

# Currency Hedging Programs: The Long-Term Perspective

## An Analysis of 34 Years of Currency Data, and the Potential Implications for Investor Currency Hedging Programs

### INTRODUCTION

Over the past two decades, currency hedging has become increasingly popular with plan sponsors in the United States and elsewhere. By September 2006, the top 200 U.S. defined benefit plans had committed \$74 billion to currency overlay programs, according to *Pensions & Investments* magazine. That's around 18% of the total assets these plans have in international active equity portfolios, and a larger percentage than the amount committed by these institutions to emerging markets equity, hedge funds, or international bonds.<sup>1</sup> For an institutional investor, it's no longer uncommon for currency hedging and overlay to be discussed as part of both strategic and tactical decisions in their global or international portfolios. Even individual investors can now choose between international equity portfolios that keep a fully-hedged portfolio, ones that include some degree of active currency hedging, or ones that don't hedge.

The "currency decision" often is framed by some market participants as a critical one which impacts long-term international equity returns. The currency impact may be perceived as especially important when an investor's base currency has been particularly strong or weak in the immediate past. This article examines long-term currency performance. Just how critical can the currency decision be? And what are the most important decisions an investor may need to make in setting "currency strategy?" We note that while some investors may see currency as a separate asset class and a potential source of return, the scope of this paper does not encompass active currency management.

Regardless of the investor's base currency, currency programs typically go through periods of fluctuating popularity, usually corresponding with the strength or weakness of that base currency. Currency programs frequently rise in popularity after they have been successful for a 2- to 3-year period (of course, this is a common characteristic of most investment strategies, not just currency programs). If currency movements are mean-reverting (as suggested by the viability of the carry trade strategy<sup>2</sup>), this may lead to hedging losses for an investor in the first few years of his program, possibly leading to abandonment of a strategy at what may turn out to be the wrong point in the cycle.

This article examines both the behavior of currencies over an extended period and the issues facing investors who decide to set a long-term currency strategy. By "currency strategy," we mean

---

<sup>1</sup> *Pensions & Investments*, January 22, 2007.

<sup>2</sup> As documented in the 2006 Brandes Institute paper, "Carrying On?"

## Currency Hedging Programs: The Long-Term Perspective

“always unhedged,” “always hedged,” or “discretionary active hedging.” As well as examining the historic statistical results of these strategies, we focus on the behavioral issues that confront an investor, and the potential consequences of “behavioral errors” on long-term returns.

The Brandes Institute study, “Currencies and Hedging: The Long Term Perspective,” was published in 2005, based on data through the end of 2004. In this article, we use the same methodology with data updated through the end of 2006. This provides a historical framework and statistical analysis over the entire floating exchange rate period, dating back to 1973.

For this article (and for the Brandes Institute’s prior research<sup>3</sup>) we have used the term “unhedged” to represent a non-domestic equity portfolio that uses no currency hedging strategy. The term “fully-hedged” is used to denote a portfolio where all non-domestic equity exposure is deemed to be hedged back to the domestic currency using 3-month forward currency contracts, rolled<sup>4</sup> on a quarterly basis. Full hedges are deemed to be passive strategies in this context, as would be “partial hedges,” where instead of a 100% full hedge, just a fixed proportion of the portfolio may be hedged (e.g. 50%). Partial hedge data has not been specifically calculated in this article, as their hedge impact returns are generally just the proportionately “scaled down” amount of the full hedge. We note that applying partial hedges can modify not only the investor’s returns, but the volatility of those returns. As such, partial hedges may sometimes lower volatility compared to fully hedged or unhedged portfolios, providing an attractive volatility-adjusted return potential to an investor. The terms “discretionary” or “active” hedges refer to strategies whereby an active manager places or removes hedges on a discretionary basis for a portfolio, separate from the decision by the investor to use a fully-hedged, or unhedged, benchmark.

This article focuses on developed market currencies, and excludes analysis of emerging country currencies. We note that some investors may advocate hedging currency risk in emerging markets in seeking to control risk. We do not include currency data on emerging market currencies for two reasons:

- We believe the lack of historical data prevents meaningful analysis over the full time period of this study.
- Illiquidity and transaction costs could mitigate the effectiveness of, or have more impact on, this strategy, potentially skewing the results relative to developed currencies.

We note that some investors do pursue emerging market currency strategies. For example, they may seek to improve volatility-adjusted return by hedging exposure to emerging market securities, based on the perception that one is not compensated for this volatility, and this may

---

<sup>3</sup> Currencies and Hedging: The Longer-Term Perspective. The Brandes Institute. 2005.

<sup>4</sup> Rolling returns are returns for a series of overlapping, smaller time periods within a single, larger time period. For example, the 34-year time period from 12/31/72 through 12/31/06 includes 144 12-month segments. The first segment is the 12-month period 12/31/72-12/31/73, the next segment is the 12-month period 3/31/73-3/31/74, and so on.

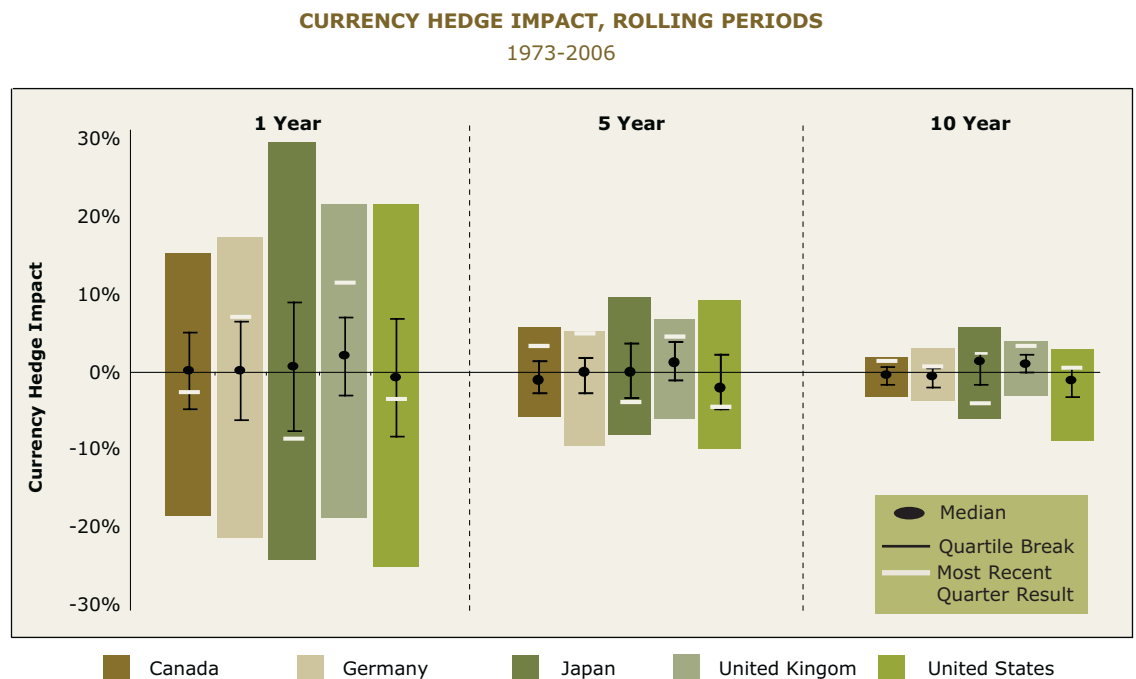
## Currency Hedging Programs: The Long-Term Perspective

improve an investor's Sharpe ratio<sup>5</sup>. However, these aspects of hedging are beyond the scope of topics in this article.

We start by looking at the historical hedging impact for investors based in five developed markets – Canada, Germany, Japan, the United Kingdom, and the United States. Hedging impact is the resulting benefit (or penalty) for placing a full currency hedge on a non-domestic equity portfolio, measured as the hedged return minus the unhedged return.

In Exhibit 1, we can see the results for each of these countries for the rolling 1-, 5- and 10-year periods in our database, back to 1973. As well as the span between best and worst results for each time horizon (shown by the thick dash for each country and time horizon), each bar shows the quartile breaks, including the median result for an investor. Recognizing that an investor may be tempted to make currency program decisions based on recent short-term experience, we also note the most recent hedging impact number (the most recent quarter) for each time horizon for the period ending December 2006 (thick dash).

### EXHIBIT 1



Source: The Brandes Institute, as of 12/31/2006. Based on data from FactSet, Global Financial Data, U.S. Economic Research Service and the International Monetary Fund. Rolling returns are returns for a series of overlapping, smaller time periods within a single, larger time period. For example, the 34-year time period from 12/31/72 through 12/31/06 includes 144 12-month segments. The first segment is the 12-month period 12/31/72-12/31/73, the next segment is the 12-month period 3/31/73-3/31/74, and so on.

<sup>5</sup> Sharpe ratio measures a portfolio's average return less the risk-free return divided by the standard deviation of return.

## Currency Hedging Programs: The Long-Term Perspective

The table in Exhibit 2 shows the historical “hedge success ratio” for non-domestic portfolios. This is the proportion of times that a hedging strategy has been successful over the specified time horizon for an investor based in that country. While Exhibit 1 shows the hedging impact on returns, Exhibit 2 shows how often a hedge strategy produced a “win” (e.g., positive hedging result of any size), which may have had some impact on how favorably an investor felt about his or her hedging experience.

### EXHIBIT 2

**HEDGE SUCCESS RATIO (PERCENTAGE OF SUCCESSFUL PASSIVE HEDGE PERIODS OVER ROLLING 1-, 3-, AND 5-YEAR PERIODS)**

Rolling Period	Canada	Germany	Japan	United Kingdom	United States
1 Year	54%	53%	50%	56%	47%
3 Year	40%	56%	49%	68%	33%
5 Year	38%	37%	61%	76%	36%

Source: The Brandes Institute, as of 12/31/2006. Based on data from FactSet, Global Financial Data, U.S. Economic Research Service and the International Monetary Fund. Rolling returns are returns for a series of overlapping, smaller time periods within a single, larger time period. For example, the 34-year time period from 12/31/72 through 12/31/06 includes 144 12-month segments. The first segment is the 12-month period 12/31/72-12/31/73, the next segment is the 12-month period 3/31/73-3/31/74, and so on.

What can we learn from the data in these two exhibits?

First, the most recent experience (the thick dashes in Exhibit 1) is likely to be a poor guide to estimating future returns, given the typical mean-reverting nature of these currencies. This lesson may be particularly true during recent periods of currency volatility. Of the 15 bars shown in Exhibit 1, the most recent quarter hedging impact experience is at an extreme (in either the first or fourth quartile) in 11 of the 15 bars in this chart. An investor who extrapolates recent results in formulating a future strategy plan may be taking a material risk.

Second, many investors expect high volatility in their short-term currency results, and indeed the range of returns shown in Exhibit 1 demonstrates exactly that. However, an investor who believes that currency and hedging impacts “wash out” after periods of five years or more may be surprised by the 5- and 10-year bars. While the median hedging impact numbers are close to zero, the range of outcomes is quite wide. For example, over all the rolling 5-year periods shown in Exhibit 1, almost half of the hedging impact numbers were outside a range of plus or minus 3% annualized. What is the implication for an investor considering the implementation of a currency hedging program? Be prepared for extended periods of possible hedging losses, even if you believe the currency hedging program is expected eventually to generate a positive return.

## Currency Hedging Programs: The Long-Term Perspective

Third, the investor's base currency has indeed made a difference. This is shown by the difference in height of the bars: Japanese- and U.S.-based investors have experienced more volatile hedging results than Canadian-based investors, for example. It also shows in the median numbers and "hedge success rates": for example, U.K. investors have had more favorable outcomes than have U.S. investors. The thick dashes (most recent quarter results) illustrate that when an investor in one country benefited from currency hedging, typically there was an investor based in another country who suffered hedging losses. (This is of course to be expected, given that one currency's gain by definition was another currency's loss).

These long-term numbers also suggest that the choice of a passive strategy (whether hedged or unhedged) can make a significant difference for periods under five years. However, in most instances in Exhibit 1, as the timeframe lengthened, the impact relative to long-term equity returns tended to diminish. This is not to say that the currency effect disappeared over time; it generally did not. Smaller (yet non-zero) hedging impact numbers appeared persistent over extended periods. For example, a U.S.-based currency hedging program for a non-U.S. equity portfolio would have suffered an average annualized 1.8% loss over the entire 34-year period since the start of floating exchange rates.<sup>6</sup>

The reader may note that the hedge success ratios in Exhibit 2 show investors often experienced different results, based on country. This may be partially explained by fiscal and monetary policies and inflationary factors specific to each market. For more discussion on the differences in relative currency strength, please see the Brandes Institute paper "Currencies and Hedging: The Longer-Term Perspective."

### **STRATEGY DECISIONS: ACTIVE OVERLAY AND BENCHMARK CHOICE**

If the investor wants to take a more active approach, either in seeking to add value, or moderate risk, there are generally two possibilities. One is to hire an active manager to overlay the portfolio, which certainly might include using the underlying equity manager to handle this role. The second possibility is that the investor makes a strategic decision periodically to review and change the currency exposure of the benchmark. This can, of course, be combined with hiring an active manager.

The resulting risk/reward in the first choice will be based simply on whether the active manager adds value. In the second choice (periodic review and change of benchmark), there are two potential risk elements. One is that the selected benchmark may underperform the investor's default benchmark (for example, this "default" for a U.S.-based investor's international portfolio may be the MSCI EAFE Index<sup>7</sup>). The other risk is that the investor may be tempted to change

---

<sup>6</sup> Currencies and Hedging: the Longer-Term Perspective. The Brandes Institute. 2005.

<sup>7</sup> The MSCI EAFE Index is an unmanaged index consisting of equities from Europe, Australasia, and the Far East. The index is often used as a benchmark for international equity portfolios and includes dividends and distributions net of corresponding withholding taxes, but does not reflect fees, brokerage commissions, withholding taxes, or other expenses of investing.

## Currency Hedging Programs: The Long-Term Perspective

benchmarks periodically, at what can turn out to be the wrong time, based on a reaction to short-term results (either manager underperformance or benchmark underperformance relative to his or her long-term goals, e.g. the default index or liability targets).

Have active overlay managers added value? Based on universe data compiled by Mellon Analytical Services<sup>8</sup>, the answer is yes, but in modest increments. The mean annualized return of their universe of 11 active currency overlay managers was 0.7% over the 10 years to September 30, 2006 (we note this list may have some survivor bias). This average was not positive for all trailing periods. For example, the 3-year mean annualized return (now 16 managers, as new managers opened shop) was -0.1%. Please note that while 11 managers had ten-year returns, there were five managers with more than three but less than 10 years of returns, bringing the total of managers with 3-year mean annualized returns to 16. It is also notable that the variation between first and third quartile managers was quite narrow on an annual basis. For the 10 calendar years through 2005, that difference averaged 2.0% per year. By contrast, the range of 1-year hedging impact numbers for a U.S. investor for those calendar years spanned as high as 14.8% (2005), and as low as -13.5% (2003). Essentially, currency managers have shown some ability to add value, but in general these added returns have not been as substantial as the fluctuations due to the impact of currency moves.

Is there a potential “behavioral trap” in changing the hedging exposure of the benchmark when using an active overlay? There is certainly a potentially dangerous asymmetry in how an active manager’s results may be perceived, depending on whether the base currency is rising or falling. For example, if the investor uses an unhedged benchmark with an active currency overlay manager, then in any period when the base currency is generally falling, there is little opportunity for that manager to add value. As the foreign currencies are rising, any hedge back into the base currency likely will lose money. Given the cyclical nature of currency markets over three to five years, there may thus be periods of three years or more when the currency overlay program likely will lose money for the investor. For an institutional investor whose manager review period is also three to five years, there is a material possibility that the overlay manager may be terminated for this reason.

If the investor’s chosen benchmark is fully hedged (which is less common, but not unknown), then exactly the same issue may arise, but at the other end of the cycle. An active currency overlay in this situation can add value by releasing all or part of the passive hedges. However, when the base currency is rising, and foreign currencies falling, it may be hard for an active overlay manager to avoid negative returns.

In what circumstances may this problem not arise?

- If currencies cease to move in broadly cyclical patterns over the investor’s review period, then the problem may not arise. However, given the patterns prevalent in the past data, we believe this is unlikely.

---

<sup>8</sup> “Currency Overlay Manager Profile” as of September 30, 2006. Published by Mellon Analytical Services.

## Currency Hedging Programs: The Long-Term Perspective

- If the investor's base currency generally is neither the strongest nor the weakest of the major currencies, but may fall mostly in the "middle of the pack," then there are generally opportunities for currency added-value even when the currency does show an overall up or downtrend. However, for U.S.-based investors, we note that the dollar, when measured against the yen, pound sterling, and euro/deutschemark for all 12-month periods in our study, has more often been at the extremes (strongest or weakest of the four in 56% of occurrences) than in the middle (44% of occurrences).

So for a U.S.-based investor, the answer may need to be in dealing with this issue, not in hoping that it doesn't occur.

We believe there are two ways to effectively measure results against a benchmark.

First, if an active currency management program is desired, in theory the best passive benchmark position on which to overlay may be a 50% hedged benchmark. This then gives the overlay manager the ability to add (or lose) value regardless of the currency cycle. Note that this may not necessarily be the best benchmark for the investor's liabilities or objectives, but it does at least address the issue raised in this article.

In practice, the 50% benchmark suffers from the conflict between the overlay manager's ability to be successful and the likelihood that the investor's total portfolio will suffer real currency losses. This is magnified as a cause for concern as the currency impact in the investor's total portfolio is likely to be larger than the gain (or loss) from active overlay management. This means that even if an active overlay manager can consistently add (for example) 1% in returns, there may be extended periods when the return from the hedging program is negative (combining the benchmark 50% hedge with any additional hedges by the overlay manager).

Second, the investor can extend the review period for any change of benchmark, so that it covers substantially more than one (or a partial) currency cycle. The limitations of benchmarks suggest that, once chosen, a currency benchmark should not be reviewed or changed for at least 10 years. So it should be chosen carefully at the outset!

### **PRESSURE TO CHANGE BENCHMARKS**

We can now examine the pressure to make short-term changes: in some cases, changes that may hurt long-term results. Specifically, for a U.S.-based investor, we look at fully hedged portfolio results and provide examples of the impact of decisions to change that hedging strategy after a period of adverse results.

*Example 1:* Consider an investor who cannot tolerate seeing a loss on currency hedging over the past year. In this context, that means having a fully-hedged portfolio, and seeing it underperform its unhedged counterpart. However, we will make the assumption that an institutional investor who is that loss-sensitive is relatively rare. Suppose though that quarter after quarter, when the reports arrive, the currency program shows a loss on a trailing 12-month basis. Patience may

## Currency Hedging Programs: The Long-Term Perspective

begin to wear thin. If we assume that a “reasonable” investor might close out the currency program after eight such quarterly reports in a row (i.e., two years’ worth of successive negative trailing one-year numbers), the question is how often could such an extreme set of circumstances arise?

The answer is “fairly frequently.” Over the full period of our study, there were five periods each lasting two or more years, for which such an investor would have seen currency hedging losses. These were during 1976-9, 1985-8, 1990-2, 1993-5, and 2002-5.

In reality, if an investor sees a single quarterly performance report that shows a currency hedging loss over the past year, then it may well be ignored. By the time the investor has seen eight or more successive quarterly reports with that information, we expect the question is likely to be raised: “Should we be doing something differently?” The long-term data suggests the answer to that is “no.” The short-term behavioral pressure may dictate otherwise.

*Example 2:* Here, we illustrate the impact of making such a short-term hedging strategy change after a period of underperformance for a U.S.-based investor. There is no perfect test for this, as each investor may base decisions on different loss levels and timeframes. However, for an investor who uses not just trailing 1-year results, but who looks at the 3- and 5-year data as well, here’s another example of how the cyclical nature of the hedging impact can hurt returns if the currency strategy is changed mid-stream.

We assume that our investor would be sufficiently upset to terminate the program at the end of any quarter if the 1-, 3-, and 5-year trailing results were all in the loss column. On average, across all five countries, that occurred about a quarter of the time, itself a surprisingly high figure. We then looked at the following three years worth of results, the ones that the investor “would have had” if the program had been retained. For four of the five countries, the performance the investor “gave up” in those three years was better than the average of all 3-year periods in the study (Japan was the exception). For investors in the United Kingdom and Canada, the gap was quite wide. As a secondary test, we also checked to see if the general conclusions remained true if we made our hypothetical investor even more trigger-happy, allowing him to terminate the program if any two of the three trailing periods were loss-making. In this test, investors in all five countries would have had better results if they had stayed the course. Note also that these “post-termination” returns were positive in 9 of the 10 instances in Exhibit 3, so that investors generally would have turned around their run of losses in the next three years.

# Currency Hedging Programs: The Long-Term Perspective

## EXHIBIT 3

### HYPOTHETICAL POST-FIRING RESULTS OVER ROLLING 3-YEAR PERIODS

If a program was terminated due to trailing period results being negative (3 years)	Hypothetical hedge impact in subsequent 3 years for an investor in:				
	Canada	Germany	Japan	U.K.	U.S.
Assumption:					
If two of three measures negative	2.4%	1.3%	1.6%	4.1%	0.2%
If all three measures negative	3.5%	0.9%	0.3%	4.8%	-0.5%
Average hedge impact, all 3-yr. periods	-0.7%	-0.7%	0.7%	1.4%	-1.1%

Source: The Brandes Institute, as of 12/31/2006. Based on data from FactSet, Global Financial Data, U.S. Economic Research Service and the International Monetary Fund. Rolling returns are returns for a series of overlapping, smaller time periods within a single, larger time period. For example, the 34-year time period from 12/31/72 through 12/31/06 includes 144 12-month segments. The first segment is the 12-month period 12/31/72-12/31/73, the next segment is the 12-month period 3/31/73-3/31/74, and so on.

## SUMMARY AND CONCLUSIONS

- Currency hedging programs have attracted increasing attention, particularly after sustained periods when their base currency has been strong. Currencies exhibited significant volatility in the short term but generally have been mean-reverting in the long term. This may pose a risk to an investor who bases his or her strategic currency hedging decision on the results of the past three or five years.
- Data covering the full period of floating exchange rates (1973-2006) showed that passive hedging programs have been costly for a U.S.-based investor (-1.8% annualized), but beneficial for an investor based in the United Kingdom (+0.9% annualized), with investors based in the other major currency countries studied seeing less long-term impact over that full period.
- Currency moves and the related hedging impact tended not to wash-out completely over time, and even for 5- or 10-year periods, the range of results remained wide.
- The universe of active currency overlay managers has shown evidence of added-value, but its order of magnitude was small relative to the size of overall currency impact on an investor's portfolio.
- An investor whose primary goal is to add value from active currency management could adopt a 50/50 benchmark to allow their overlay manager the most flexibility, and to help reduce the chance they will suffer a severe run of losses.
- Behavioral effects are a risk for the investor. The risk is that an investor uses too short a horizon (five years or less) to evaluate the success of a strategic currency hedging decision, leading to a decision to change strategies based on the high level of "noise" in their

## Currency Hedging Programs: The Long-Term Perspective

short-term results. For example, using a fully hedged benchmark without this long-term commitment means that when the investor experiences extended periods of underperformance versus unhedged results, the pressure to make a change may be too hard to resist. As a result, the investor may give up overlay alpha (if any), plus take a strategic loss, and lock-in those losses.

- **Bottom-line:** We believe that it's appropriate for investors to choose either a hedged or an unhedged benchmark, and then stick with it for the long term (a 10-year horizon or longer).

---

11988 El Camino Real  
Suite 500  
P.O. Box 919048  
San Diego, CA 92191-9048  
858.755.0239  
800.237.7119  
Fax 858.755.0916  
brandesinstitute@brandes.com  
www.brandes.com/institute

This material was prepared by the Brandes Institute, a division of Brandes Investment Partners®. It is intended for informational purposes only. It is not meant to be an offer, solicitation, or recommendation for any products or services. The foregoing reflects the thoughts and opinions of the Brandes Institute. No investment strategy can assure a profit or protect against loss. Past performance is not a guarantee of future results.

Copyright © 2007 Brandes Investment Partners, L.P. ALL RIGHTS RESERVED. Brandes Investment Partners and the Brandes Investment Partners logo are trademarks of Brandes Investment Partners, L.P. Brandes Investment Partners® is a registered trademark of Brandes Investment Partners, L.P. in the United States and Canada. Users agree not to copy, reproduce, distribute, publish, or in any way exploit this material, except that users may make a print copy for their own personal, non-commercial use. Brief passages from any article may be quoted with appropriate credit to the Brandes Institute. Longer passages may be quoted only with prior written approval from the Brandes Institute. For more information about Brandes Institute research projects, visit our website at [www.brandes.com/institute](http://www.brandes.com/institute).