

Agenda Item No 4(c)

**DERBYSHIRE COUNTY COUNCIL
PENSIONS AND INVESTMENTS COMMITTEE**

7 September 2016

Report of the Director of Finance

CURRENCY HEDGING

1 Purpose of the Report

To update the Committee on Derbyshire Pension Fund's ("the Fund") currency hedging policy.

2 Information and Analysis

Currency hedging of overseas bond holdings was proposed by the Fund's previous adviser and was approved by the then Investment Committee in December 2004. The first currency hedge was undertaken in March 2006.

The Fund has exposure to currency risk on all its overseas investments. By investing in overseas assets (e.g. US equities priced in US dollars) the Fund automatically exposes itself to currency risk, as the Fund's liabilities are denominated in sterling. Subsequent changes in the exchange rate can either enhance or diminish the returns from the underlying securities. The purpose of currency hedging is to offset the impact of these currency fluctuations. It was agreed that the currency risk on overseas equities was worth accepting as part of the price of the diversification obtained by investing in overseas growth assets. The best returns on equities are generally expected to be obtained from the markets with the best economic growth prospects, combined with the most attractive levels of valuation, with strong economic conditions generally regarded as positive for the relevant currency's prospects over the medium to longer term. A different view was taken for the Fund's overseas fixed income securities, which are treated as matching assets. These assets provide a reliable income stream and are a good match against the Fund's liabilities, particularly index-linked bonds.

The Fund's current policy is to hedge the currency risk in respect of the Fund's overseas fixed income holdings by entering into forward foreign exchange (Forex) contracts. When an investment is made in a foreign bond, the underlying long position (holding of the purchased asset) is matched by a short sale (sale of an asset not currently held) of the denominated currency, typically for a period of three months. Should the relevant currency weaken over that period, the value of the bond will decrease (in sterling terms) but the value of the Forex hedge will increase by an equivalent amount (i.e. offsetting

the loss). Similarly, should the overseas currency appreciate, the value of the bond will rise (in sterling terms), but this will be matched by a loss on the Forex hedge.

Under current arrangements the Fund uses BNY Mellon (the Fund's former custodian) for its Forex hedging transactions. The advantage of using BNY Mellon is that they offer "net" settlement terms. When extending the Forex hedge, it is necessary to undertake two transactions: a spot purchase (of the amount of currency previously sold forward) and a new forward sale. By "netting" the transactions, only the difference between the two amounts needs to be settled in cash. This eliminates the need for extremely large cash transfers of up to £100m.

Since the inception of the policy in March 2006, the Fund has incurred cumulative hedging losses, principally in respect of the US dollar. However, these losses should be regarded as possible profits foregone rather than absolute losses, as there has been a corresponding gain in value on the underlying bond portfolio over the period.

A report has been prepared by the Fund's External Advisor, Mr Fletcher, to review the Fund's currency hedging policy, to set out the factors which should be considered and decide whether the current policy is still appropriate or whether a revision is required. A copy of Mr Fletcher's report is set out in Appendix 1. Mr Fletcher's key conclusions are as follows:

1. The outcome of the EU referendum was unexpected, increasing volatility and leading to a significant depreciation in the value of sterling;
2. Given the uncertainty and significance of the change in the value of sterling, now is not a good time to reduce the currency hedge; and
3. From an investment risk and liability matching point of view, the Fund's non-sterling bond exposure should remain hedged.

Mr Fletcher further notes: *"There will be opportunities in the future to reconsider this decision but I believe; that while the Bank of England has put in place it's contingency plans to attempt to smooth the financial impact on the UK economy of the structural change resulting from the decision to leave the European Union; there are at this time too many "unknowns" to make a high quality, informed, investment decision with respect to the future strength or weakness of Sterling."*

Mr Fletcher's report has been reviewed and considered by the Internal Fund Management Team and they concur that the current policy of hedging the currency exposure of the Fund's overseas bond holdings should be kept in place but should remain subject to periodic review.

3 Financial Considerations

In preparing this report the relevance of the following factors has been considered: financial, legal and human rights, human resources, equality and

diversity, health, environmental, transport, property, social value and prevention of crime and disorder.

5 Background Papers

Working papers held in the Investment Section.

6 Officer's Recommendations

That Committee approves the continuation of the Fund's current currency hedging policy.

PETER HANDFORD

Director of Finance



Report on
Currency Hedging prepared for
Derbyshire County Council Pension Fund
8th August 2016

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Note on Currency Hedging

This note has been prepared at the request of Dawn Kinley Head of Investments for the Derbyshire County Council Pension Fund (the Fund). The Fund's policy has been to hedge all the currency exposure of the non-sterling denominated bonds. However the recent movement in the value of Sterling specifically against US dollar has caused the elected members of The Pensions and Investment Committee to review their existing policy. This note therefore looks at the purpose of, and the types of currency hedging, used by Pension Funds when they make investments in assets which are not denominated in Sterling. In addition it makes some observations about the factors that a Pension Fund should take into consideration when deciding on the timing of, entering or leaving a currency hedge, and noted the impact a decision of this nature may have on the fund's total return and risk profile. Finally, the note concludes with some recommendations regarding any changes that may be considered to the Fund's existing hedging policy.

Background

When a pension fund invests in foreign-denominated assets, inherent in the investment is an element of currency exposure. By entering into forward foreign exchange contracts and futures contracts, it is possible for a pension fund to eliminate that currency risk. This can be advantageous during periods when sterling is demonstrating significant volatility.

Example

A manager has a £100 million investment in US bonds. The exchange rate is \$1.60, which equates to a dollar value of \$160 million. If sterling appreciates to \$1.70 (and assuming the bond market stays flat), the sterling value of that portfolio now falls to £94.1 million. By hedging the currency exposure, the portfolio would still be worth £100 million, because the sterling loss in value would be offset by a gain on the forward foreign exchange contract. However, if sterling were to depreciate to \$1.50, the sterling value of the holding would increase to £106.7 million. In this case, the currency hedging strategy would make a loss, offsetting the gain in the bond portfolio.

What is the investment case for currency hedging?

Traditionally, academics used to recommend that pension funds unilaterally hedged around half of their currency exposure on risk diversification grounds. This, they argued, would lead to a more efficient risk adjusted return stream. However, more recent research by Elroy Dimson, Paul Marsh, and Mike Staunton of the London Business School published in 2012 concluded the following:

Overseas equities perform best after periods of currency weakness. As the example above demonstrates, investors gain when a foreign currency appreciates (and sterling depreciates) and suffer losses when that currency depreciates (and sterling appreciates). Because of this diversifying relationship between equity performance and currency performance, the authors concluded that un-hedged exposure was most effective at reducing the volatility of the portfolio.

For bonds the picture was much less clear. Overseas bond investment added to portfolio risk primarily through currency exposure. Short-term currency hedging was found to be beneficial although these benefits were reduced with longer investment horizons.

How can strategic currency hedging be implemented by a pension fund?

There are several ways a pension fund can introduce a strategic currency hedging programme into the portfolio:

Passive hedging. In this case, an investment manager, or the pension fund's custodian, routinely hedges a pre-agreed, fixed percentage of the currency exposure in the portfolio, typically by entering into forward foreign exchange contracts with rolling three-month periods. At the end of each three months, the changes in currency values are cash settled and new currency forward positions are put in place.

If sterling appreciates, the cash settlement on the forward currency is positive (this offsets the loss on the underlying portfolio). If sterling depreciates, the forward exchange contract settles at a loss and this is offset by the gain in the value of the underlying portfolio.

Note that this means that there are occasions when the Fund will be asked to pay across cash. Although this is offset by an equivalent gain in the underlying portfolio, in periods of continued sterling depreciation, the cash calls could become significant.

Dynamic hedging. In this case, the fund manager will vary the amount hedged according to sterling's strength or weakness. The more the foreign currency appreciates, the less the manager hedges, and vice versa. The effect of this strategy is to generate an option-like payoff that captures most of the benefits of foreign currency strength but offers some protection in periods of domestic currency strength.

Note that this strategy has similar cash payment flows as for a passive hedging approach (although the amounts will differ). It also assumes that the manager has the resources and proven skill to add value by varying the amount of hedge over time.

Active currency overlay management. This is where a fund manager uses active skills and judgement to anticipate when currencies are appreciating and when they are weakening. Managers use fundamental and/or quantitative analysis to assess whether currencies are over- or under-valued, and position the portfolio accordingly. Here the resources available and the proven skill of the manager are imperative because exploiting this type of opportunity may require, either an increase in the overall portfolio risk budget or if the risk budget is to be kept stable; taking the risk budget away from another area of investment.

Arguably this is not a strategic currency hedging approach and is more about exploiting the currency opportunity set. Some funds have argued in the past that using a currency overlay has diversification benefits resulting in lower portfolio risk and higher total returns. This is because there is a portfolio of active selection decisions both long and short various currencies. Unfortunately, the poor performance of many active currency managers over recent years earned active currency overlay management a bad name, and has led to a considerable number of pension funds withdrawing from this approach.

Tactical currency hedging as part of the underlying portfolio. Many bond managers are more inclined to do this than equity managers. Success in the area is difficult to achieve and is reliant on a dedicated resource with proven skills to make it consistently work. Experience tends to suggest that only incremental risk adjusted returns can be achieved over the fully hedged approach.

What do other LGPS Funds do?

According to WM research, less than a quarter of LGPS funds in their universe now have a strategic currency hedging mandate in place. Active currency mandates remain relatively few and far between, and have fallen significantly from around twenty mandates, five years ago, to just two as at year end in 2014.

Appendix

For the attention of the Investment team at Derbyshire Pension Fund.

In this section I have looked at some of the current factors that may assist in a making decision on whether to remain hedged or not and expressed my recommendations at the end.

Record Currency Management (RCM) produced a paper last year which I think is very useful indeed, as it examines many of the factors that need to be considered with respect to currency management. I have used this source along with other more up to date sources and my own experience to write the comments below. I will attach the full RCM presentation with this note.

Cost of Hedging:-

Remains low and is likely to remain low for an extended period of time. As the main global Central Banks are now less likely to raise rates, short term interest rate differentials are likely to remain narrow. In the short term because of the US election, I expect the Fed to now be on hold until after the vote in November. The consequences of BREXIT mean that the Bank of England is likely to want more time to assess the behaviour of the UK economy in face of negotiations with Europe, once they begin! As a result I expect the bank to remain cautious. Indeed since writing the initial draft of this note the Bank of England has announced a comprehensive program of conventional and unconventional measures to ease monetary policy. In the medium term inflation and GDP looks likely to remain low and in the long term the debt burden remains a drag on the major developed economies.

The Impact of hedging bonds on the volatility of returns:-

Reducing the hedge ratio increases the volatility of returns for bond investors. An analysis by RCM shows that over the period from 1988 to 2015 the volatility of returns of the Barclays Global Aggregate Index in Sterling terms was 3%, fully hedged 5%, 50% hedged and over 8%, unhedged.

However the same report shows that unhedged US dollar exposure was a good hedge against UK inflation and a good hedge against “tail risk”; ie if you think the world is going into crisis; buy the US dollar because that is what history tells you everyone does!

Drivers of future, long term currency appreciation: -

These tend to remain the same over the long term, namely Real interest rate differentials; expected population and productivity growth; fundamental valuation. These factors tend to favour long term investments and equity like assets and possibly emerging market debt as asset / markets where having the currency exposure as well could lead to much higher total long term returns.

When it comes to developed bond markets these longer term factors are forecast to be more favourable for the US, then UK, then Europe and then Japan in that order. But at current levels the short term valuation may have overwhelmed the long term value of the US dollar.

Short term considerations:-

It is clear that BREXIT was not expected by the investment community hence the volatility of the markets and the weakness of Sterling especially versus the US dollar.

This makes forecasting the likely direction of the pound extremely difficult. The market is clearly short "Cable" (USD/GBP) and wants to see a test of US\$1.25. However economic releases since 23rd of June do not seem in aggregate to show a continuation of the weakness seen prior to the vote or anticipated to occur with BREXIT, but this may be too early to tell. At the current level of Cable it is way below OECD purchasing power parity and the Sterling Exchange Rate Index is back to 2008/09 financial crisis levels; implying that much of the expected weakness may be in the current price.

Many in the BREXIT camp would argue that the current level of Sterling makes the adjustment to a post EU, UK economy easier and quicker, which all things being usual, could lead to an appreciation of Sterling!

Conclusions:-

Having said all the above, given the uncertainty and the significance of the change in the value of the Sterling Exchange Rate Index, I do not believe that now is a good time, to decrease a currency hedge.

I also believe that from an investment risk and liability matching point of view, The Derbyshire Pension Fund's non sterling bond exposure; which I believe is mainly in the US dollar, should remain hedged.

There will be opportunities in the future to reconsider this decision but I believe; that while the Bank of England has put in place it's contingency plans to attempt to smooth the financial impact on the UK economy of the structural change resulting from the decision to leave the European Union; there are at this time too many "unknowns" to make a high quality, informed, investment decision with respect to the future strength or weakness of Sterling.

Anthony Fletcher
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8th August 2016

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