.20%
FTSE 100	-1.32%	19.07%	11.95%	-8.73%	17.32%	-11.55%	18.44%	4.70%	7.93%	9.66%	25.82%
FSE 100 EUR Hedged	4.60%	1.98%	8.15%	-9.64%	23.43%	-16.24%	26.62%	-0.82%	10.01%	14.88%	19.44%
FSE 100 USD Hedged	-6.74%	-0.20%	22.52%	-14.11%	21.99%	-8.76%	17.31%	-7.04%	14.35%	7.70%	35.08%

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Source: Morningstar, as of 31 December 2025. FTSE 100 Total Return Index, FTSE 100 100% Hedged to EUR Net Tax Index, FTSE 100 100% Hedged to USD Net Tax Index, MSCI Australia NR AUD, MSCI Australia 100% NR Hdg EUR, MSCI Australia 100% NR Hdg GBP, MSCI Australia 100% NR Hdg JPY, MSCI Australia 100% NR Hdg USD, MSCI EMU NR EUR, MSCI EMU 100% NR Hdg AUD, MSCI EMU 100% NR Hdg GBP, MSCI EMU 100% NR Hdg JPY, MSCI EMU 100% NR Hdg USD, MSCI Japan NR JPY, MSCI Japan 100% NR Hdg AUD, MSCI Japan 100% NR Hdg EUR, MSCI Japan 100% NR Hdg GBP, MSCI Japan 100% NR Hdg USD, S&P 500 TR USD, S&P 500 TR Hdg AUD, S&P 500 TR Hdg EUR, S&P 500 TR Hdg GBP, S&P 500 TR Hdg JPY. The FTSE 100 hedged indices are not currently available in AUS or JPY.

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