Investment Spotlight is designed to help trustees of mid-sized pension schemes understand key investment areas that impact their scheme. This issue focuses on currency hedging – a technique aimed at reducing the risk associated with investing in a non-sterling asset by hedging the overseas currency back to sterling.

What is currency hedging?
Currency hedging aims to significantly reduce the impact of any change in currency, for example, in the sterling/US dollar exchange rate over the period of investment. This type of hedging is not isolated to sterling/US dollar but can be extended to other major currencies throughout the world, such as the euro and yen.

Consequently, if a UK pension scheme invests in US equities it is effectively investing directly in US equities and indirectly in US dollars. The aim of investing in US equities is to obtain a return on these assets. However, currency movements between sterling and the US dollar can have a profound impact on the return a sterling investor achieves when investing in US equities; this is what currency hedging addresses.

Recently there has been a growing trend for UK pension schemes to increase their exposure to overseas assets and, therefore, indirectly to overseas currencies.

The first chart overleaf illustrates the effect upon a typical UK pension scheme before and after the implementation of a partial currency hedging programme – referred to as ‘hedged’ and ‘unhedged’.

As the ‘unhedged’ chart illustrates, a typical scheme with 60% exposure to assets seeking long-term growth might
have half of this portfolio (i.e. 30%) exposed to overseas equities. With the US weighting of overseas equity portfolios around 55%, this can mean the typical scheme would have US dollar denominated assets of just over 15% of the overall assets. In contrast, the liabilities of a typical UK pension scheme are 100% sterling denominated.

It is reasonably common for schemes to hedge a portion, say 50%, of their overseas currency exposure. The ‘hedged’ portion of the chart shows how the net currency exposure for such a scheme, inclusive of a 50% hedge has reduced by half for the dollar and other foreign currencies.

What factors affect exchange rates?

There are many factors that can influence changes in exchange rates. These include fundamental factors such as the relative strength of economies, relative interest and inflation rates, central bank activity, etc. Whilst such factors can be analysed, currencies often do not move in line with fundamentals due to political and technical factors as well as the actions of traders/speculators in the market.

One technique for assessing ‘fair’ value in the currency market is to calculate the purchasing power parity (“PPP”) of a currency. This is the theoretical exchange rate between countries in order for the exchange rate to be equivalent to, or on par with, each currency’s purchasing power. It effectively determines what the exchange rate should be to purchase the same goods and services in the two countries. However, exchange rates can move a long way from ‘fair’ value and monitoring the actual exchange rate from its PPP value can be helpful in deciding on the amount of foreign currency to be hedged.

Effect of Fluctuating Exchange Rates

The chart above shows the relationship between sterling and the US dollar over the period from 1994a. There has been a significant variation in the US dollar to sterling exchange rate, from a high of £1 = $2.11 on 8 November 2007 to a low of £1 = $1.37 on 28 February 2009.

Below is an example using actual past exchange rates illustrating how currency fluctuations can impact a scheme’s investment return if it invests overseas but remains unhedged:

- Assume a scheme invested £1m in a US equity fund on 31 January 2007 with a unit price on the day of $1.
- The exchange rate on this day was $1.96 per £1.00. Therefore, the £1m investment bought 1.96m units in the fund with a value of $1.96m (assuming no transaction costs).
- The scheme decided to sell its holding in the US equity fund on 28 February 2009. If the US equity fund generated a return of 10%, giving a unit price of $1.10, the value of the scheme’s assets in US dollar terms at the end of the investment would have been $2.156m (i.e. $1.96m increased by 10%).
- Over the same period sterling depreciated against the dollar. At the start of the investment period on 31 January 2007 a sterling investor would be able to buy $1.96 per £1.00 but at the end on 28 February 2009, this had fallen to $1.43.
- Converting $2.156m back into sterling at an exchange rate of $1.43 would mean the scheme has appreciated 50.8% in sterling terms.**
In this example the underlying US equity fund returned 10% over the period and currency fluctuations added a further 40.8% to the return to a sterling investor.

Conversely, if sterling had appreciated relative to the dollar in this example, the return achieved would be less than the dollar return of 10% (and could in fact be negative in sterling terms).

Currency fluctuations can, therefore, exaggerate the potential return and volatility of assets denominated in an overseas currency. To overcome this potential volatility, investment managers can use currency hedging as a way of reducing foreign currency risk.

**Forward Currency Contract**

The main tool used by investment managers to hedge currency risk is known as a “forward currency contract”. Such a contract involves a buyer and seller entering into a firm and binding commitment to exchange two currencies (£/$ in this example) at an agreed exchange rate for a specified amount, at an agreed date in the future. The currencies are not exchanged at the outset; they are exchanged at the end of the contract.

Forward currency contracts are extremely liquid (i.e. they can be bought/sold easily without causing a significant movement in the price and with little loss of value) as there are numerous buyers and sellers in the market and they have very low transaction costs. When such a contract matures there will be a profit or loss generated to offset currency movements on the underlying overseas assets, which would have generated a corresponding loss or profit respectively, resulting in achieving the objective: a return of the underlying asset in sterling.

- Profits will occur on the contract if sterling appreciates, which will offset the losses made by a sterling investor on the underlying unhedged overseas investment due to currency fluctuations.

Reducing exposure to currency fluctuations is exactly what an investor is seeking to achieve through hedging.

How is the forward exchange rate agreed?

The forward exchange rate is determined by the current exchange rate and the relative value of the interest rates of the two currencies. Assuming an exchange rate of £1 = $1.5, £1m deposited in a UK bank for three months earning interest at 4% p.a. (or 1% over a three month period - the length of the forward currency contract) would be worth £1,010,000 at the end of the period. Likewise, £1m could be converted to $1.5m at the outset and invested in a US bank earning interest at 3% p.a. (or 0.75% over the three month period) which would be worth $1,511,250 at the end of the three month period. Hence, the exchange rate at the end of the period should be £1 = $1.4963 – if the forward exchange rate was different, it would be possible for an investor to make an arbitrage free profit.

**Implementation Considerations**

The most straightforward way of hedging currency exposure is to invest in a fund where the manager carries out the hedging within the fund. However, many investment managers do not offer such funds and if this is the case, a specialist currency manager can be employed to manage a currency overlay programme. Such a manager’s mandate can be simply to maintain the target hedge ratio (i.e. the proportion hedged) on a passive basis, whilst some mandates allow some discretion to vary the hedge ratio in light of market conditions.

**Advantages**

**Risk Reduction**

- Over the long-term, currency exposure is not expected to add value as there is no reason to believe sterling will consistently appreciate or depreciate compared to overseas currencies of developed countries, once relative interest and inflation rates are taken into account. On this basis, currency hedging should reduce risk and, therefore, the overall expected volatility of the scheme’s investment return in the long run.

**Medium-Term Opportunities and Threats**

- If sterling is cheap on a historic basis relative to a particular currency, a pension scheme may be able to reduce the impact of sterling appreciating, or reverting back to ‘fair value’ over the medium-term, by hedging. If sterling remains unhedged the scheme’s finances will suffer if sterling subsequently appreciates in value relative to the particular currency under consideration.

- Likewise, if sterling is expensive on a historic basis, a scheme may be able to exploit medium-term opportunities by not hedging or removing an existing hedged position. The scheme’s finances will improve, therefore, if sterling subsequently depreciates in value relative to the particular currency under consideration.
Disadvantages

Fees

- There would be a modest increase in annual management fees charged by investment managers within a pooled fund, typically between 0.02% and 0.05% p.a., to cover the extra work involved in managing a currency hedged pooled fund.

- If a specialist manager is appointed then additional fees would be incurred.

- Although dealing costs in buying and selling forward foreign exchange contracts are very small, there will be a small drag on performance of a currency hedged fund compared to an unhedged fund after taking account of exchange rate movements. A more significant cost is that any gains from the forward currency contracts will need to be invested into, in the case of the above example, US equities and any losses will need to be financed from selling US equities and these transactions incur dealing costs.

- Fees associated with hedging/unhedging are likely to be incurred at the outset and on an ongoing basis if medium-term threats/opportunities are captured.

Availability

- One of the main practical problems associated with employing a currency hedging programme is that there are not a great number of pooled funds available for investment.

Complexity

- The complexity of monitoring the scheme’s investments would increase slightly.

About Us

Buck Consultants at Xerox is a leading advisor to mid-sized pension schemes across Europe and North America. We have been providing impartial, trusted advice free from conflicts of interest since 1975 and have a wealth of experience. Our innovative approach to asset allocation is supported by extensive manager research undertaken on a global platform.

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Advisory note

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