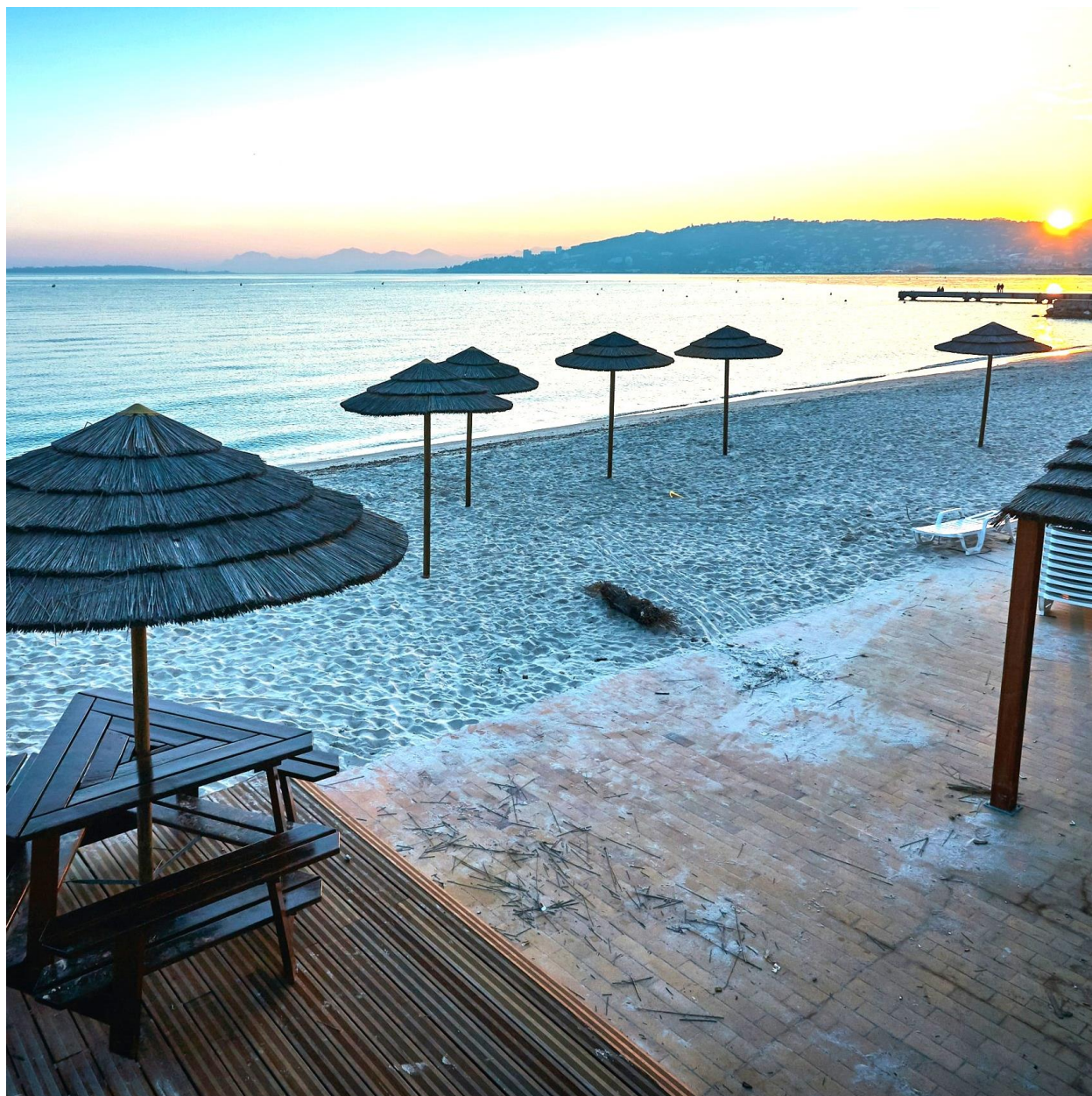


STRATEGIC CURRENCY HEDGING

CONSIDERATIONS FOR U.S. INVESTORS



RUSSELL INVESTMENTS RESEARCH

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Strategic currency hedging considerations for U.S. investors

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Executive summary

Investing in international markets means that along with the risk of the underlying investment, such as equity risk, investors are also exposed to currency risk. In this paper we explore if U.S.-based investors should remove that currency risk through hedging.

We show that while currency risk typically increases the total portfolio volatility, the impact on long-term return expectations is minimal. U.S.-based investors focused on long-term portfolio outcomes are therefore recommended to hedge currency risk.

However, for investors evaluating their portfolios over a cyclical horizon relative to peers or a benchmark that the investor does not define¹, a currency policy focused on the long-term horizon might not be appropriate. Though currency has a minimal impact on returns over long horizons, the impact on returns over shorter cyclical horizons can be large. Therefore, any deviation from the peers' approach would have a meaningful impact on the active return of the portfolio over a cyclical horizon. Investors that compare themselves to a benchmark that they do not control, such as that of their peers, might not find it appropriate to implement currency hedging in line with our baseline strategic recommendations.

In this paper we discuss:

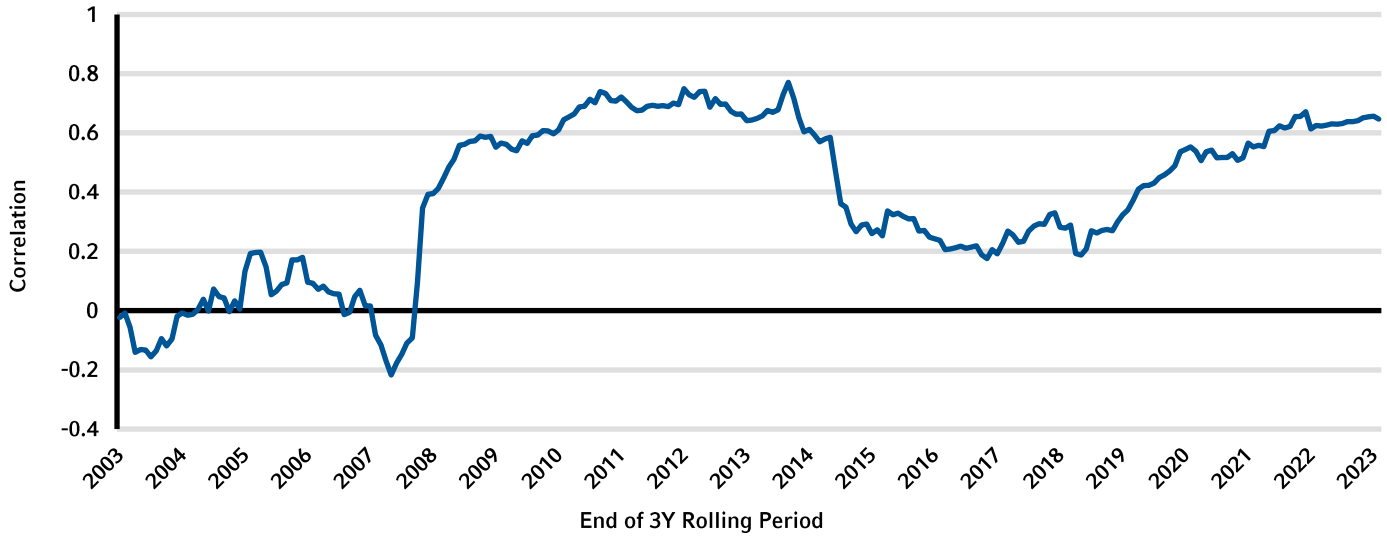
1. Impact of hedging global equity for a U.S.-based investor
2. Total portfolio considerations for hedging currency risk
3. Additional considerations for investors with benchmark or peer-relative performance measurement
4. Other practical considerations

1. Impact of hedging global equity for a U.S.-based investor

To determine a strategic view on currency hedging it is important to consider the impact on both expected returns and volatility. The impact on portfolio volatility is driven by both the underlying volatility of the currency exposures and the correlation with the broader portfolio.

For a U.S.-based investor the currency returns inherent in the global equity portfolio have exhibited positive correlation with the local returns of global equities through most of the horizon analyzed, as shown in Exhibit 1.

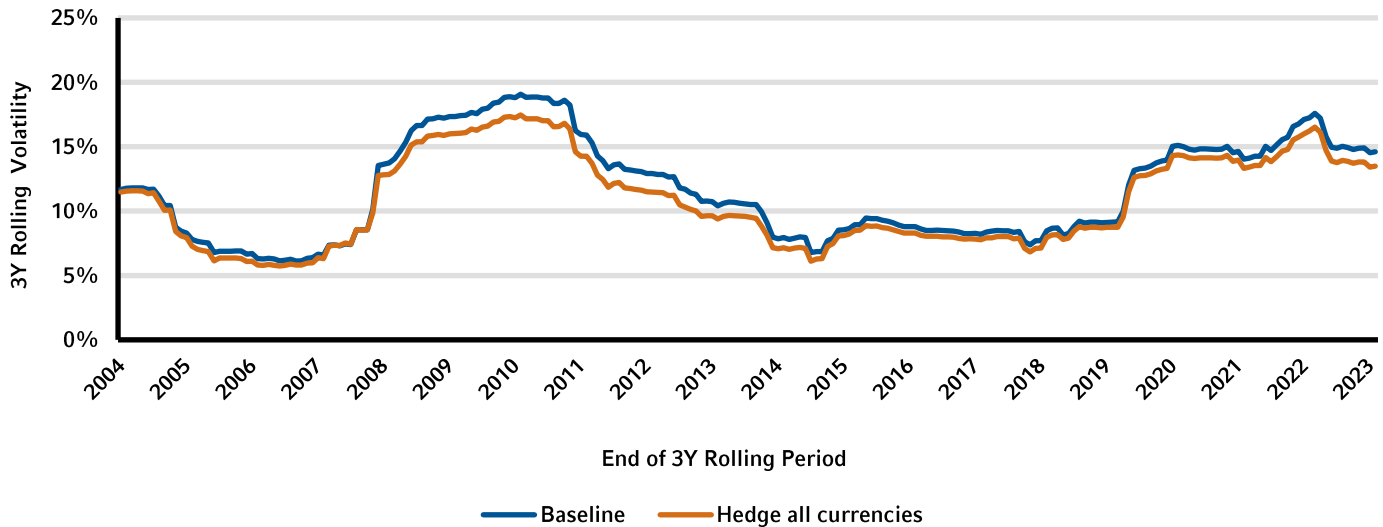
Exhibit 1: Correlation of unhedged global equity currency basket with local equity returns



Data as of: 12/31/2003 to 12/31/2023

This has resulted in currency hedging leading to fairly consistent reductions in total portfolio volatility through time. Exhibit 2 looks at the impact of currency hedging on total portfolio volatility for an 80/20 investor through time.

Exhibit 2: Total portfolio volatility with and without currency hedging



Data as of: 11/30/2024 to 12/31/2023

Although the reduction in volatility is minimal over some horizons, the directional improvement in volatility is relatively consistent. This volatility reduction benefit is most beneficial during market drawdowns. Exhibit 3 demonstrates the total portfolio protection from hedging the currency exposure inherent in different benchmarks.

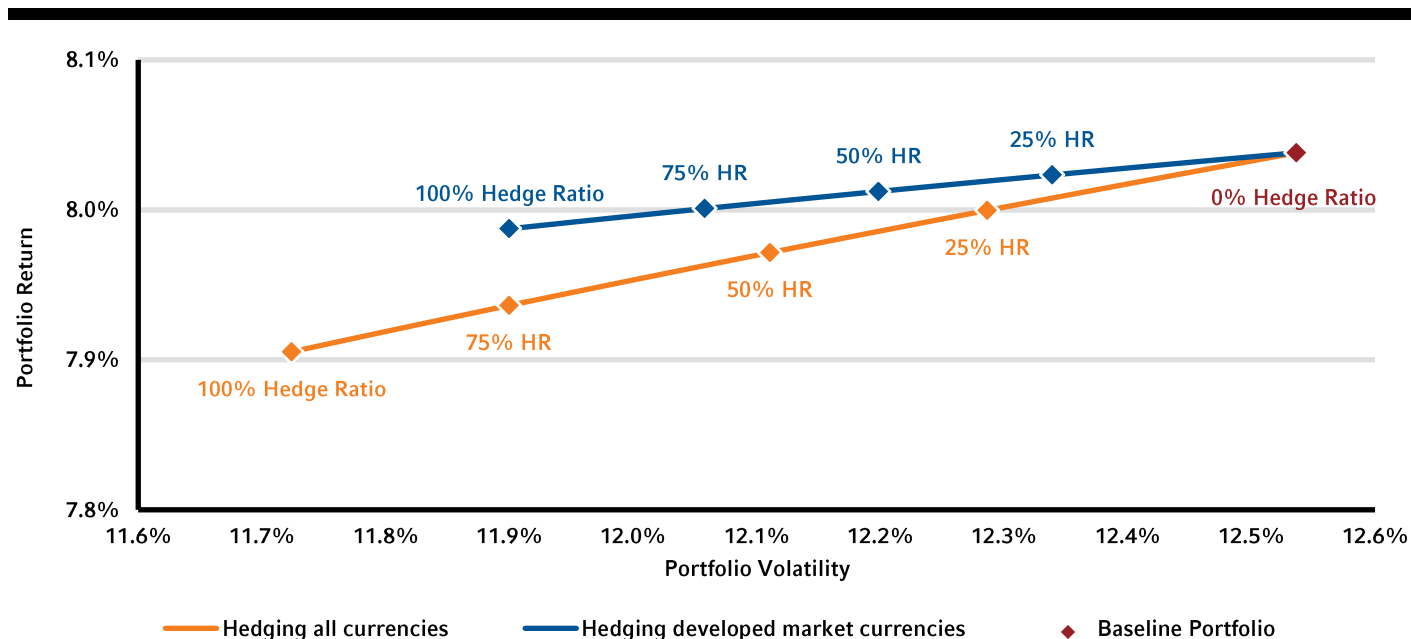
Exhibit 3: Impact of currency hedging in a stressed market environment

STRESS EVENT	DATES	UNHEDGED ACWI RETURN	HEDGED ACWI RETURN	IMPACT OF CURRENCY HEDGING			
				EAFE EQUITY	EMERGING MARKETS EQUITY	LISTED REAL ESTATE	LISTED INFRA-STRUCTURE
Post COVID Inflation	1/1/22 -9/30/22	-25.3%	-21.4%	+13.7%	+5.4%	+4.4%	+7.0%
COVID-19	1/1/20 -3/31/20	-21.3%	-19.7%	+2.8%	+5.1%	+1.4%	+2.9%
U.S. Trade Protectionism	10/1/18 -12/31/18	-12.7%	-12.3%	+0.9%	0.0%	+0.4%	+1.5%
CMDTY Selloff	7/1/14 -2/28/16	-9.9%	-2.5%	+15.7%	+12.2%	+7.6%	+10.9%
Taper Tantrum	5/1/13 – 6/30/13	-3.1%	-1.5%	+2.7%	+3.9%	+1.7%	+2.2%
Sovereign Debt Crisis	5/1/11 – 12/31/11	-14.4%	-11.3%	+5.3%	+7.4%	+2.1%	+5.1%
GFC	6/1/08 – 2/28/09	-50.8%	-45.3%	+9.6%	+10.4%	+3.9%	+8.3%
Tech Bubble	4/1/00 – 9/30/02	-46.3%	-45.4%	+2.3%	+0.8%	n/a	n/a

Recent research² suggests that over long horizons, the risk-adjusted returns from unhedged currency positions are minimal and significantly lower than traditional asset classes like equity, credit and Treasuries. This implies that the increase in volatility from not hedging the currency risk is not being rewarded.

We see that a U.S. investor would have lowered their portfolio volatility by 0.8% from hedging all currencies in global equity or by 0.6% from hedging developed market currencies only (Exhibit 4). However, the hedging resulted in a small drop in the realized return for the investor.

Exhibit 4: Impact of currency hedging policy on portfolio efficiency

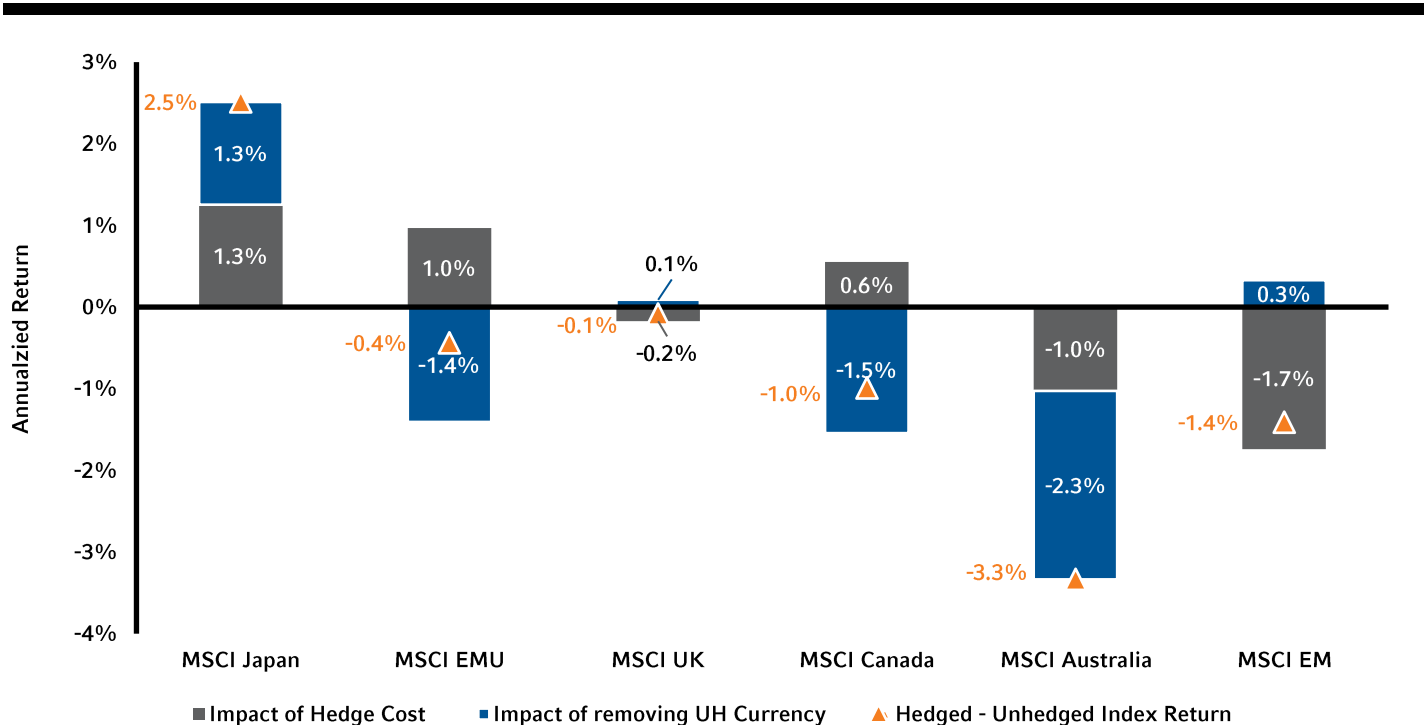


This return difference is driven by two things. First, hedging removes the impact of unhedged currency returns from their portfolio. Second, a hedge cost is paid, equal to the interest rate differential³ between the foreign economy and its country of domicile. Theoretically, these should offset each other, and the currency should move enough to offset the interest rate differentials between the two countries⁴. However, in reality currencies typically don't move by enough to offset interest rate differences between the two economies⁵. This leads to a realized drag on returns from hedging currencies of countries or economies with higher interest rates than in the U.S.

In Exhibit 5 we attribute the return from hedging each major currency pair to these two return drivers. We see that from the perspective of a U.S.-based investor, in some cases the hedge cost was meaningful. For EM currencies and AUD the impact of the hedge cost was -1.7% and -1.0%, respectively, and the movements in the underlying unhedged currency position did not offset these hedge costs. The hedge cost isn't always negative since it is driven by the interest rate differential, and we therefore see that for JPY the hedge cost was positive for a U.S. investor.

This leads to a realized drag on returns from hedging currencies of countries or economies with higher interest rates than in the U.S.

Exhibit 5: Decomposition of return difference between hedged and unhedged (2001-2024)



On a forward-looking basis the hedge costs will change as interest rate differentials between countries change. In more recent years, the costs of hedging AUD and EM currencies have decreased as short-term U.S. interest rates have increased relative to those in Australia and EM economies.

Other considerations, like liquidity and implementation complexity, can also impact the decision to hedge or not hedge a currency. EM currency markets often have higher trading costs and more onerous collateralization requirements that would further increase the cost of implementing the currency hedging program.

From a strategic perspective, we would recommend that U.S.-based investors consider hedging developed market currencies in order to reduce total portfolio risk while minimizing the impact on returns.

2. Total portfolio considerations for hedging currency risk

Due to the impact on expected returns, some investors might want to mitigate the impact of the hedge costs while retaining the benefits of volatility reduction from currency hedging. An investor could offset any drag on returns from currency hedging by increasing its allocation to risk in other areas, such as equities.

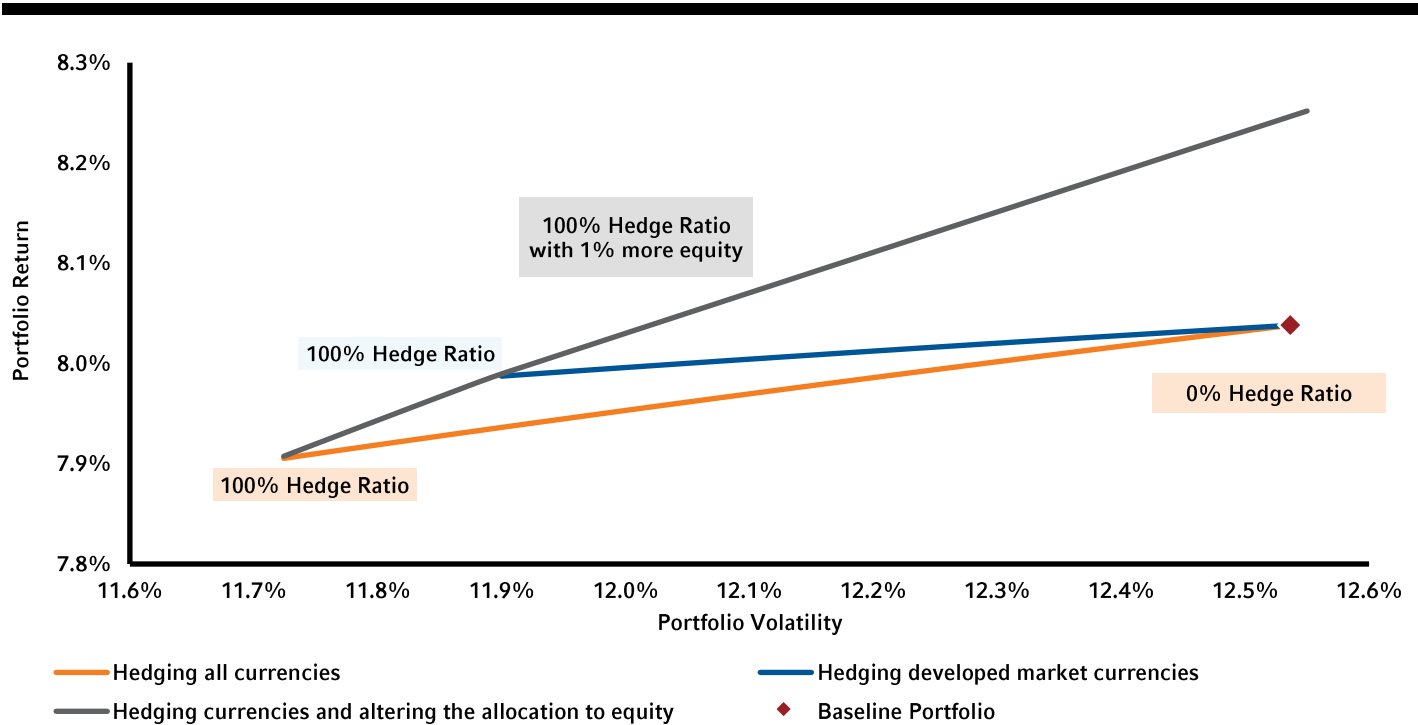
In Exhibit 6, we look at a simple baseline portfolio of 80% unhedged global equity and 20% U.S. core fixed income and see the impact of hedging all currencies, hedging all developed market currencies and hedging all developed market currencies and varying the allocation to equities.

There is a clear reduction in risk from choosing to hedge either all currencies or just developed market currencies. There is a slightly higher reduction in volatility from hedging all currencies, however, the negative return impact was also larger. To achieve the lowest volatility portfolio, hedging emerging markets currencies as well is necessary. The approach of hedging only developed market currencies would have been more efficient and led to portfolios with similar volatility but higher returns for all comparable parts of the frontiers.

For an investor concerned about the incremental reduction in expected return, a slight increase in equities would be sensible. An investor that hedged developed market currencies and tilted into equity by 1% would have achieved the same return with lower volatility as compared to the baseline portfolio.

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Exhibit 6: Impact of assessing currency decisions at total portfolio level



Another approach for mitigating the return impact is going beyond separate decisions for hedging developed market and emerging market currencies, and independently determining the hedge ratio for each currency. Although Russell Investments may prefer such an approach, we acknowledge that it is not common practice and may be operationally difficult for most investors to implement⁶.

3. Additional considerations for investors with benchmark-relative or peer-relative performance measurement

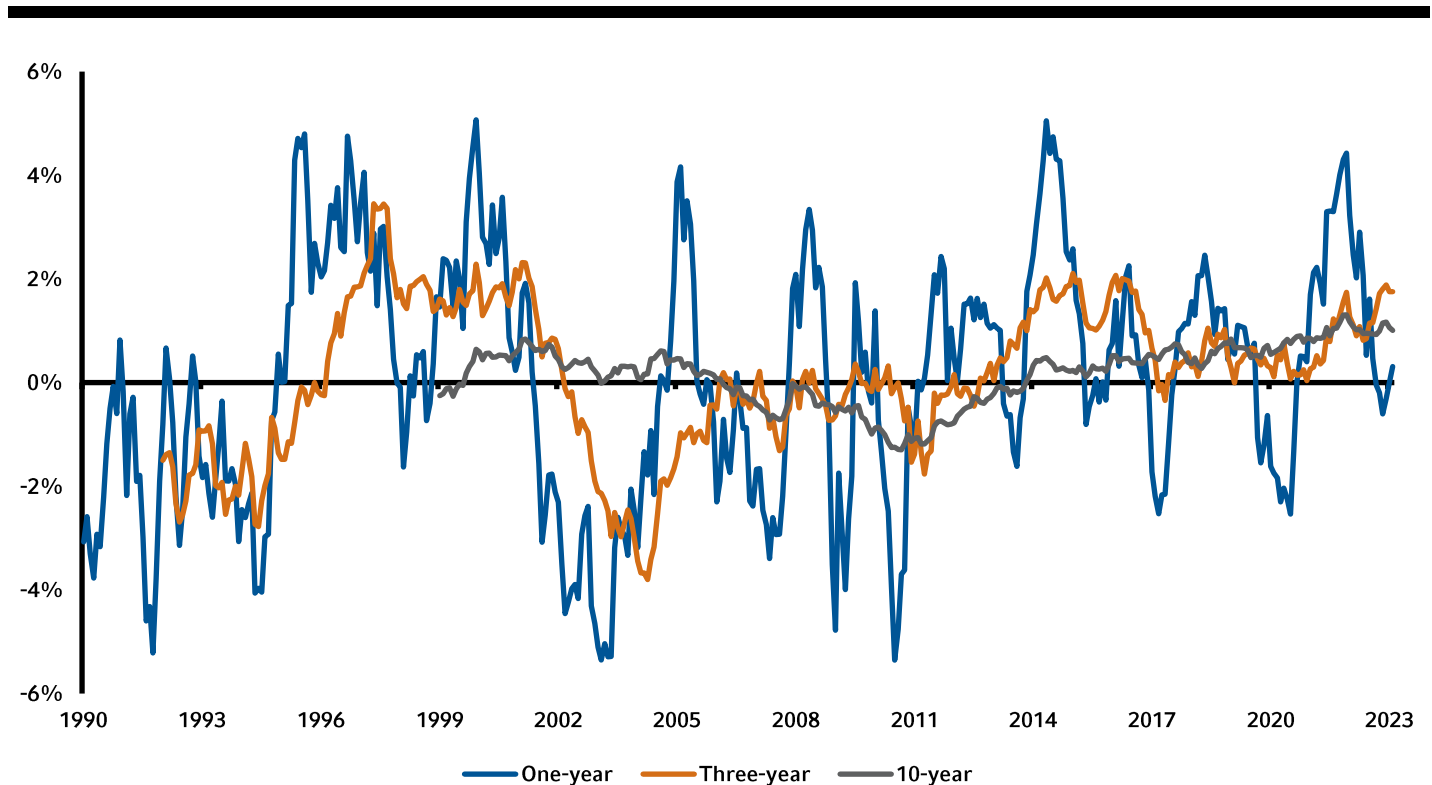
We have seen that an investor could have considerably improved portfolio efficiency by hedging currency risk. If an institutional investor chose to strategically hedge currency risk, we would expect that they would update their strategy and portfolio benchmarks to include currency hedging. This means that there is no introduction of tracking error from currency hedging.

However, not all investors solely focus on long-term objectives and strategy benchmarks. Even if it is not the primary objective; some investors compare performance relative to peers. This could result in a benchmark that the investor does not control and cannot align with their currency hedging strategy. There is limited data on the extent to which U.S. institutional investors hedge currency within their growth portfolios, but experience leads Russell Investments to believe that it is not common for U.S. institutional investors to strategically hedge currency exposure. We believe that the lack of data on the subject is due to how uncommon the practice is and are therefore assuming that the position of peers is to not strategically hedge foreign currency exposure in the growth portfolio. For an investor with an allocation to global equity in line with its benchmark or peer-group⁷, hedging currency returns will lead to a tracking error against that benchmark or peer-group.

Exhibit 7 demonstrates the rolling total portfolio impact of choosing to hedge only developed market currencies⁸. The potential short-term impact of the currency hedging decision is significant, with potential annual underperformance of peers of over 5%. The potential for underperformance over even a three-year horizon due to the choice to currency hedge remains significant, whereas over a ten-year horizon the impact is more subdued.

“ We have seen that an investor could have considerably improved portfolio efficiency by hedging currency risk.

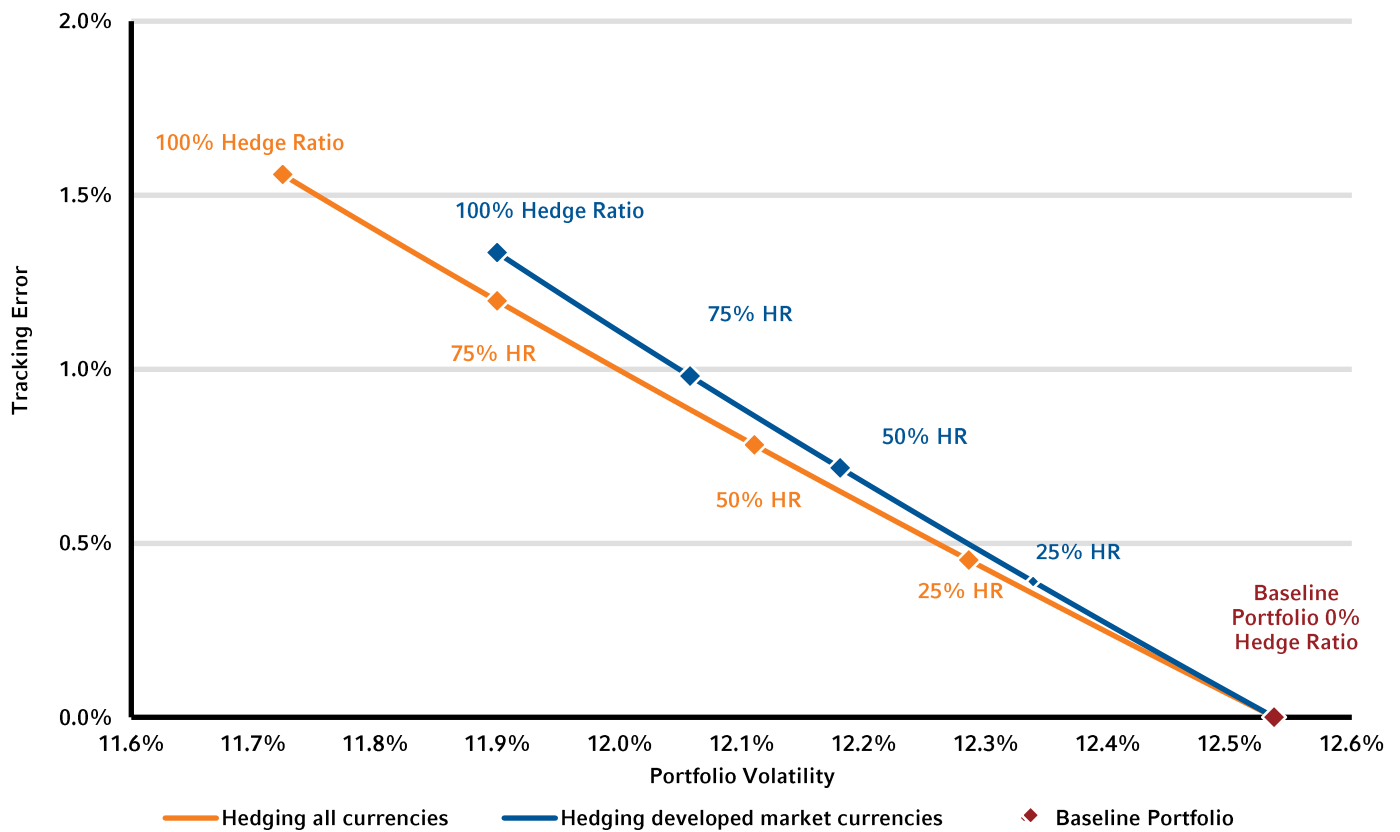
Exhibit 7: Impact of hedging EAFE on rolling returns



Data as of 11/30/1990 to 12/31/2023

The strategic benefit is a reduction in total portfolio historical volatility, but this is offset by an introduction of tracking error to peers. Exhibit 8 uses the baseline portfolio as the comparison and demonstrates the impact of currency hedging on volatility and tracking error relative to the baseline portfolio. Due to the large impact on tracking error, if an investor includes peer-relative performance as an indicator of success, the decision on the level of hedging would become a trade-off between reducing total portfolio volatility and reducing tracking error. Based on the frontiers in Exhibit 8, an investor looking to reduce total risk while also avoiding large tracking errors versus peers might choose a hedge ratio anywhere between 0% and 100% depending on how those relative concerns are considered.

Exhibit 8: Understanding impact of currency hedging decision on tracking error and volatility



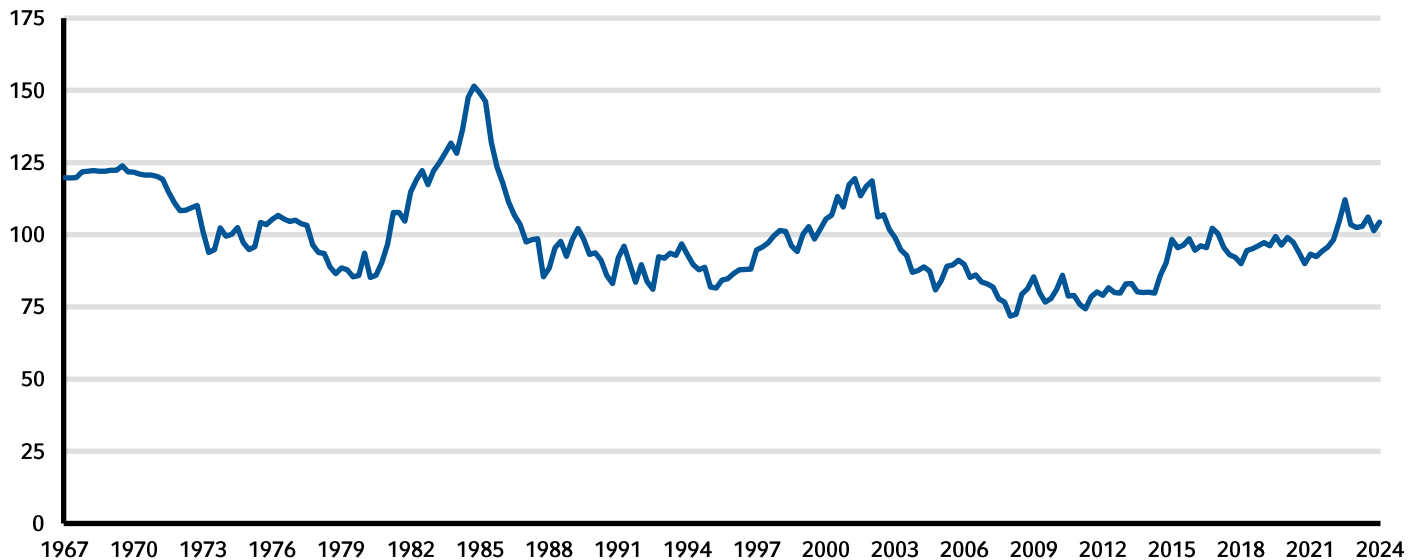
4. Additional practical considerations

This discussion implicitly assumes that all currencies examined are relatively close to fair value and one does not have a view on future movements in exchange rates. If, at a given point in time, an investor held a strong view that the U.S. dollar was over-valued and would experience a structural decline relative to most other currencies, there would be an expectation of a significant return benefit from not hedging foreign currency exposure. It would be reasonable to allow the currency hedging decision to be impacted by assessments of fair value. Because this analysis is focusing on the strategic horizon, we are not considering the inclusion of potential active currency views. Momentum, flight to quality, carry and reversion to fair value can drive currency returns over different horizons.

It should, however, be acknowledged that the U.S. dollar is strongly valued relative to the mid-2000s as shown in Exhibit 9.

“ Momentum, flight to quality, carry and reversion to fair value can drive currency returns over different horizons.

Exhibit 9: DXY through time



Data as of 3/31/1967 to 3/31/2024

Currency hedging would have a negative impact on returns in a period of a weakening U.S. dollar. Although we do not recommend thinking about tactically removing and re-introducing currency hedging through time based on currency views, we do believe it would be sensible to delay the introduction of a currency hedging program if the local currency was considered significantly over-valued and likely to weaken in the near-term—or if the local currency was facing strong momentum headwinds.

This analysis also focuses on a portfolio that is 80% public equity. As the allocation to public equity shrinks, so does the embedded currency risk within the public equity portfolio. The rationale for hedging currency risk still applies for investors with lower allocations to public equity, however, the materiality of the impact of currency hedging decreases.

For investors with low levels of currency risk in the portfolio, it is reasonable for the decision to be impacted by the operational costs and complexities of choosing to currency hedge. It is a very different decision if an investor is merely choosing between two share classes of a fund—one with currency hedging and the other not—or if the investor is hiring an overlay provider to implement a custom currency overlay. The decision will be impacted by the size of the investor, the size of the currency exposure to be hedged and the relative cost and ease of implementing the currency hedge.

Conclusion

Russell Investments' primary recommendations to consider are:

- Implementing a currency hedge of developed market currencies if not concerned about peer-relative performance
- Using customized advice if considering peer-relative performance

For U.S. institutional investors that are not concerned about monitoring performance relative to peers we recommend they should consider implementing currency hedging across their growth portfolios due to the reduction in expected volatility. The greatest advantage will be seen in the hedging of non-U.S. developed equity portfolios due to that typically being the largest contributor to non-U.S. currencies within the growth portfolio. We believe there are also benefits to hedging listed real assets and emerging market equities, but to the extent that this would introduce costs and complexities, the incremental benefit is likely not worthwhile, in our opinion.⁹

However, for those investors that do include peer comparisons as a measure of success, there is no clear recommendation to consider. If an investor does choose to currency hedge while still monitoring peer-relative performance, we would advise that they stay mindful of fluctuations in the U.S. dollar and expect peer underperformance in periods of a falling U.S. dollar. It might also be sensible to consider a currency hedge ratio of 50% to minimize regret risk relative to both peers and the strategic rationale of currency hedging. For those most sensitive to shorter-term peer comparisons, we believe remaining unhedged is likely the preferred decision.

¹ In most instances institutional investors set their own strategic benchmarks, and we would therefore expect that any strategic currency hedging is integrated into the strategy benchmark. It is in comparisons to peers that an institutional investor is most likely to see tracking error due to the strategic decision to hedge currency.

² Boudoukh et al. (2017)

³ This relationship is referred to as Covered interest rate parity. It states that for there to be no arbitrage, interest rate differential between two countries should be linked to the difference between forward FX hedging and current currency rates. If that is not the case arbitragers can make a riskless profit.

⁴ This is known as uncovered interest rate parity.

⁵ This is known as a forward rate bias. The existence of a forward rate bias allows carry strategies to generate a positive excess return. Implementing a carry strategy involves buying currencies with higher interest rates and selling currencies with lower interest rates.

⁶ This is further explored in Appendix A.

⁷ This assumption is strengthened by the fact that the main peer universes we consider (Alpha Nasdaq Endowments & Foundations Index, Alpha Nasdaq Healthcare Operating Reserves Index and Alpha Nasdaq Corporate Defined Benefit Pension Plans Index) do not indicate domestic bias within the equity portfolio.

⁸ Based on a simple 80/20 portfolio and assumes 28% of the total portfolio is invested in EAFE equity.

⁹ The majority of the analysis does not include the impact of hedging currency in the real assets exposures as the data is more limited. However, the benefit of hedging currency within real assets is demonstrated in Appendix B.

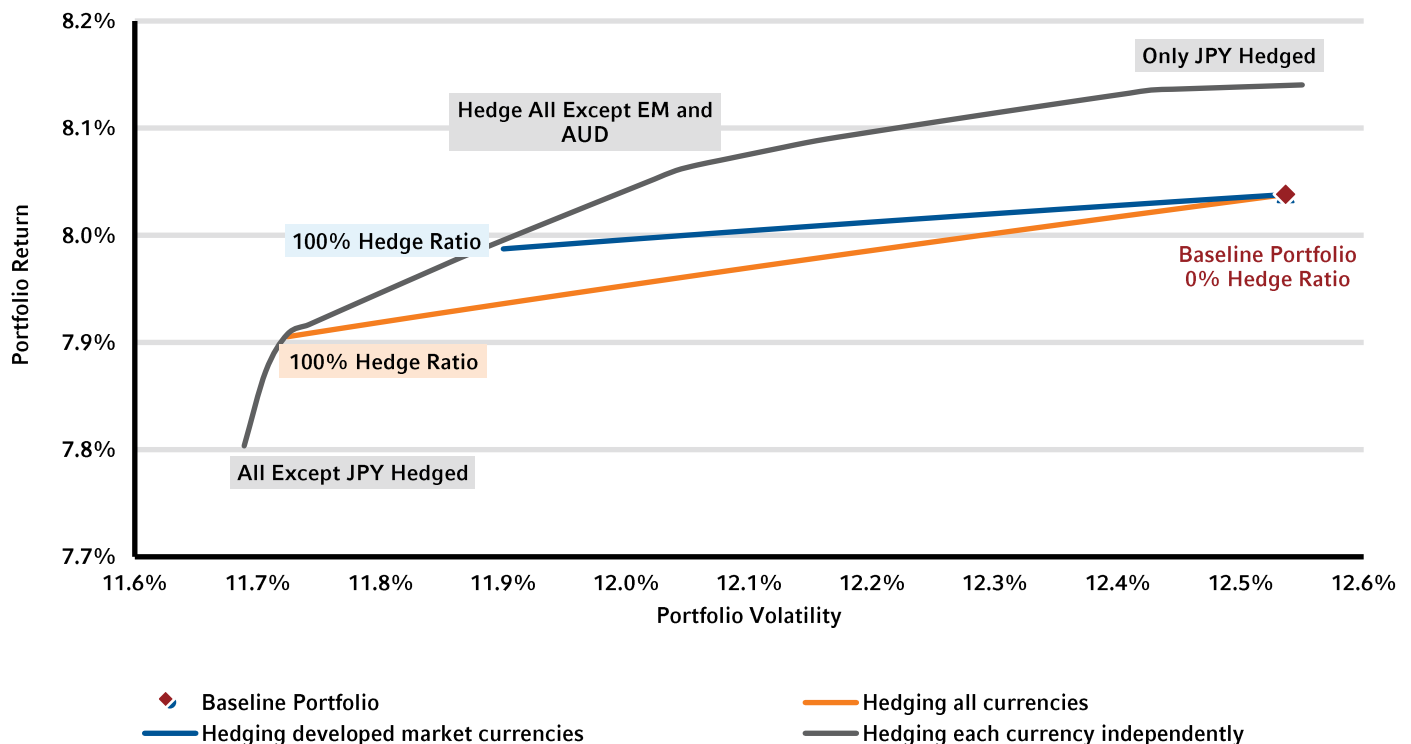
Appendix A

Impact of adopting currency specific hedge ratios

Currency specific hedging can extend beyond choosing independent hedge ratios for developed market and emerging market currencies. An individual currency pairs approach could allow for the investor to tailor the strategy to their preferred outcome - from more meaningful risk reduction paired with a larger reduction in return all the way to an increase in return expectations with no impact on risk (Exhibit 10)

It is interesting to note that the portfolios where 100% of the developed market currencies or 100% of the global currencies are hedged were very close to the efficient frontier for a policy where one could choose the hedge ratio for all currencies independently. The key difference between the approaches is that choosing independent hedge ratios would have allowed the investor to increase the return of the portfolio by not hedging currencies like AUD and EM which are costlier to hedge or increase risk reduction at a cost to return by not hedging JPY.

Exhibit 10: Impact of adopting currency specific hedge ratios



Appendix B

Hedging currency in real assets exposures

The impact of hedging currency exposures in listed real assets differs from the impact of hedging currency in the public equity portfolio in two ways. As the regional weightings is different in real assets than in broad market equities, the currency exposures differ. The currency exposures are shown in Exhibit 11.

Exhibit 11: Major currencies within each benchmark as of 12/31/23

	WORLD EX U.S.	LISTED RE	LISTED INFRA
USD	-	63.0%	37.3%
EUR	29.9%	5.7%	21.4%
JPY	20.1%	9.7%	2.0%
GBP	12.9%	4.3%	2.0%
CAD	10.6%	2.5%	8.8%
CHF	8.9%	1.3%	1.8%
AUD	6.8%	3.6%	9.3%

Within listed real estate 63% of the exposure is already within the U.S. and therefore does not have currency exposure while almost an additional 10% is in JPY for which currency hedging has not historically reduced risk. Within listed infrastructure there is greater exposure to currencies where the hedging of them has historically shown to reduce risk. However, in both instances, the typical investor allocation is relatively small, which means that the total portfolio impact of choosing to hedge the currency, or not, is muted. In Exhibit 12, based on a sample investor allocation¹ the most significant risk reduction is from hedging the currency in non-U.S. developed equity, while the hedging of EM equity and listed real assets provides additional, but less significant benefit.

Exhibit 12: Impact of hedging on total portfolio results

	VOLATILITY
No currency hedging in growth assets	14.1%
Hedge currency in ...	
Listed Infrastructure	14.0%
Listed real estate	14.1%
Emerging markets equity	13.8%
EAFE equity	13.3%
EAFE, listed infra and listed RE	13.1%
All of the above	12.8%

¹ Sample investor allocation is 44.4% US Equity, 22.2% Non-US Developed Equity, 7.4% Emerging Markets Equity, 3% Listed Real Estate, 3% Listed Infrastructure, 10% US Core Bonds and 10% Global High Yield Debt USD-hedged

QUESTIONS?

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