



CURRENCY MANAGEMENT

THE IMPACT OF CURRENCY ON PERFORMANCE

Amidst increasing demand for enhanced transparency around currency management, we examine the impact of currency movements on an investment portfolio, common currency management strategies and take a look at the analytical tools available to help you understand the role currency plays in your investment strategy.

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Whether looking to maximize returns or to match liabilities, considering the impact of currency is an important part of an overall investment strategy. In fact, investors with predominantly non domestic and diversified allocations may find that currency is the largest single exposure in their investment programme.

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Currency management is taking on added importance as markets continue to exhibit greater volatility in the wake of the financial turmoil over the past few years. Sudden reversals in monetary policy in many of the world's economies, along with changes in risk preferences, has caused sharp swings in currencies in very short spaces of time. For example, the US Dollar (USD) has been particularly prone to fluctuation, as investors grapple with the conflicting concerns of mitigating risk through optimal allocation of their investment portfolios and seeking a safe haven for their assets.¹

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KEY CHALLENGES FACED BY INVESTORS

As investors seek the best returns globally, they also face increased exposure to, and volatility from, changes in foreign exchange (FX) rates. Foreign currency exposure can present a common factor across all allocations outside an investor's home market, and any changes in FX rates have the potential to significantly impact returns. This has implications not just from an interpretive standpoint, but has real repercussions when we consider how investors determine their asset allocation, the strategies they employ, as well as the criteria by which managers are compensated – for their prowess in allocating to markets and their prowess in selecting the best investments in those markets.

Performance returns are generally expressed in an investor's base currency to provide consistency with asset and liability valuations. Returns are calculated in multiple currencies, allowing investors the flexibility to report in the local currency in which assets and liabilities are expressed.

¹Within the calendar year of 2009, the US Dollar had fallen from its peak on 11 March (over 73 cents to the Pound) to its low on 6 August (under 59 cents to the Pound), a fall of nearly 20%. Yet, by the end of the year, the Dollar had rebounded 6% from this low.



A base currency rate of return consists of two components:

- a local market return
- a currency return

Currency movements can have an enormous impact on these base returns as demonstrated in the following table comparing Pounds Sterling (GBP) and USD returns on the MSCI USA Index over five calendar years. In a scenario where a UK investor purchases shares in the US, represented by the MSCI USA Index, their base return expressed in GBP would be made up of MSCI USD return and the currency return between GBP and USD.

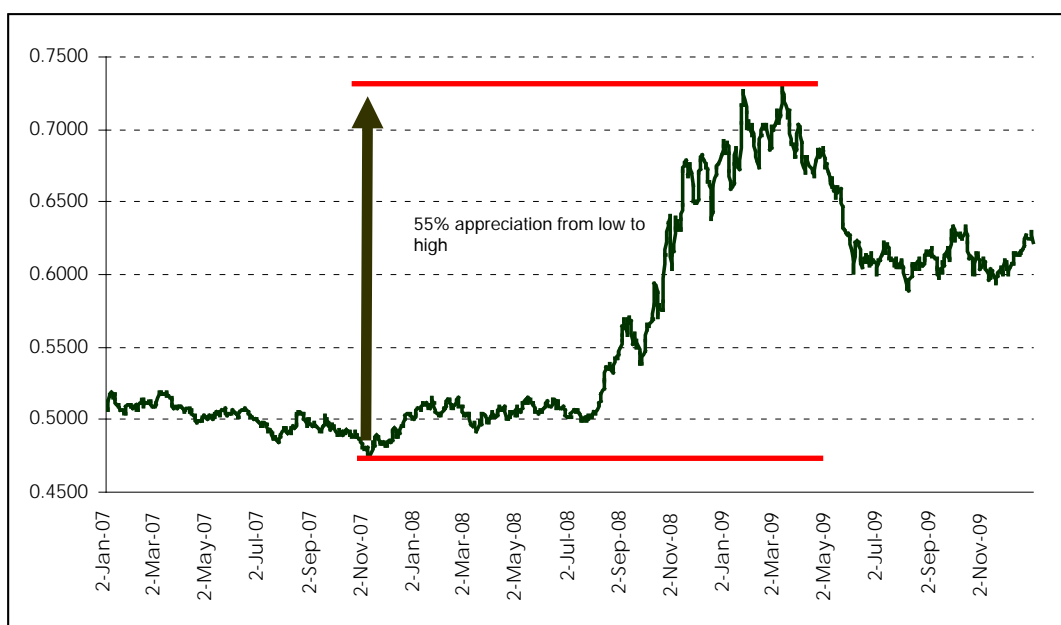
The return on the MSCI US Index in USD is up 26.25% for 2009, however, the exchange rate for GBP vs. USD decreased from 0.695 to 0.619 over this period, with the result that at the end of the 2009 calendar year 1 USD bought less GBP. As the buying power of USD fell, the return to the UK investor now must take into account this currency movement. Hence the return on the MSCI US Index in GBP is 12.41%; the MSCI USD return is 26.25% and the currency return is -10.97%.

MSCI CALENDAR YEAR RETURNS (USD VS. GBP)

MSCI US (net dividends) in USD and GBP in %

	USD return	GBP return	Difference (relative)
2009	26.25	12.41	(10.97)
2008	(37.51)	(13.54)	38.36
2007	5.42	3.65	(1.68)
2006	14.67	0.59	(12.28)
2005	5.14	17.58	11.83

Source: MSCI Index data



Source: WM/Reuters exchange rates

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EXAMPLE OF THE IMPACT OF CURRENCY RETURNS ON AN INVESTMENT PORTFOLIO

In the below example, attribution results clearly demonstrate how an asset allocation decision in overseas markets has detracted value from currency versus the benchmark. Over a one year period to March 2010, a weakening USD versus overseas currencies has led to a higher USD account return of 58.84% versus a local return¹ of 48.30%. However, in the process of allocating capital to other assets, the manager took implicit currency allocations away from the benchmark weights, thereby losing 1.98% relative to the benchmark.

ATTRIBUTION ANALYSIS INCLUDING THE IMPACT OF CURRENCY

Sample equity attribution analysis versus MSCI All Country World Index ex USA – 1 Year to March 2010

Region	Account Weight %	Index Weight %	Account Ret (Loc)	Index Ret (Loc)	Account Ret (Base)	Index Ret (Base)	Asset Alloc	Stock Sel	Curr ² Eff
TOTAL	100.00	100.00	48.30	47.46	58.84	61.67	(2.45)	2.72	(1.98)
Europe	58.37	47.21	59.13	50.47	65.85	57.18	0.58	2.94	(0.69)
Pacific	31.21	24.45	34.31	36.63	45.69	51.48	(1.08)	(0.00)	(0.53)
Emerging	3.55	21.19	22.93	58.41	48.20	81.55	(1.52)	(0.64)	(0.58)
Canada	5.63	7.15	50.23	39.45	86.25	72.93	0.09	0.42	(0.16)
Cash	1.26	----	0.13	-----	6.18	----	(0.52)	0.00	(0.03)

Source: Northern Trust Equity Attribution in Passport

CURRENCY MANAGEMENT STRATEGIES

Increasingly currency is treated as an asset class in its own right. Risk budgets and asset allocation profiles devised by investors and investment consultants are devoted to managing currency in both a passive and an active sense. Accordingly, there is increasing demand for enhanced transparency around the impact of currency management on portfolio returns and overall portfolio risk.

The three common currency management strategies are outlined below.

Leave currency exposure alone

An investor can choose not to manage their currency exposures. For example, when a UK investor decides to purchase US equities through a pooled investment vehicle denominated in GBP they can simply allow the two effects of market return and currency return play out.

Two schools of thought exist:

- Managing currency as a separate asset class does not add value over time

1. Local return is the asset return excluding the impact of currency
2. Currency effect is the added value over the index from over/under weight exposures in the currency bloc relative to the overall currency movement in the MSCI All Currency World Index

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- Extra excess return can be achieved by considering currency management as an additional uncorrelated factor to provide added return over time

Passively manage currency exposure

When investing in international assets (i.e. assets outside of an investor's home market), passive currency exposure is equal to the currency exposure of the benchmark, just as any other allocation equal to a benchmark would be considered passive. The benchmark can be a manager's benchmark, or a fund benchmark, reflecting a policy decision to fully or partially hedge.

In a passive currency hedge, an investment manager is requested to bring any active currency inherent currency positions, brought about by an active asset allocation, back to the benchmark exposure to neutralise active currency exposure. Generally, the investment manager would engage in a series of forward contracts to offset the currency exposure.

An investor can choose to manage the exposure either by allowing the manager to engage in hedging within the mandate, or restrict the manager from currency hedging and hire a currency overlay manager instead.

Actively manage currency exposure

Given that currency increasingly is being treated as a separate asset class, an overlay manager can have an active mandate where they can take active currency positions independent of the underlying physical assets. As with any other asset class, the manager can actively manage risk, however in currency there can be another concurrent objective to also manage currency exposures generated by the passive currency management of the underlying asset manager.

From an overall policy level management perspective, it is crucial for investors to be able to clearly measure and monitor the impact of the asset manager and the impact of the currency manager to the total investment programme. Not only does this have a material impact on the fees paid by the client, it also has ramifications on the portfolio construction process in so far as the optimal allocation of risk budgets to the different asset classes and the separation of alpha and beta.

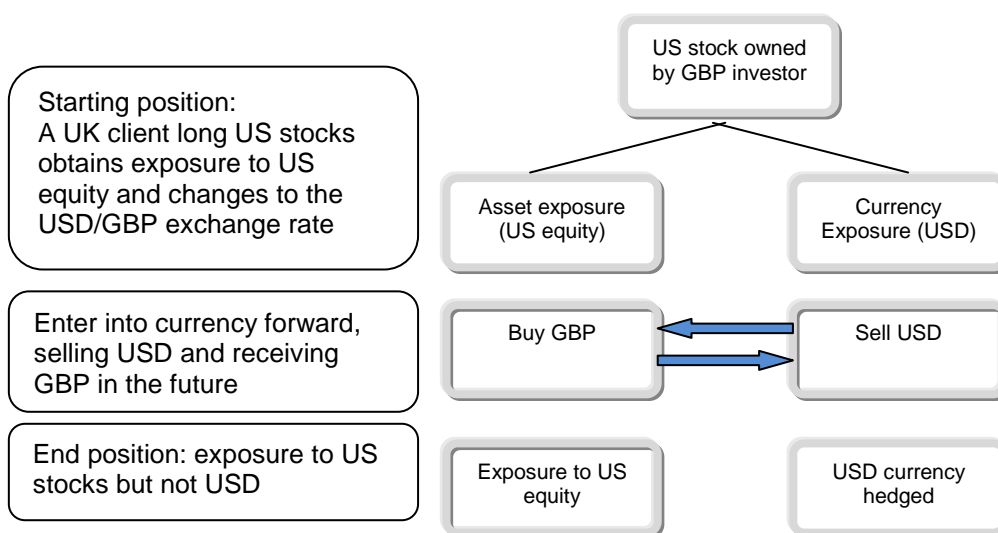
CALCULATING HEDGED RETURNS

When hedging currency exposure, does it make sense to provide local (market) rates of return only? The simple answer is no, as it can never actually be achieved in practice. In the case of local returns, we assume the removal of all currency contribution. In practice, currency exposure can be hedged, but not completely removed. A perfect hedge ratio (the ratio of actual foreign currency market value to the notional value of the forward rate agreement (FRA)) is possible only at the time the hedge is initiated. As soon as the value of the underlying asset fluctuates, it will no longer equal the amount of currency sold forward. The result will be an under or over hedged position and for this reason, currency overlays are usually rebalanced monthly.

In addition, the cost of hedging should be considered; i.e. the forward premium or difference between the spot and forward rates. Both the scale and direction of the forward premium

will vary with the relative short term interest rates and expectations for both currencies; however, the forward premium is a significant factor in returns. For example, for the five year period to March 2010, MSCI World Index Hedged to USD returned 0.96% annualised over five years, while the index local return (all currency impact removed) over the same time period was 2.94%; a difference of almost 2% per year on an annualised basis. The fact that local returns completely remove the impact of currency, a feat no investor can match, makes real world analysis of currency impact difficult.

As demonstrated above, an unhedged position in an international asset corresponds to a long position in foreign currency equal to the value of the asset(s). The diagram below illustrates the exposures a client realises when owning and hedging the currency effect of a foreign asset.



The above illustrates actual exposures to which an international investor is subject, as well as the manner in which those exposures can be managed. As can be seen, the decision not to hedge USD when buying US stocks amounts to a decision to own dollars. However, by initiating a forward, the investor is able to hedge away exposure to the USD/GBP exchange rate changes.

In this simplified example, the client has been able to manage asset and currency components separately and to make decisions for each in relative isolation. In other words, if the client wants exposure to US equities and USD, then they can simply own the stock without hedging. If the client wants exposure to US equities but not USD, then the currency exposure can be hedged.

ADDRESSING THE BALANCE: THE NORTHERN TRUST SOLUTION

Northern Trust provides a methodology to provide a return series that estimates the achievable return for hedged assets. This enables our clients to analyse asset and currency returns separately without hedging an individual manager's position. By building on industry accepted methodologies used in hedged benchmark calculations, we are able to replicate the use of 30-day currency forwards in return calculations and provide estimated

currency hedged returns. Hedged returns help clients view their achievable asset and currency returns at fund, asset class, and manager level.

The example of the impact from a single foreign currency, and even calculating an estimated hedged return for a single foreign currency, is fairly straightforward. Using the above example again, the hedged return calculation can be demonstrated as follows:

USD asset return in GBP	3%
Less sold GBP/USD return	-2%
Plus forward premium	.10%
Hedged GBP return	1.1%

The actual hedged return that can be achieved by an investor includes the asset return in the investor's base currency, the return on the sold (short) forward currency position, and the forward premium. Just as currency forwards are added to positions as hedges, so too are the return components of currency forwards added to the base return. Inclusion of multiple currencies and capital flows in an automated manner is more complex. In practice, a global mandate will have exposure to many foreign assets, and multiple FRAs are used to hedge various currency exposures. The calculation of a hedged return for a global mandate is expressed as follows:

$$\text{Base return} + \sum[\text{Currency wgt}_i \times [\text{forward premium}_i - 30 \text{ day currency return}_i]]$$

The methodology represents a very close approximation of the return that could be achieved by selling 30 day forwards to hedge currency exposures at the start of each month. To accommodate intra month inflows and outflows, weighted capital flows are incorporated into currency weights.

Actual hedging practices can take three paths, and our return series accommodates each of these:

- 1) **The actual currency weights can be hedged.** Such a strategy hedges 100% of the beginning period foreign currency exposure.
- 2) **Benchmark weights can be hedged.** The rationale for hedging benchmark weights is to take advantage of managers' active decisions, with respect to both assets and currencies. For example, certain managers may make decisions based on the expected base returns; i.e. inclusive of currency. An investment manager may decide to hedge benchmark weights to manage currency according to their own policies, but still preserve manager active decisions.
- 3) **Custom weights, based neither on actual or benchmark weights, may be used in hedging.** An example would be to calculate a partially hedged return when investment policy calls for a foreign currency allocation.

The issue of hedging less liquid currencies is addressed by employing proxies of one of the six major currencies. This enhances the functionality of our solution since, as part of the hedged return set up, users have the ability to proxy the hedge impact of one currency with another. For example, an investor may wish to hedge emerging markets exposure with USD or EUR.

BENEFITS AND USES OF ESTIMATED HEDGED RETURNS

A common use of the analysis is to help investors understand the value added element to their internally managed currency overlay programmes which is particularly important for clients with significant foreign investments.

Prior to this recent enhancement, managers would be compared to their benchmarks in base currency terms for manager evaluation purposes and local currency terms from a policy perspective to identify the total unhedged currency return implicit in their asset allocations. The added value from a currency overlay programme can be twofold: namely to hedge the exposure implicit in the managers' decisions; and to take active currency decisions.

By using estimated hedged returns, investors can quantify their decisions with respect to:

		One month Return	
Currency attribution	Actual return including currency overlay	-0.51	} 0.06 Active impact
	Estimated hedge return – 90% hedge ratio	-0.57	
	Estimated hedge return – fully hedged	-0.53	} -0.04 Policy impact
	Unhedged actual return	-0.97	
			} 0.44 Unhedged currency impact

Source: Northern Trust

- **Active impact** - Includes the decisions to deviate from 90% across the board hedges. Additional analysis can be carried out to quantify those active decisions that contributed the most; e.g. was it a broad based decision to hedge all currencies at a level other than the policy weight, or were certain active decisions balanced with others to maintain a total 90% hedge ratio?
- **Policy impact** - Impact of the decision to take a 10% exposure to foreign currency.
- **Unhedged currency impact** - The difference between an unhedged and 100% hedged return which includes the cost of hedging.

In the above example, an investor can accurately gauge the effect of their policy decisions with respect to currency hedging, as well as the effectiveness of active or passive currency hedging mandates. This allows us to provide insight into an often significant, but rarely analysed, factor in an investor's returns.

HELPING SUPPORT HEDGING STRATEGIES

As markets continue to exhibit greater volatility and investors are faced with ever-increasing investment choices to allocate to, currency management in an implicit or explicit sense needs to be quantified, measured and monitored so that decisive action can be taken.

Northern Trust's solution helps our clients pinpoint what has driven the performance of the strategy, and crucially, understand whether it was asset allocation or stock selection or whether passive or active currency management was the primary driver of returns.

FOR MORE INFORMATION

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