Currency Matters

Understanding the impact of currency hedging on performance

As the allocation to non-domestic assets increases, currency hedging is becoming increasingly important. This paper discusses the mechanics of a currency hedging programme and explains how short-term differences can occur in the benchmark-relative returns of hedged and unhedged share classes of the same fund.

Over the past twenty years, investors have sought to capitalise on the benefits of increasing their exposure to international assets: reduced risk through global diversification and accessing new sources of added value. This practice introduces currency risk into an investor's portfolio though, because an investor needs to buy foreign currency in order to invest in that country's market. The movement in the exchange rate of the underlying currencies now contributes to the overall investment return the investor achieves. This is because the investor must convert their foreign assets back into local currency. It is quite possible for an investor to make a gain on the underlying overseas asset, but to lose as much or more from a change in relative value of the underlying currency.

In theory, different currencies should provide the same return over very long periods. In practice though, investor time horizons are shorter. Therefore, in order to minimise currency risk, investors frequently hedge their currency exposure by using currency forward contracts to hedge out the future movement in exchange rates. Let's look at an example.

> Investing in foreign assets introduces currency risk into an investor's portfolio, but this risk can be reduced by employing a currency hedging programme.

Example – A comparison of unhedged and hedged returns

For the sake of simplicity, we have ignored all costs. Let's assume the following, from the perspective of a UK-based investor:

The 1.03% return is made up of 8.53% gain from the U.S. equity market and 7.50% loss due to currency movements.

1. The exchange rate (spot rate) at the beginning of the quarter is 1:1.23 (£:US$);
2. The £:US$ 3-month forward rate* is 1:1.24 (£:US$) at the beginning of the quarter;
3. U.S. equities increase by 8.53% over the quarter in local currency terms;
4. The spot rate at the end of the quarter is 1:1.32 (£:US$), a change of 7.50% in the rate (1.32/1.23).

* A currency *forward* contract fixes the exchange rate at a predetermined date in the future. The difference between the forward rate of 1.24 and the spot rate of 1.23 is a result of the interest rate differential between the U.S. and the UK. Please see below for further details.

At the beginning of the quarter, the investor's £100 is used to buy $123 worth of U.S. equities. Following a +8.53% return of U.S. equities, the value of the U.S. equity holding at the end of the quarter is $134, which equals £100.96 at the new spot rate (1.32), i.e. a return of 0.96% on an unhedged basis. This is shown in the diagram on page 2.

The 0.96% is made up of an 8.53% gain from the U.S. equity market and 7.50% loss due to currency movements (the 7.50% loss is the difference between starting spot rate, 1.23, and ending spot rate, 1.32. The positive figure indicates that sterling had strengthened 7.50% relative to the U.S. dollar over the period).

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Exhibit 1: Quarterly unhedged return of hypothetical £100

BEGINNING OF QUARTER	QUARTERLY RETURNS	END OF QUARTER
Investment £100		Investment £100.96
Spot 1.23	£ appreciation 7.50%	Spot 1.32
Investment $123	U.S. Equity 8.53%	Investment $134

Source: Russell Investments. For illustrative purposes only.

Unhedged return = +0.96%

Hedged Return

In this scenario, in addition to purchasing U.S. equities, the investor *hedges* the currency risk by fixing the exchange rate one quarter out, using an instrument known as a *currency forward.*

The fund value at the end of the quarter is still $134, but the value in sterling is now £108.11, giving a return of 8.11%. This is shown in the diagram below.

Hedging the currency protected the fund against the 7.50% adverse currency movement over the quarter.

> Hedging the currency preserved the fund against the 7.50% adverse currency movement over the quarter.

Exhibit 2: Quarterly hedged return of hypothetical £100

BEGINNING OF QUARTER	QUARTERLY RETURNS	END OF QUARTER
Investment £100		Investment: £100.96 + £7.15 = £108.11
Spot 1.23	£ appreciation 7.50%	Spot 1.32
Investment $123	U.S. Equity 8.53%	Investment $134
Forward Investment (unfunded on $123)		Forward Valuation $7.15

Source: Russell Investments. For illustrative purposes only.

Hedged return = +8.11%

In the above example, hedging out the currency impact resulted in a gain for the hedged investment versus the unhedged one. It is important to note that in this example, the gain is because sterling appreciated relative to the U.S. dollar by more than anticipated. If sterling had depreciated, hedging out the currency impact would have resulted in a loss relative to the unhedged investment. For example, if the spot rate at the end of the quarter was 1:1.15 (£:US$) then the unhedged return would be 16.30% ($134 / $1.15 = £116.30).

The objective of currency hedging is not to generate a profit from currency movements. Rather, the benefit of a currency hedging programme is that it removes currency volatility from investment returns, regardless of the direction of currency movements.

Forward rates and the Interest Rate Differential (IRD)

Generally, forward rates are determined by the interest rate differential (IRD) between two countries.

A currency forward rate is an agreement between two parties to buy or sell a currency at a specified time in the future. As a general rule, it is a function of interest rate differentials (IRD) between two countries. In the example above, if U.S. interest rates are higher than those in the UK, the forward exchange rate of £:US$ would reflect this difference by approximately the amount of the IRD for that period.

This is important because forwards are used to implement a hedging programme. Forward rates change constantly, and as we will see below, this has implications for a hedging programme.

An overview of Russell Investments Currency Hedging Programme

Russell Investments offers currency hedged share classes for many of our overseas funds. The hedging process involves purchasing forward contracts for the amount of each hedged share class. For example, if there is £100 in the sterling hedged share class of a U.S. Equity Fund, we would purchase a £100 £:US$ forward contract (assume the forward is for one month). When that contract expires, we purchase another forward contract for the new value of the underlying hedged share class, which would have changed over the course of the initial contract.

That is, of course, unless the total value of the hedged share class has changed considerably before the expiration of the initial forward contract. For example, during large market movements or following considerable cash flows to / from investors, the value of the underlying hedged share class can change significantly. In such cases, we would need to adjust the value of the hedge before the expiration of the existing forward, by purchasing a new forward for the new value of the hedged share class.

Continuing the above example, assume that mid-month we received a cash inflow from an investor of £50. We would increase the hedge by this amount by purchasing a new forward for £50. If Russell Investments is also executing the spot for the cash flow to transfer the investor currency into the fund currency, then both the forward and spot transactions can be offset resulting in a net trade of 0 and no transaction costs on the spot trade would be charged.

By continually dynamically readjusting the hedge as necessary, investors in the hedged share classes achieve their strategic objective of hedging out currency risk from their portfolios.

Russell Investments has a strong implementation platform linking the Fund pricing files, TA files, benchmark currency weights and forward positions. This allow for daily automatic end to end and monitoring of individual HSC. Given this robust process, Russell Investments is also able to provide bespoke solutions, such as different tolerance bands for rebalancing or proxy hedging.

What about the benchmark?

Occasionally the benchmark relative returns of the hedged and unhedged share classes of the same fund are slightly different. There can be a number of reasons for this:

- The actual hedging methodology used by the benchmark is different because the benchmark does not readjust its edge intra-month based on cash flows or significant market movements (this is the case for the majority of benchmark indices used by Russell Investments Funds). Instead, the benchmark simply uses a forward rate at the start of the period and renews it at the end, i.e. it uses just one forward rate per month.
- The hedged share class, as outlined above, may need to purchase numerous forward contracts per month, therefore utilising numerous forward rates. As a result, the hedged share class essentially uses a slightly different forward rate to the benchmark.
- Indeed, even if the hedged share class also used just one forward in a month, there are no guarantees of using the exact same rate as the benchmark.
- The transaction costs associated with a currency hedging programme can also contribute to a divergence in benchmark relative returns. If frequent re-adjustments of the hedge are required, transaction costs will detract from returns. Furthermore, in times of dramatically increased volatility in currency markets, as witnessed in September 2008, extreme pricing of over-the-counter contracts such as forwards can have a greater than normal impact on the returns of hedged share classes.

While there may be differences between unhedged and hedged benchmark relative returns over the short term, there should be little difference over the long term.

During extreme market conditions we have experienced material differences between hedged share class benchmark relative returns and that of the unhedged share class. However, under normal market conditions we expect these differences to be limited.

Russell Investments real-time approach to currency hedging means that investors are achieving a more precise currency hedge than the benchmark. However, this can still lead to confusion around benchmark relative returns in the short term.

What other risk does Russell Investments manage whilst running currency hedged share classes?

While currency forwards are relatively cheap to trade, risks can be introduced if the process is not managed appropriately within pre-set trading and risk management rules. For example, careful consideration needs to be given to:

- Counterparty risk
- Market liquidity
- Trading cost management
- Cash flows
- Rebalancing bands

For these reasons, currency hedging is performed by a dedicated group within Russell Investments which has the experience to do this efficiently. Russell Investments Implementation Services (RIIS) team has successfully managed passive currency overlays for over 17 years, making it one of the most experienced currency overlay managers in the world. The Russell Investments currency team manages in excess of $63.7bn in currency overlay mandates (as at 31 December 2020) for a world-wide client base with base currencies that include the U.S. dollar, British pound, Euro, Canadian dollar, Japanese yen, Australian dollar, and New Zealand dollar.

If you would like more information on currency hedging, please contact your usual Russell Investments representative.

For more information

Call Russell Investments at **+44 (0)20 7024 6000**

or visit **russellinvestments.com**

Important information

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