APPENDIX 1

REPORT ON

CURRENCY HEDGING

PREPARED FOR

London Borough of Bromley

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Currency exposure within a UK Pension Fund

The London Borough of Bromley Pension Fund has exposure to various currencies primarily through its holdings in overseas equities, it also has some exposure in assets held within the smaller fixed income and diversified growth portfolios. Thus, its investment in non-sterling denominated assets can make a positive or negative contribution to overall investment performance as the value of the invested currency fluctuates.

Example:

A manager has a £100 million investment in US equities. The exchange rate is $1.60, which equates to a dollar value of $160 million. If sterling appreciates to $1.70 (and assuming the equity 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 equity portfolio.

Is there an 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, research conducted 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 (my italics)*

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.

There are essentially four mainstream methods by which Pension Funds can hedge currency exposure

1. Passive
2. Dynamic
3. Active currency overlay
4. Tactical currency hedging as part of an underlying 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, or by hedging the benchmark weights in the index, 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.

As managers are factoring currency into their investment decisions, hedging a fixed amount on a "plain vanilla" 90 day forward contract basis might in fact increase volatility of investment returns.

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.

Historically, the Fund would be asked to pay across cash at maturity, although this is typically offset by an equivalent book or unrealised gain in the underlying portfolio. In periods of continued sterling depreciation, these cash calls could become significant.

Today's markets, being what they are, most FX counterparties insist on forward contracts being collateralised, and thus any loss/gain on the contract would need to be matched by a cash transfer on a daily basis.

These "real cash" transfers are potentially significant if a Fund is operating within a cash flow neutral or more particularly a cash flow negative environment and may force the fund to liquidate assets if the call is 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).

- **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.

  Arguably this is not a strategic currency hedging approach, as such, yet in the past some funds have argued that this approach offers them the twin benefits of both reducing portfolio risk and increasing potential return (because of the active selection decisions). Unfortunately, the poor performance of many active currency managers during the credit crunch earned active currency overlay management a bad name, and has led to a considerable number of pension funds withdrawing from this approach. This approach also requires the Pension Fund to provide the overlay manager with investment data, at currency level, from the managers, (typically via the custodian). There is an increase in documentation and a continued additional governance element to this method. As the overlay manager is operating in parallel to the main fund there is also the risk of "cash calls" in similar vein to methods 1 and 2 above.

- **Tactical currency hedging as part of the underlying portfolio.** A fourth option is to delegate responsibility for currency hedging to the investment manager responsible for the overseas investments. Typically, managers can be persuaded to take tactical decisions to hedge currencies in the short term, as part of their investment decisions. Bond managers are more

inclined to do this than equity managers. A major advantage of this approach is that the cash settlement on any forward foreign exchange contract must be dealt with by the investment manager as part of their portfolio administration.

According to WM research, only 20% to 25% of LGPS funds hedge currency exposure depending on the nature of their investment mandates. Active currency mandates remain relatively few and far between, and have fallen significantly from around twenty, five years ago to just two at year end 2014.

The Bromley Fund pre transition to global equity mandates

In the latter part of 2012 and before the transition from regional to global mandates in 2013, currency exposures within the Fund were reviewed for the period 30 June 2011 to 30 June 2012.

At that time, ***Fidelity*** was running several regional equity mandates all of which were at or near to their respective benchmarks and as a result had very few "active" money positions. It is important to note that as the indices against which the various mandates were invested were unhedged, the impact on overall investment performance was negligible.

Baillie Gifford however, used their asset class bandwidth to make tactical under and overweight investment decisions, and as a result of these "active" money investments deviated from the unhedged benchmark index, thus creating a currency exposure, ***albeit still small and without significant impact to overall Fund performance.***

The subsequent shift from regional mandates to more active global mandates, adding BlackRock and MFS to Baillie Gifford changed the dynamic somewhat, as each of the three managers, whilst being measured against a global index plus target out performance, have different investment styles.

Investment manager performance attribution for the period 31 December 2013 to 31 December 2014

Manager	Total Return Fund benchmark		Asset Alloc	Stock select	Currency Effect	Total
Baillie Gifford	12.0	11.2	1.0	-0.4	0.2	0.8
BlackRock	14.8	11.2	1.1	2.3	0.2	3.6
MFS	13.4	12.1	-0.8	2.8	-0.7	1.3

Source: Baillie Gifford, BlackRock, MFS

The above table gives the breakdown of the two main areas of investment performance, asset allocation, stock selection and in this example, also includes currency attribution at manager and portfolio level. *However, when the currency attribution is taken into account at a* ***total fund level***

***and not just for the global equities** then the overall impact on performance was just -0.03% for calendar year 2014.*

Each of the three global equity managers were asked to comment on the way in which they integrate currency matters into the investment decision to buy or sell a particular stock.

Interestingly, whilst they have different investment styles, the decision processes taken to reach buy sell decisions are all very similar, thus there is a remarkable similarity in their responses

Baillie Gifford

"We do not make separate or active currency decisions in our global alpha strategy. Although currency decisions are factored into the overall stock selection process and will contribute in a decision to buy or sell a specific holding".

Over the period under review currency attribution was 0.2% of the overall investment return of 0.8%.

BlackRock

"We do not explicitly forecast currencies or directly seek to take currency risk in any of our stock selection models. However a number of macro themes which we do trade, seek to position the portfolio towards/away from particular countries/economies. These can therefore provide the portfolio with indirect exposure to FX risk relative to benchmark".

Over the last twelve months, currency positions accounted for just 0.25% of the investment out performance of 3.6%., a small element of the risk/return equation.

MFS

"The MFS Global Value strategy does not seek to add value by speculating on the direction of currencies and is, therefore, generally unhedged. Whilst a currency hedge may be undertaken in order to protect the value of an underlying holding during times of political, economic or financial crisis, MFS rarely take this step.

While MFS do not typically hedge currency at the portfolio level, it should be noted that their analysts must consider the effect that currency valuations will have on each company's growth projections. When looking at downside risk associated with any company, currency plays a very important role in the stress testing conducted by MFS's analysts. Stress tests, which they run for all companies, examine the potential risk on a company's bottom-line earnings associated with any movement in relevant currencies and the subsequent effect on that stock's performance. In that way, potential currency impacts are built into MFS's valuation process through their fundamental, bottom-up research at the individual stock level."

For the period under review MFS posted a -0.7% currency attribution within the overall return of 1.3%.

Other assets within the overall portfolio

As far as fixed income and diversified growth funds are concerned, both will have some element of currency exposure/risk within them. Some diversified growth funds actively invest in currency pairs (Standard Life GARS) as an asset class. Some fixed income funds will hedge currency back to sterling thus stripping out currency risk from the interest rate on the foreign currency denominated bond. However, given the relative size of these mandates within the Bromley Fund, there is only a very small element of performance attribution.

Summary

Our global equity managers recognise currency as an integral, but small part of their stock selection investment process, but are not driven by it.

The table on page 4 clearly shows the extent to which currency movements impacted the overall investment performance of each manager during the calendar year 2014.

It should also be noted that significant detail on currency hedging, interest rate management and related matters are all contained and explained at length in company Annual Reports

Currency movements, implicit in the global equity portfolios, will have an impact/risk on overall investment performance, however, given the magnitude of that impact over the 12 months to end December 2014 it is recommended that no further action in respect to currency hedging, apart from regular monitoring and reporting, should be taken.

Other issues such as asset allocation, sector weightings and stock concentration risks, implicit within multi portfolios in the same asset class, can have far greater impact on overall investment performance. These are already monitored closely and reported on a quarterly basis.

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