Currency Hedging: how has it worked and how might it work going forward?

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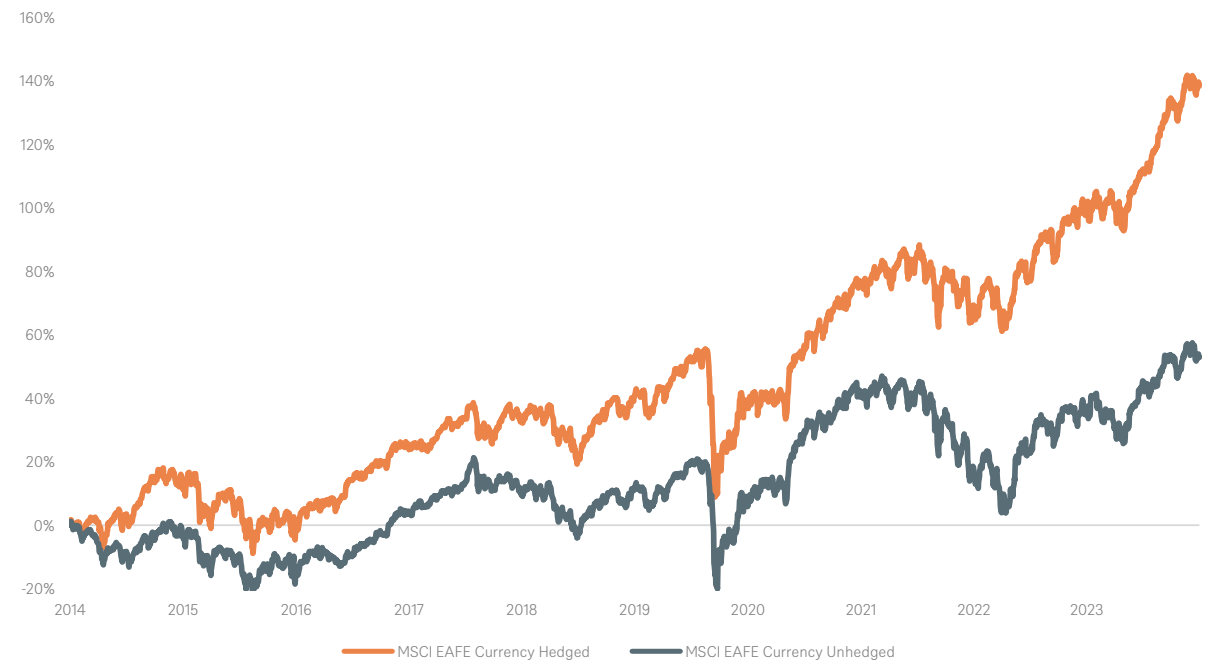
Through the first half of 2024, global equity markets have continued to generate strong double-digit returns driven in large part by very strong performance from a handful of US companies. This growing divide between US and international equity valuations has renewed interest in international equity markets which look compelling particularly on a relative valuation basis versus the US. In this blog, we review how EAFE equities for USD-denominated investors have fared over the past decade and how hedging currency risk would have impacted the return experience. Equally, or perhaps more importantly, we will take an opportunity to revisit the currency hedging framework and evaluate currency hedging decisions through an objective lens, focusing on the risk and currency carry impact of currency hedging.

Historical performance

Looking at empirical performance over the past decade (see Figure 1), we can observe that the MSCI EAFE Currency Hedged Index has returned 138% (or about 9.1% annualized) versus MSCI EAFE Currency Unhedged Index return of 53%, or about 4.3% per annum over the past decade.

Figure 1: Cumulative total returns (6/30/2014 to 6/30/2024)



Source: Bloomberg as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

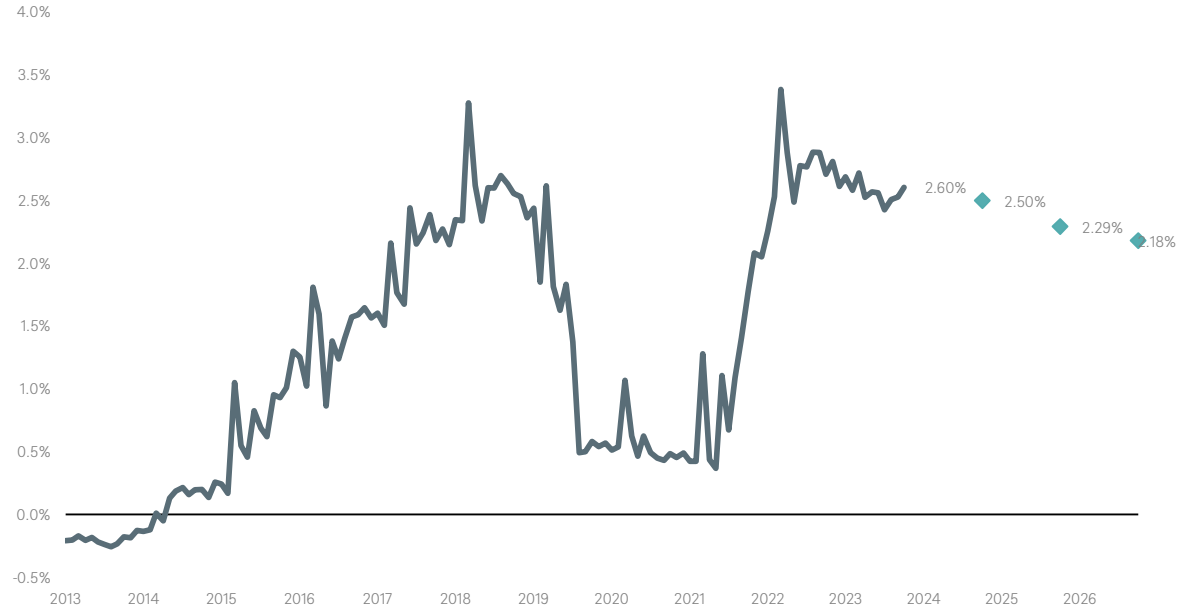
This outperformance can be attributed to 2 main factors: 1. Strengthening of the US Dollar over the past decade and 2. Attractive levels of currency carry generated by hedging currency risk. Over the 10-year period ending June 30, 2024, the MSCI EAFE Currency Index, which represents the spot prices of the currency exposure of the MSCI EAFE Index, has declined

nearly 24% (see Figure 2). Over the same time frame, primarily due to higher US interest rates, hedging EAFE equity currency exposure back into US Dollars provided a tremendous tailwind for investors as shown in Figure 3.

Figure 2: MSCI EAFE Currency index spot return (6/30/2014 to 6/30/2024)

Source: Bloomberg as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

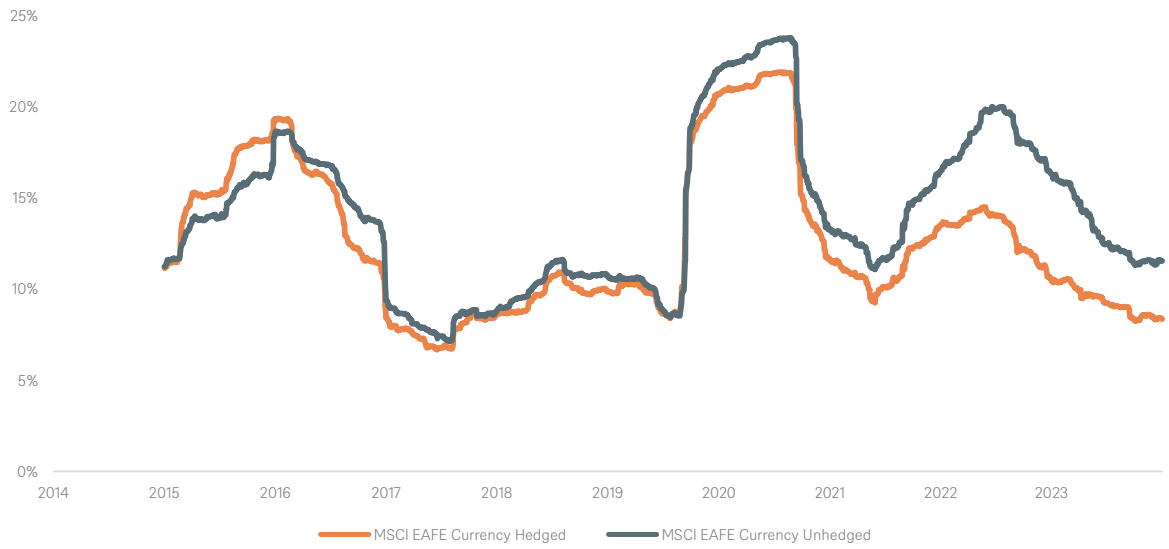
Figure 3: MSCI EAFE US Dollar Hedged Index Annualized Implied Carry using Foreign Exchange ("FX") Forwards (6/30/2014 to 6/30/2024)



*Blue dots represent the implied carry in the 1, 2, and 3-year fx forward prices.
Source: Bloomberg, MSCI, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

Over the same time frame, annualized volatility has been about 12.4% for MSCI EAFE Currency Hedged versus about 15.1% annualized volatility for MSCI EAFE Currency Unhedged. The rolling 1 year volatility is shown in Figure 4.

Figure 4: Rolling 1-year volatility (6/30/2014 to 6/30/2024)



Source: Bloomberg, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

These historical results show 4.7% annual outperformance from currency hedging while realizing roughly 2.7% lower volatility. It is worth noting that these superior currency hedged returns did, however, rely on certain conditions (as previously mentioned, the strength of the US Dollar and the benefit of currency carry). Combining these higher empirical returns and lower empirical volatility, we can compare the Sharpe ratios of the MSCI EAFE Currency Hedged and MSCI EAFE Currency Unhedged indices shown in Figure 5.

Figure 5: Return statistics (6/30/2014 to 6/30/2024)

	MSCI EAFE Currency Hedged	MSCI EAFE Currency Unhedged
Return (geometric)	9.08%	4.33%
Return (arithmetic)	9.50%	5.40%
Volatility	12.44%	15.13%
Sharpe	0.64	0.26
Downside Deviation	8.80%	9.46%
Sortino	0.91	0.41
Up Capture Ratio	85.81%	100.00%
Down Capture Ratio	58.91%	100.00%

Source: Bloomberg, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.
*Calculations using monthly frequency

Looking forward, investors can approach currency hedging decisions by utilizing this objective currency hedging framework. As a reminder, this currency hedging framework consists of 4 components:

- Currency spot return
- Currency carry
- Volatility of local equity and currency
- Correlation between local equity and currency

Currency Spot Return

Forecasting currency spot returns is admittedly a challenging endeavor. Long-run currency forecasting is equally difficult. Measures such as purchasing power parity or interest rate parity rely, in part, on unchanging macroeconomic and monetary conditions which may or may not play out as expected. In the shorter term, uncertainty remains over the strength of the economy recovery as well as the reaction function of global central banks to economy acceleration and any inflationary pressures.

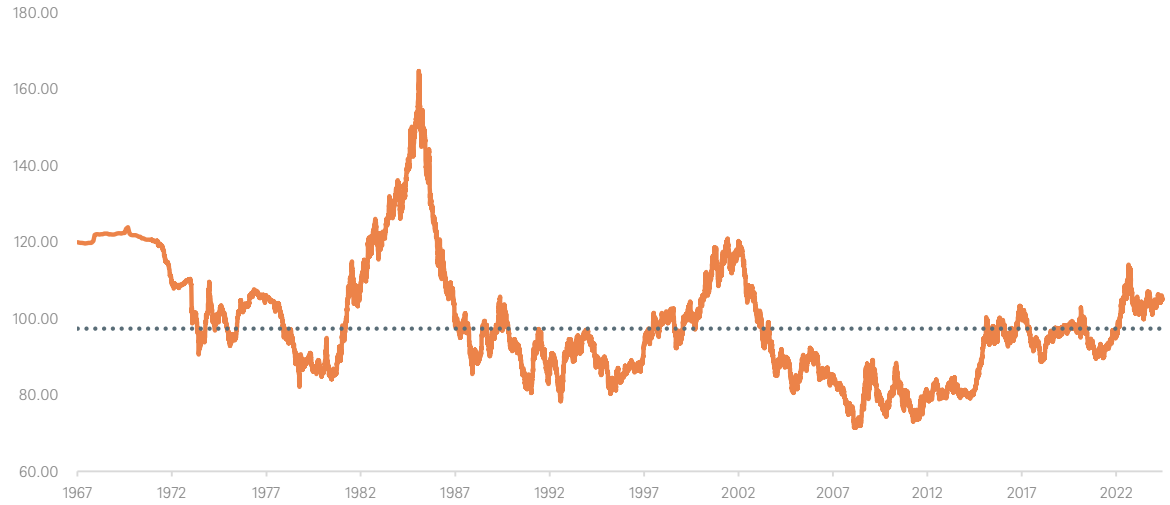
What we can observe from history is that long term spot returns, in some cases, are relatively close to zero despite significantly volatility at times. For example, the Euro, as shown in Figure 6, since its inception on January 1, 1999, has depreciated just -9.2%, equating to just -0.41% per year. Given these very modest negative spot returns, assuming currency risk has not been historically justified by spot returns.

Figure 6: EURUSD historical spot price (1/1/1999 to 6/30/2024)

Source: Bloomberg as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

Looking at the US Dollar index (DXY) over a longer time frame, the story remains the same: since DXY's inception in 1967, the spot return on the US Dollar index equates to around -1bp per annum over the past 5 decades (see Figure 7).

Figure 7: US Dollar Index historical spot price (1/31/1967 to 6/30/2024)

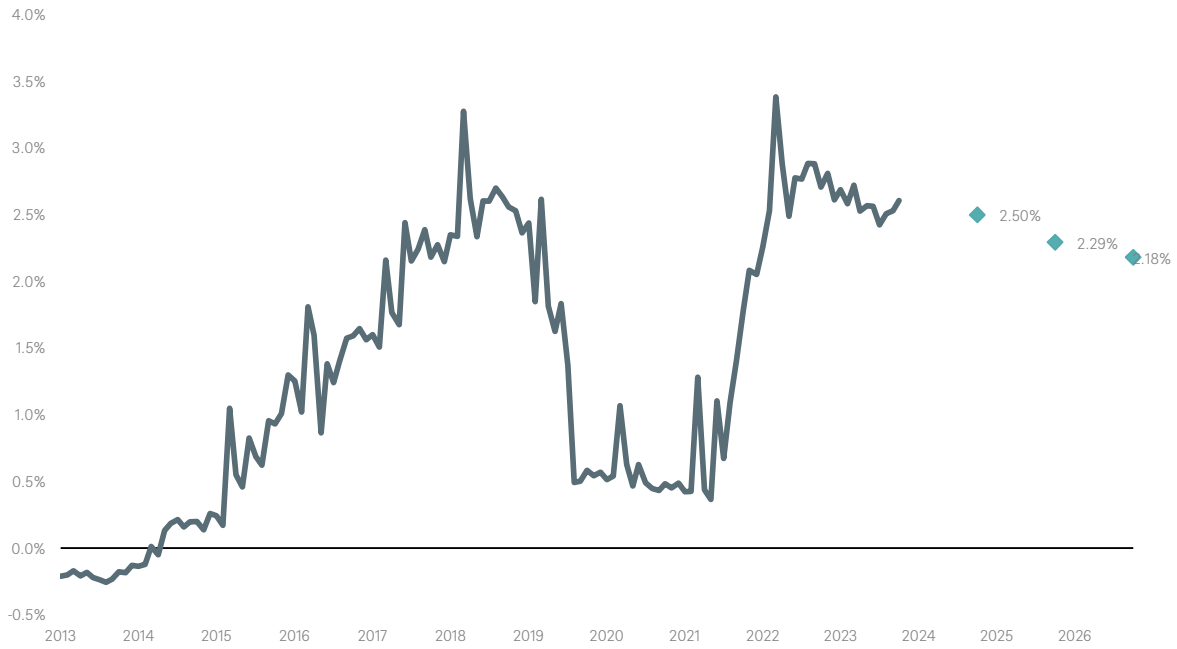


Source: Bloomberg as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

Currency Carry

As previously mentioned, due to higher interest rates in the US as compared to international developed countries, currency carry has been a significant tailwind for currency hedging over the past decade. As interest rates diverged significantly in 2022, these differentials continue to favor US investors who hedge international developed currency exposure back to US Dollars for the next few years. While these interest rate differentials are expected to narrow, Figure 8 shows that currency carry implied in the fx forward market is still quite positive over the intermediate term.

Figure 8: MSCI EAFE US Dollar Hedged Index Annualized Implied Carry using FX Forwards (6/30/2014 to 6/30/2024)



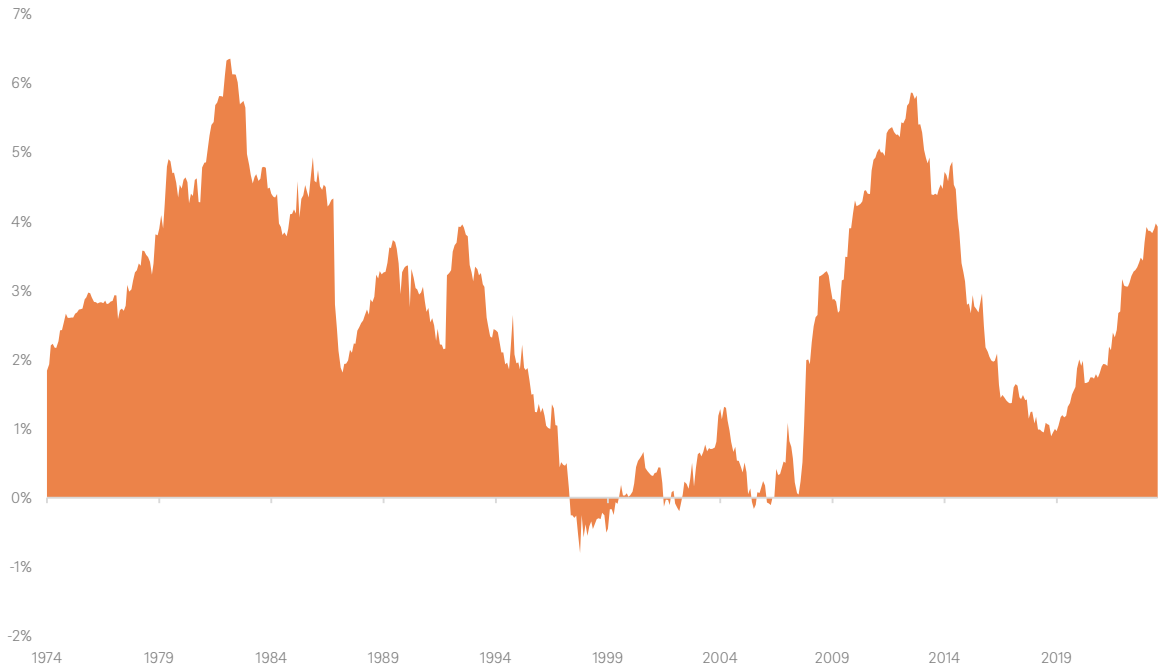
*Blue dots represent the implied carry in the 1, 2, and 3-year fx forward prices.
Source: Bloomberg, MSCI, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

Focusing on volatility

While the strength of the US Dollar and the benefits of US Dollar carry have proven to be strong tailwinds for currency hedging over the past decade, these two drivers of relative returns can be subject to changing market environments. Risk as measured by volatility and drawdowns, we would argue, are more structural arguments for hedging currency risk for EAFE equity exposures.

Over the long-term, currency unhedged EAFE equities have realized significantly higher volatility relative to local markets. Figure 9 shows that looking at 5-year periods since 1969 (the index inception date) the MSCI EAFE Currency Unhedged Index has realized higher volatility than the MSCI EAFE Local Index in more than 93% of these 5-year rolling windows.

Figure 9: Differential between unhedged and local volatility in 5-year increments (12/31/1969 to 6/30/2024)



Source: Bloomberg, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

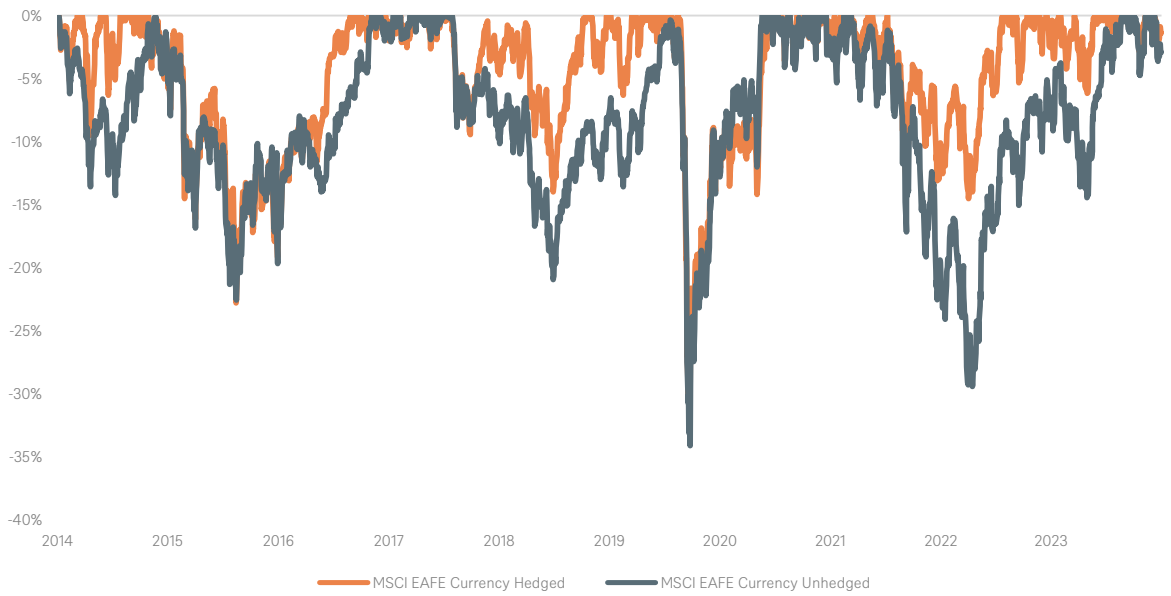
Looking at rolling 1-year volatility over the past decade, there is an observed difference in the volatility between MSCI EAFE Currency Hedged and MSCI EAFE Currency Unhedged, namely that the unhedged index has been more volatile over most periods of time (86% of observations) as shown in Figure 10.

Figure 10: Differential between rolling 1-year volatility (6/30/2014 to 6/30/2024)

Source: Bloomberg, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

This has translated directly into more severe drawdowns for MSCI EAFE Currency Unhedged as shown in Figure 11.

Figure 11. Max Drawdowns (6/30/2014 to 6/30/2024)



Source: Bloomberg, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

Broken down into calendar years, we can also observe the severity of drawdowns between EAFE Currency hedged and EAFE Currency unhedged returns (see Figure 12).

Figure 12. Max Drawdowns by Calendar Year (12/31/2013 to 6/30/2024)

Max Drawdown by Calendar Year			
	MSCI EAFE Currency Hedged	MSCI EAFE Currency Unhedged	Difference
2014	-9.49%	-13.60%	4.10%
2015	-16.17%	-16.74%	0.57%
2016	-15.37%	-12.95%	-2.41%
2017	-2.63%	-2.05%	-0.58%
2018	-13.99%	-20.93%	6.93%
2019	-6.31%	-7.59%	1.28%
2020	-30.06%	-33.90%	3.84%
2021	-5.05%	-7.15%	2.10%
2022	-14.51%	-28.59%	14.08%
2023	-6.15%	-11.13%	4.98%
2024 (YTD)	-3.09%	-4.74%	1.65%

Source: Bloomberg, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

By leveraging this currency hedging framework, we can demonstrate that this higher level of realized risk is not purely coincidental. It is, in fact, attributable to the fact that unhedged international investments are implicitly levered. Said otherwise, a US investor choosing to purchase $100 unhedged EAFE equities is long both $100 of local EAFE equities and $100 of EAFE currency. Because of this EAFE currency exposure, the necessary conditions for investors to prefer being unhedged (or assuming this $100 of currency exposure) purely from the standpoint of risk, or volatility, are demonstrably narrow.

In simple terms, the volatility of an unhedged EAFE investor consists of 3 components: 1. The volatility of the local equity market, 2. The volatility of the basket of currency exposure, and 3. The correlation between the local equity and the currency. If we combine these components into a formula, we can determine at which level of correlation investors would be indifferent between the volatility of currency hedged EAFE versus currency unhedged EAFE. We refer to this equation as the "Correlation Breakeven":

Figure 13. Correlation breakeven equation

$$\rho_{E,FX} = -\frac{1}{2}\sigma_{FX}/\sigma_{E}$$

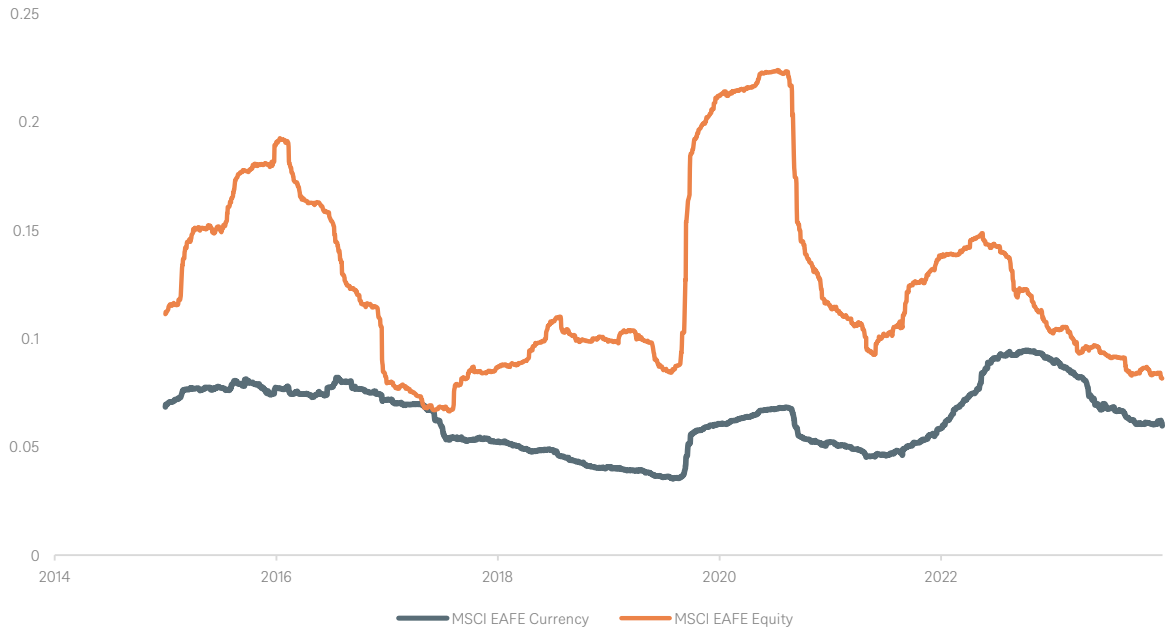
Source: DWS

In simplified terms, the correlation between the local equity market and the currency must be less than negative one-half of the ratio of the currency volatility to the local equity volatility. Perhaps the most important part of this equation is that this correlation breakeven must always be negative. In other words, the correlations between equities and currencies must be negative (and in some cases significantly negative) to justify not hedging the currency risk purely as it relates to risk or volatility reduction.

Volatility of local equity and currency

The 2 components of this equation are the 2 risks that a currency unhedged investor will own. As mentioned previously, an investor who buys $100 of MSCI EAFE is first buying $100 of EAFE currencies and then buying $100 of EAFE local equities. By doing so, the investor is owning $100 of each of the 2 below components in their singular investment.

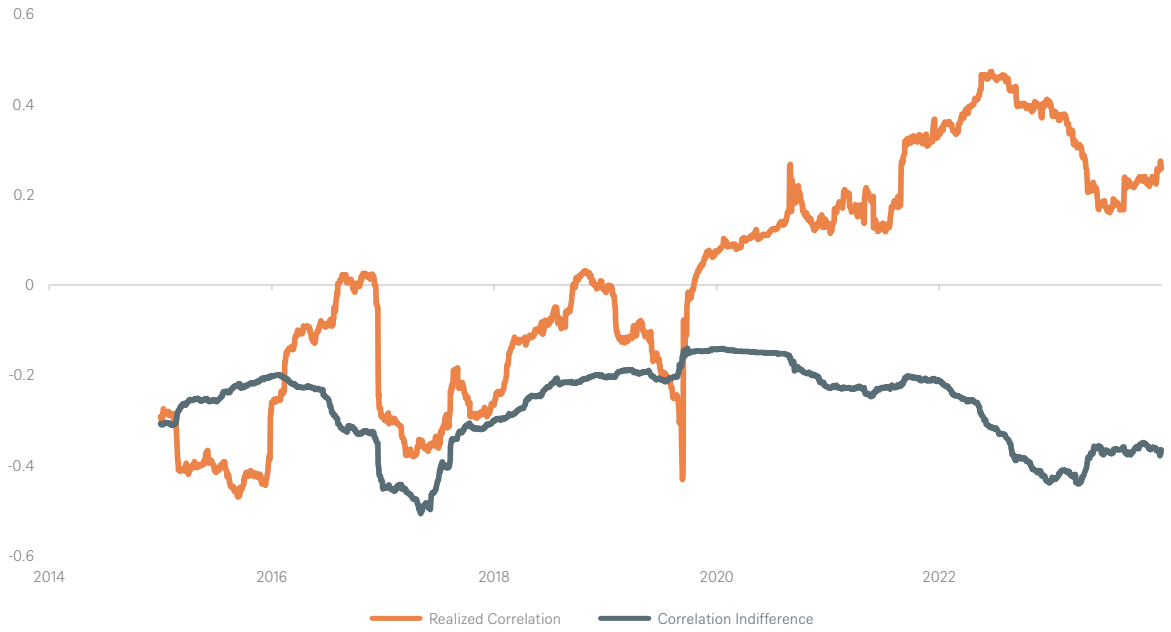
Figure 14. Rolling 1-year volatility (6/30/2014 to 6/30/2024)



Source: Bloomberg, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

Because this investment consists of 2 distinct risks, the way these risks interact will dictate to what extent the currency risk will add volatility to the investment. Using the correlation breakeven equation, we can demonstrate that, over the past decade, this correlation break-even level has hovered around -0.25 (shown in chart below), which has been far lower than the realized correlation between the local equity and currency indices.

Figure 15. Rolling 1-year correlation breakeven vs actual correlation (6/30/2014 to 6/30/2024)



Source: Bloomberg, DWS Calculations as of 6/30/2024. Past performance is not indicative of future results. It is not possible to invest directly in an index.

Conclusion

Over the past decade, currency hedging EAFE equity exposure added tremendous benefit to investors through both increased realized returns (excess return over MSCI EAFE Currency Unhedged of 4.7% per annum) and reduction of realized annualized volatility by about 2.7%. Looking forward, on the return side of the equation, predicting the direction of currency markets has proven historically challenging, although currency carry continues to favor currency hedging for the foreseeable future. Alternatively, the risk argument for currency hedging is structural in nature and has not historically been beholden to changing market conditions. The calculus of owning an implicitly levered portfolio of equity and currency risk results in higher levels of volatility, and by extension, more severe market drawdowns, for EAFE investors who choose not to hedge their currency risk.

Glossary

Correlation Breakeven is a measure of the correlation between the local equity and the currency such that the unhedged and hedged index volatilities are equivalent.

Cumulative total return refers to the total change in price plus any income (or other distributions) of an investment from one point in time to another.

Currency Carry, or Implied Carry is a strategy in which an investor sells a certain currency with a relatively low interest rate and then buys another, higher-yielding currency.

A drawdown is the average maximum loss in a given year.

Often referred to as EAFE, the Morgan Stanley Capital International Europe, Australia, Far East (MSCI EAFE) index includes stocks from exchanges located in Europe, Australia, New Zealand and the Far East. Created in 1969, this index is a widely used benchmark for international funds.

FX Forward contracts are agreements between two parties to exchange two designated currencies at a specific time in the future.

Interest rate parity is the fundamental equation that governs the relationship between interest rates and currency exchange rates.

MSCI EAFE Currency Hedged Index refers to the EAFE index strategy that seeks to reduce the risk of adverse price movements that can result from currencies.

MSCI EAFE Currency Unhedged Index refers to the EAFE index strategy that maintains exposure to the currency risks as a result of purchasing foreign securities.

Purchasing power parity is a technique used to determine the relative value of currencies, whereas the purchasing power in both currencies is the same.

The real interest rate is the nominal interest rate minus the rate of inflation.

Return (geometric) refers to a backward-looking performance calculation that takes compounding into consideration.

Return (arithmetic) is a way of calculating the rate of return of an investment by dividing the amount of growth by the initial investment.

The Sharpe Ratio puts an asset's excess return (the return above the risk-free rate) in relation to the asset's risk as measured by its standard deviation.

A spot price is the current price in the marketplace at which a given asset such as a security, commodity or currency can be bought or sold for immediate delivery.

Spot return refers to the return based solely on the spot price and does not account for currency carry.

The Sortino Ratio is a variation of the Sharpe Ratio in that it uses the asset's standard deviation of negative asset returns (downside deviation) to differentiate harmful volatility from total overall volatility. Named after Frank A. Sortino, the Sortino

Ratio takes the asset's return and subtracts the MAR (minimum accepted return), and then divides that amount by the asset's downside deviation.

The Up Capture Ratio is calculated by dividing a manager or index average return by the benchmark average return in months where the benchmark return was positive.

The Down Capture Ratio is calculated by dividing a manager or index average return by the benchmark average return in months where the benchmark return was negative.

The US Dollar Index (DXY) measures the performance of the U.S. dollar vs. a basket of currencies including the euro, yen, British pound, Canadian dollar, and Swiss franc.

Volatility is the degree of variation of a trading-price series over time. It can be used as a measure of an asset's risk. Downside deviation measures the risk and price volatility of investments by comparing returns that fall below the average annual return to minimum investment thresholds.

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