How Investors Can Reduce the Cost of Hedging in Low Interest Rate Environments

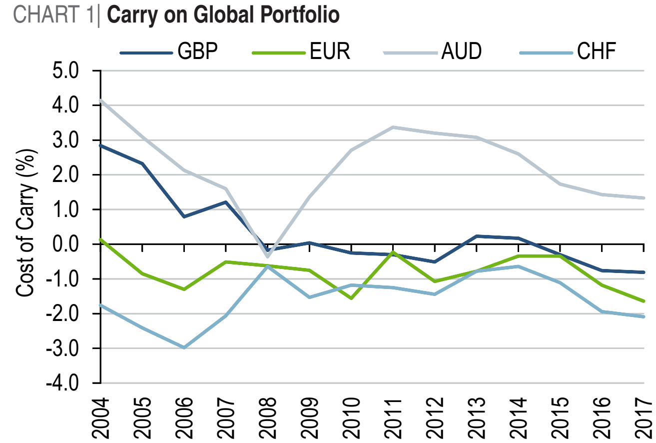
Passive currency hedging programs are created with the intent of minimizing unwanted currency risk embedded in an international portfolio. However, a one-size-fits-all approach is not appropriate for all investors. In fact, risks unique to the region can help guide passive hedging programs in selecting and structuring the most cost-effective instruments tailored for its exposure profile. The intent of this paper is to introduce a cost-reduction solution specifically for investors in environments with low domestic interest rates to passively hedge currency risk and experience prolonged periods of carry cost.

For passive hedging programs, currency forwards are often considered the most efficient hedging instruments available given that each contract is customized and in most cases do not require collateral. The forward contract overlays an underlying local asset by hedging the local asset value at a specific hedge ratio back to the base currency of the investor at an agreed upon settlement date. The quoted forward rate, however, will differ from the spot rate, and the differential between the quoted rate as a percentage of the market spot rate is what is known as carry.

Carry can be either positive or negative for the passive hedger and is based on two factors: interest rate differential and cross-currency basis. Interest rate differential is the difference between the interest rates along the forward curve for the two regions of the currency pair being priced. Cross-currency basis is an additional adjusting factor that is more prevalent during periods of high stress in the global financial system. When quoting a forward, the currency with the higher interest rate is priced at a discount to the currency with the lower interest rate in a no-arbitrage pricing relationship known as covered interest rate parity. [1] Therefore, countries in low interest rate regimes that hedge currency risk of countries in high interest rate regimes, will sell the local currency at a discount and incur a carry cost at the inception of the hedge. The carry is a realized cost, and the wider the differential, the more material it is to total portfolio performance.

Carry can be examined at the level of each currency pair, but may be more meaningful when viewed in a carry portfolio of many currencies. In *Chart 1*, the comparison of carry effects are estimated by selling currencies in the MSCI World currency basket against each of the four base currencies listed. Australian investors benefitted from positive annual carry for most years since 2004 while Switzerland and the Eurozone incurred negative carry costs associated with hedging out a typical developed international equity portfolio.

CHART 1| **Carry on Global Portfolio**



Source: MSCI. Data as of December 31, 2017.
Past performance is not necessarily indicative of future results. Actual results may materially differ.

Drilling a bit further into the currency basket and focusing on the most material currency exposure, USD represents approximately 60% of the MSCI World currency basket as of January 2018. This is not specific to equities. In the fixed income space, as of January 2018, USD represented approximately 43% of the Bloomberg Barclays Global Aggregate Index. Indeed, it is common for USD to represent a significant proportion in traditional asset class benchmarks.

Chart 2 illustrates the cost to hedge a US asset using one-year forwards from January 2014 to January 2018. In January 2018, all investors, except Canadian investors, were paying the highest cost of carry in the last five years. This is understandable, as the US Federal Reserve hikes rates, the positive differential, and positive carry relative to USD for high interest rate currencies have narrowed and the negative differential and carry costs relative to USD for low interest rate currencies have become more pronounced.

Given this backdrop, for investors experiencing a high cost of carry within their currency hedging program, one mitigation technique is to implement a capped forward in the passive program. To take advantage of a capped forward strategy investors must be comfortable using a combination of currency options and forwards within their hedging program. In a capped forward strategy, an investor hedges using a forward contract in a conventional manner by selling the local currency while buying the base. Simultaneously, the investor also sells a call option on the base currency against the local exposure with a strike price set at a premium to the current spot price (an out-of-the-money call option, or OTM). By combining the forward and call option the investor participates in the appreciation of their base currency up to the strike on the call by receiving a premium from selling the call resulting in a reduction of the net overall cost of the hedge.

Table 1 illustrates the current premiums an investor would expect to receive for selling a one-year 10% out-of-the-money call against the US Dollar.

Hypothetical Example[2]

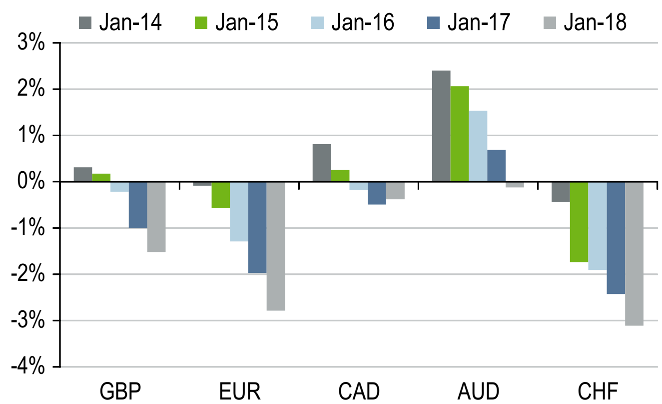
For example, if a hypothetical Swiss investor wanted to hedge a $100 million investment as of 31 January 2018 for one year, the investor would enter a one-year vanilla forward contract to sell USD and purchase CHF. The market price of the forward is .9025 while the spot price is .9315. The difference between the forward price and spot was described earlier and when the quoted price difference is a percentage of spot this is considered the cost of carry. In this case, the forward price of USD is at a discount, and the cost of carry is -3.11% to the CHF investor (.9025 CHF per 1 USD buys less CHF through a one year forward contract of selling USD than does the spot rate of .9315). In nominal terms, this cost amounts to -CHF 2,900,000 [the difference between the CHF being delivered in one year (90,250,000) and the current asset valuation in CHF being hedged (93,150,000)]. Unfortunately, by only using forwards this is an unavoidable consequence of the Swiss investor hedging USD currency. If, however, the investor sells an OTM call option on CHF, a capped forward can be created and in normal market environments, some of the cost of carry can be recouped by the investor.

Specifically, let's assume the CHF investor takes a view that the Swiss franc is unlikely to appreciate more than 10% from current spot value against USD in the next year. The CHF investor then sells a 10% OTM call option on CHF with a strike of .8121, receives a premium of .62% (shown in Table 1), or CHF 577,530 on a USD $100M notional amount at the onset of the strategy.

Combining the one-year forward and the one-year short on a 10% OTM call would result in a total cost of CHF 2,322,470, and reduces the cost of hedging using only currency forwards by approximately 20%.

Chart 3 presents the payoff of an investor who hedges a $100 million US portfolio to the Swiss franc using a vanilla currency forward and a capped forward.

CHART 2: | **Cost of Hedging the U.S. Dollar**



Source: MSCI. Data as of January 31, 2018.
Past performance is not necessarily indicative of future results. Actual results may materially differ.

TABLE 1 | **Premium on 10% OTM Call**

Currency	Premium (%)
EUR	0.55
GBP	0.51
AUD	0.64
CAD	0.25
CHF	0.62

Source: Bloomberg. Data as of January 31, 2018
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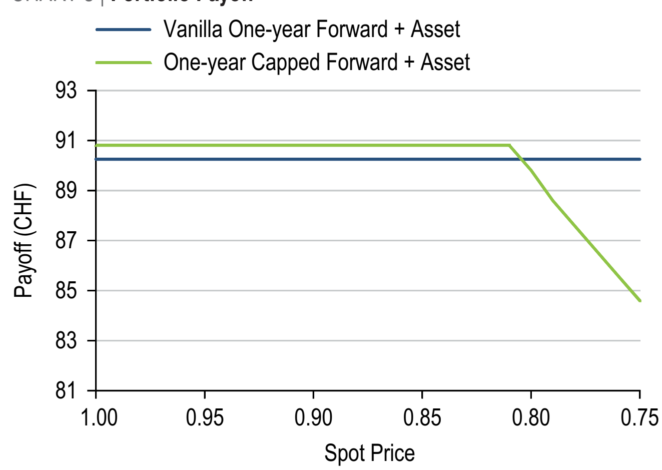
CHART 3 | **Portfolio Payoff**



Source: Bloomberg. Data as of January 31, 2018
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Summary

When investing internationally, investors are exposed to an unintended risk through their currency exposure. A passive hedging strategy is one way to reduce this unintended risk. When evaluating the effectiveness of a passive currency overlay program, investors need to consider many factors including cost. One significant cost of a hedging program can be the cost of carry. Managing this cost requires investors to think creatively and consider strategies outside the norm. A capped forward structure may be an appropriate method to manage costs for investors who face a performance headwind due to the high cost of carry in their currency overlay.

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1 Source: Bank of International Settlements; Covered interest parity lost: understanding the cross-currency basis; 18 September 2016

2 Hypothetical performance information and results do not reflect actual trading or asset fund advisory management and the results may not reflect the impact that material economic and market factors may have had, and can reflect the benefit of hindsight, on Mesirow Financial's decision-making, if Mesirow Financial were actually managing the client's money. The information provided above is for illustrative purposes only and actual results may vary. Hypothetical performance is gross of fees and transaction costs.

The source of all figures used in the Hypothetical Example is Bloomberg as of 31 January 2018.

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The Bloomberg Barclays Global Aggregate Index is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

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Options are volatile and inherently leveraged, and sharp movements in prices could cause large losses. A client may buy or sell (write) call options and put options, and when it writes options, it may do so on a "covered" or an "uncovered" basis. A call option is "covered" when the writer owns instruments of the same class and amount as those to which the call option applies. A put option is covered when the writer has an open short position in instruments of the relevant class and amount. These activities involve risks that can be substantial, depending on the circumstances.

In general, without taking into account other positions or transactions, a client may enter into, the principal risks involved in options trading can be described as follows: When the client buys an option, a decrease (or inadequate increase) in the price of the underlying instrument in the case of a call, or an increase (or inadequate decrease) in the price of the underlying instrument in the case of a put, could result in a total loss of the client's investment in the option (plus commissions).

When the client sells an option, the risk can be substantially greater than when it buys an option. The seller of an uncovered call option bears the risk of an increase in the market price of the underlying instrument above the exercise price. The risk is theoretically unlimited unless the option is "covered."

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