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Thought Leadership, Exchange Traded Funds

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The New Neutral—The long-term case for currency hedging

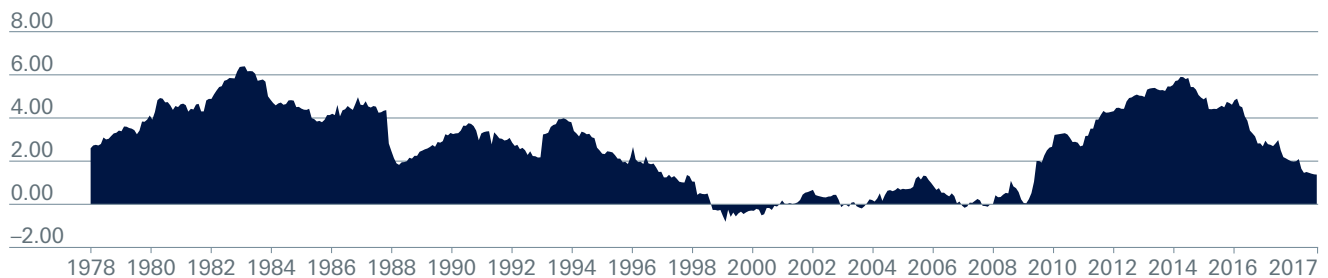
It's fair to say that currency-hedged approaches to international investing have really come to the fore over the last few years, with \$14.8 billion of AUM in hedged ETFs at the beginning of 2014, compared with "\$41bn of AUM as of the end of November 2017" (Source: Morningstar). Without asking every single investor's motivation, it's impossible to say exactly what the driving force behind this interest has been, but we suspect the strong performance of the dollar, particularly against the euro and the yen, where quantitative easing has weakened those currencies, has really shone a spotlight on the role currencies can play in an international investment.

Instead of focusing on the tactical, return-oriented aspects of the hedging decision, let's focus on some key findings from research we've recently undertaken (see our latest White Paper [The New Neutral](#):

[The Long Term Case for Currency Hedging](#)) and consider the more strategic reasons for hedging, and, in particular, the potential risk reduction it offers.

Take a look at [Figure 1](#), which reflects the difference in volatility for the MSCI EAFE, a key benchmark for international developed equity markets, on a hedged (without currency) and an un-hedged (with currency) basis. A positive number represents more risk in the basket that includes currency. What was surprising, to us at least, was that over this time period leaving currency in resulted in volatility on average 2.7 percentage points higher 90% of the time. It really begs the question—why? What is it about currency—and, by the way, it's not, in our view, additional return—that meant investors lost out by retaining their exposure?

Figure 1: The difference in volatility between MSCI EAFE hedged and un-hedged (2/1978–2/2017)



Source: Morningstar Direct, 3/31/1973–11/30/17.
Past performance does not guarantee future results.



The Framework

In an uncertain world, we find it helpful to impose a framework to evaluate the hedging decision and the return/risk question in a systematic manner. This framework involves thinking in terms of two—unimaginatively named—portfolios. Portfolio A represents an international equity without currency (hedged) and Portfolio B is the traditional international equity investment with currency risk (so un-hedged). Now we are in a place to establish some return and risk parameters and ultimately a reward-to-risk ratio (return divided by risk, a similar metric to the Sharpe ratio) to identify the portfolio offering the greater return per unit of risk. Correlation and cost of hedging the international currency are also taken into consideration for the hedged portfolio to evaluate both in the appropriate context.

Currency Return

Consider [Figure 2](#) which shows the rolling one year return of the euro over the last 16 years. Note that at times it has offered positive and negative returns, roughly in a plus or minus 20% band, but that, over the long run, the returns have tended to be centered around zero. When running the same analysis for all 33 currencies in the MSCI All Country World Index, it was surprising how consistent this result was. As expected, some are more (or less) volatile, but in the long run, we ultimately believe the currency return expectation is zero. (Again, we are talking about the strategic case here and fully understand, and agree, that short term tactical conviction in a currency move is still very important).

Figure 2: Rolling one year returns for the euro (1/1/2001–11/30/2017)



Source: Bloomberg, (as of December 18, 2017)
Past performance does not guarantee future results.

Currency Volatility

[Figure 3](#) shows the same time period as above for the euro, but this time focuses on its standard deviation, or volatility. Note how stable it is over time. There is, as one might expect, a spike up during the financial crisis, but ultimately would you take issue with us saying that 10% is a decent ballpark number for the long run volatility of this currency? We think it's reasonable.

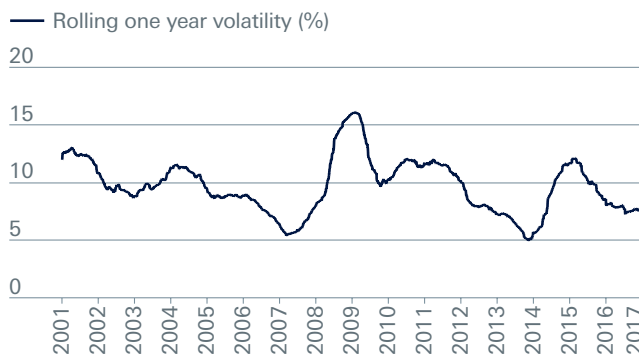
Currency Correlation

Our next chart ([Figure 4](#)) shows the rolling one year correlations between the euro and the German stock market (specifically, MSCI Germany). Note that, although the average over the long run is effectively zero (as one can eyeball from the chart, and our statistical analysis showed) the correlation has been quite volatile. It's difficult to say with any real degree of conviction that an investor can either say what the "true" correlation is at a particular point in time, or that it's likely to stay there.

Hedging Costs

Our final chart ([Figure 5](#)) shows the cost to hedge the euro over the last twelve years. Here we'd simply note that sometimes you've had to pay, and other times you've been paid to hedge, as you are at the moment, but that the range is quite tight, fluctuating in roughly a plus or minus 2% band. Since the financial crisis, one month interest rate differentials, which are what drives this cost, have converged

Figure 3: Rolling one year volatility for the euro (1/1/2001–11/30/2017)



Source: Bloomberg, (as of December 18, 2017)
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somewhat given the very low nominal rates we currently have in the U.S. and in Europe, and it's this that has driven that narrowing of the band. We think that 0% is a reasonable number to use in the long run, at least for developed market currencies.

Conclusion

Returning to our original framework of the hedged vs. unhedged hypothetical portfolios, we can now plug in some assumptions to see how the reward to risk ratios look for our two portfolios. First, let's assume an 8% return and a 16% volatility for the international equity market. Though we didn't go into those numbers empirically above, those are reasonable numbers that would combine to give a reward to risk ratio for Portfolio A (the hedged portfolio) of 0.50 (8% divided by 16%).

Figure 4: Rolling one year correlation between the euro and MSCI Germany (1/1/2001–11/30/2017)

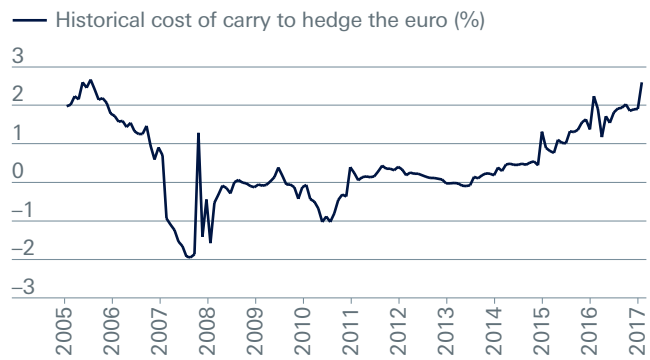


Source: Bloomberg, (as of December 18, 2017)
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What happens when you add an uncorrelated, 0% return asset with a 10% volatility to this portfolio in order to get Portfolio B (the unhedged portfolio)? The return number, of course, remains unchanged (you are adding a 0% return asset) but the volatility goes from 16% to 18.9%. In other words, adding the currency does nothing for your return, but does increase your risk. The reward to risk ratio decreases to 0.42 (8% divided by 18.9%). Under these assumptions it would be better to hedge.

Using this approach enables an investor to change all their assumptions, and therefore to gauge the sensitivity of the hedging decision to the various inputs. Our conclusion was that correlations in the order of -0.3 , or lower, or volatilities of 2%–3%, need to exist for a currency if one is to be even just indifferent to retaining it within a portfolio. And as our research illustrates, those levels just have not been seen historically on a consistent basis.

Figure 5: Historical cost of carry to hedge the euro (12/2005–11/2017)



Source: Bloomberg, (as of December 18, 2017)
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Appendix

Figure 1: DM equity and currency returns

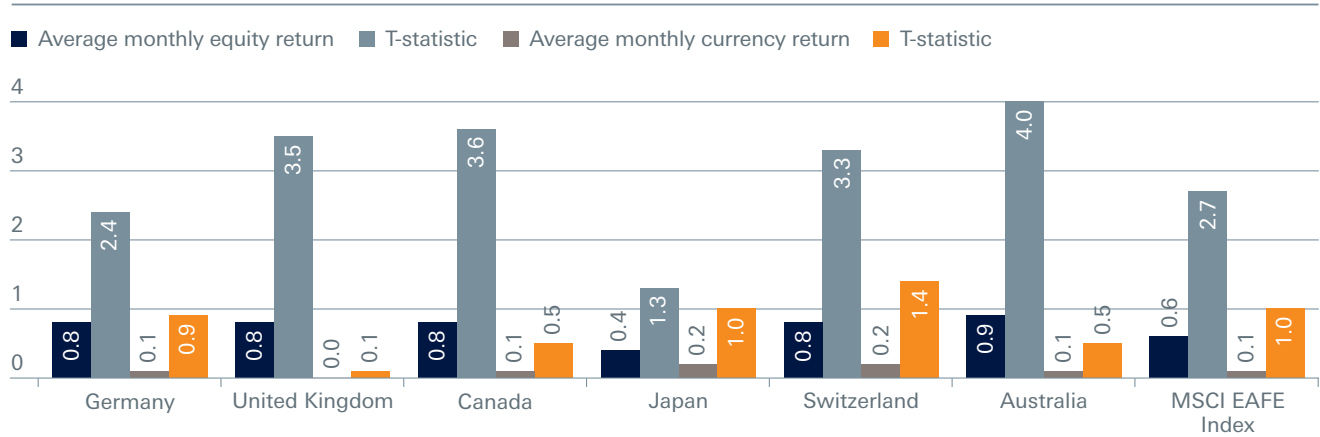


Figure 2: EM equity and currency returns

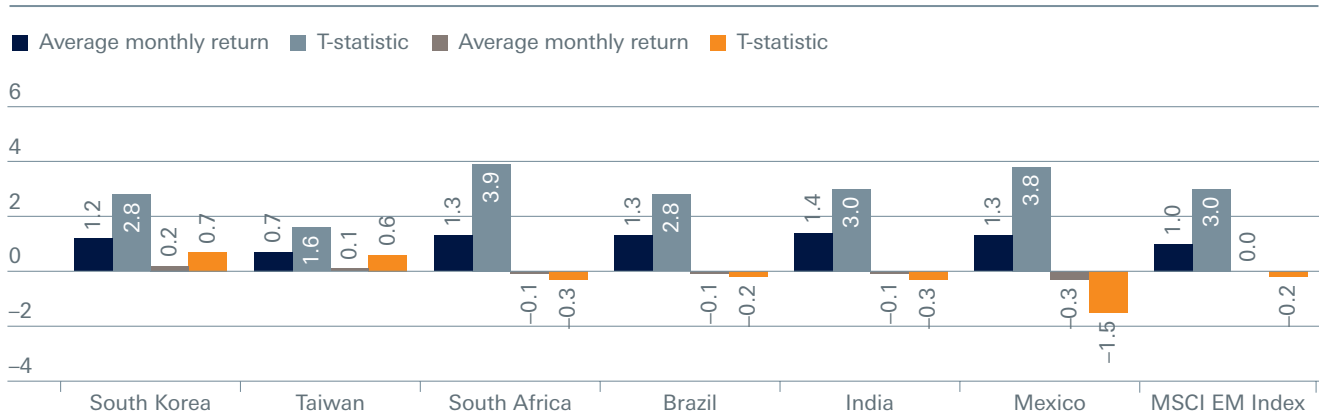
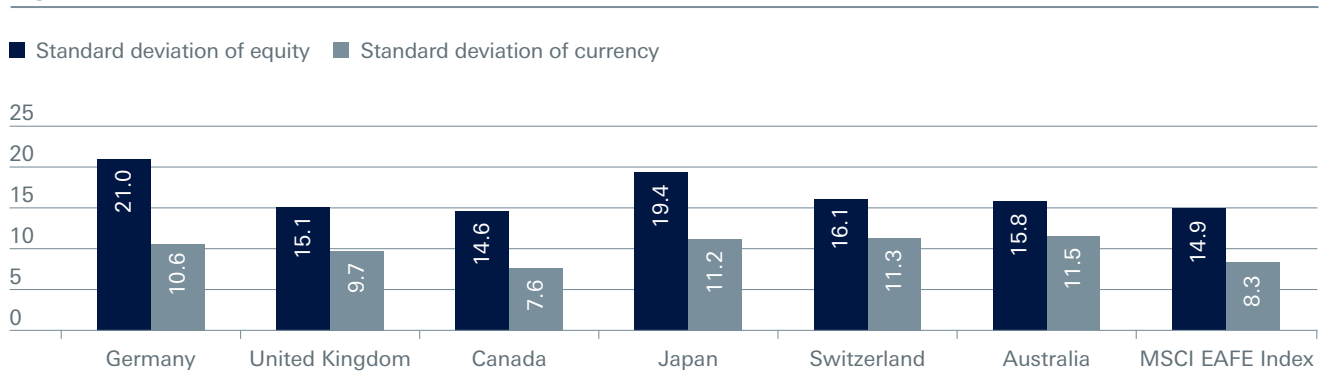


Figure 3: DM currency and equity volatility



Developed markets source: MSCI, Bloomberg, Morningstar Direct. Monthly data from 4/1986 through 12/2017. Standard deviation is often used to represent the volatility of an investment. It depicts how widely an investment's returns vary from the investment's average return over a certain period. The MSCI EAFE Index tracks the performance of stocks in select developed markets outside of the United States.

Figure 4: EM currency and equity volatility

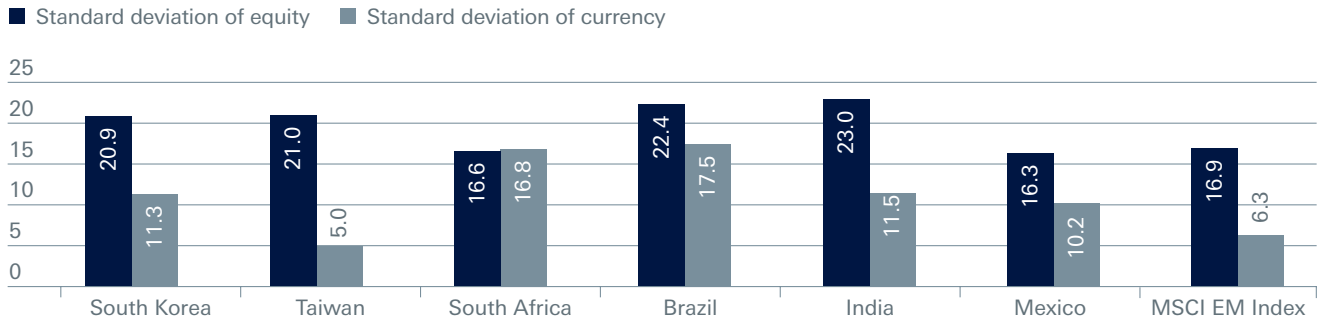
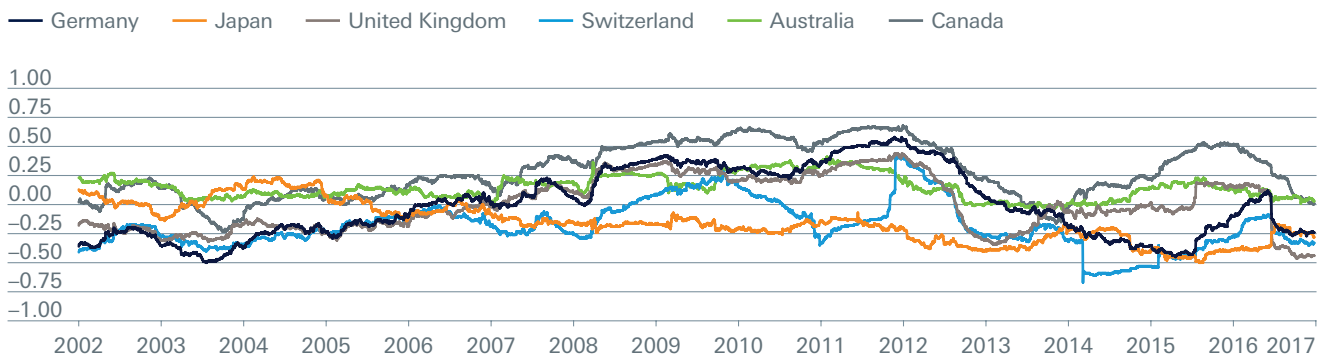


Figure 5: Rolling one year correlation between daily returns of local equity market and its currency returns



Source: Bloomberg. Daily data from 3/19/2002 through 12/29/2017, calculated based on a 252-trading day year. Germany represented by MSCI Germany Index and euro (EUR), Japan represented by MSCI Japan Index and Japanese yen (JPY), United Kingdom represented by MSCI UK Index and British Pound (GBP), Switzerland represented by MSCI Switzerland Index and Swiss franc (CHF), Australia represented by MSCI Australia Index and Australian dollar (AUD) and Canada represented by MSCI Canada Index and Canadian dollar (CAD). **Past performance does not guarantee future results.**

Emerging markets source: MSCI, Bloomberg, Morningstar Direct. Monthly data from 4/2001 through 12/2017. Standard deviation is often used to represent the volatility of an investment. It depicts how widely an investment's returns vary from the investment's average return over a certain period. The MSCI Emerging Markets Index tracks the performance of stocks in select emerging markets. Past performance does not guarantee future results.

Definitions:

Correlation is a measure of how closely two variables move together over time. A 1.0 equals perfect correlation. A -1.0 equals total negative correlation.

The **MSCI EAFE US Dollar Hedged Index** is designed to provide exposure to equity securities in developed international stock markets, while at the same time mitigating exposure to fluctuations between the value of the U.S. dollar and selected non-U.S. currencies.

The **MSCI Australia Index** is designed to measure the performance of the large- and mid-cap segments of the Australia market in gross local terms. The **MSCI Germany Index** tracks the performance of German stocks in gross local terms. The **MSCI Japan Index** is designed to measure the performance of the large- and mid-cap segments of the Japanese market in gross local terms. The **MSCI United Kingdom Index** is designed to measure the performance of the large- and mid-cap segments of the UK market in gross local terms. The **MSCI Switzerland Index** is designed to measure the performance of the large- and mid-cap segments of the Swiss market in gross local terms. The **MSCI Canada Index** is designed to measure the performance of the large- and mid-cap segments of the Canada market in gross local terms.

Developed Market (DM) refers to a country with a highly industrialized economy and capital markets.

Emerging Market (EM) refers to a country with an economy consisting of low to middle per capita income.

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