

## pensions challenge

### THE TREASURER'S BALANCING ACT



The Royal Bank of Scotland

In the third article in this series, **Ian Cooper, Sian Hurrell** and **Guy Whitby-Smith** of the Pension Solutions Group, RBS Global Banking & Markets,

look at some of the key liability hedging solutions for pension schemes and consider some implementation issues.

#### Executive summary

■ While the concept of liability hedging is now widely accepted as a key part of any asset liability study, implementation is still surrounded by hearsay and uncertainty. This should not be the case: a coherent implementation strategy for liability hedging can be both transparent and straightforward.

Last month, we discussed how to establish a pension scheme risk management framework. Such a process can often lead to consideration of derivative-based strategies such as interest rate and inflation swaps (for 'liability hedging') and equity options.

**A STORY OF INFLATION DEMAND** To implement a liability hedging strategy, schemes typically use swaps to receive

inflation-linked cashflows to mirror their pension payments. Pension-scheme hedging activity has contributed to a dramatic growth in the UK inflation swap market – it has roughly doubled every year for the last three years. In 2006, we estimate that around £20bn of UK pension liabilities were hedged using inflation swaps, usually combined with interest rate swaps.

We expect 2007 to be another year of growth. While it is difficult to see the market

doubling in size again, there is clearly a huge amount of potential demand from the roughly £800bn of UK pension liabilities.

**CASHFLOW SUPPLY** The pension-scheme demand for inflation-linked cashflows must be matched by a supply of inflation-linked cashflows. These cashflows come from a variety of sources. The main source has traditionally been index-linked gilts ('linkers'). Linker issuance has increased significantly over the last three fiscal years, with £8bn issued in 2004, £10.8bn in 2005 and £17.2bn in 2006. We expect £16bn of linker issuance this year.

However, 2006 was the first year when private inflation supply (from the likes of utility companies, other infrastructure companies, property companies, PFI transactions and retail companies) exceeded linker supply. It remains to be seen whether private issuance can continue to increase to meet the growing pension scheme demand.

**WHAT IS BEST EXECUTION?** Under UK pension legislation, trustees need to delegate all day-to-day investment decisions to a fiduciary investment manager. Derivative-based strategies are likely to fall into this category. The manager has a duty to obtain best execution on the implementation of any transaction, but how is this achieved?

For small trades, many investment managers place banks in direct competition, asking, say, three banks to quote simultaneously for the same trade, with the best price winning. For larger transactions (perhaps over £50 or £100m of swaps), such a naive 'auction' process is often sub-optimal. While a very narrow spread to the mid-price may be achieved, when a number of banks are aware that a large trade is taking place the mid-price may move against the pension scheme prior to execution, resulting in a worse all-in price.

One solution is to execute large transactions with stealth, using just one bank. But how do you ensure competitive pricing? The simple answer is to ask banks for pricing every day! The major banks send daily information on what levels they are able to execute at and this is supplemented with extensive dialogue about forthcoming supply. This allows investment managers to get the best price without alerting the market.

Other qualitative factors can also enter into the equation, with a bank's reputation and performance on previous transactions being taken into account.

Depending on the size of the transaction, a typical transaction cost for a swap trade is currently around 1-2bps on the rate executed.

An investment manager will typically charge 2-3bps (of liabilities hedged) upfront for execution, with 3-5bps running for reporting and collateral management.

**CAN THE SPONSOR EXECUTE?** Many company treasury departments have considerable experience in executing hedging strategies. This function can be used for implementing pension transactions although it may require execution outside the pension fund. However, this is more appropriate for some hedging instruments than others. An example is where a corporate purchases an equity put option (to protect against falls in the market) and contributes it to their pension scheme. This is eligible for tax relief and can save on execution costs.

**COLLATERAL** After executing derivative transactions, the pension scheme and bank are exposed to each other's credit risk. Often derivative transactions entered into by a pension scheme have a tenor of 50 years or longer, so it is important to both counterparties to have credit protection.

The participation of a highly rated bank reduces credit risk significantly. However, collateral is usually used for further protection. A credit support annex (CSA) documents the collateral arrangements between the counterparties. Collateral is posted to match the replacement cost of the swap and this is reviewed on a daily (or weekly) basis. Downgrade triggers can be included to protect the scheme from any deterioration of the bank's credit rating. Historically, banks only accepted cash or government securities as collateral but are increasingly more flexible and now consider other assets.

**SEGREGATED VS POOLED SWAPS** Most larger schemes use the segregated account approach where the trustees sign International Swaps and Derivatives Association (ISDAs) with specific banks. The trustees appoint an investment manager to act as agent for the execution and with ongoing duties in collateral management.

For smaller schemes, the trustees may not wish to negotiate ISDA agreements. For these schemes, pooled funds may be attractive. The pooled units are typically made up of investments in a cash fund and a swap. No further collateral management is required as the initial purchase of the units contains all the collateral required.

While the pooled approach is more straightforward, it ties up more of a scheme's assets and is less flexible. The segregated

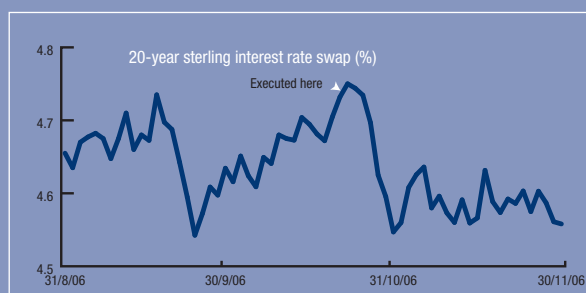
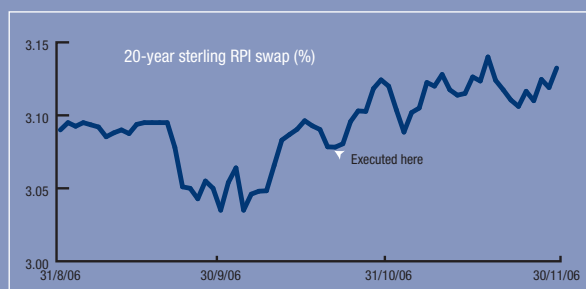
## Case study, part 3

ABC plc and the trustees were both keen to implement the liability hedge swiftly. The company had considerable expertise in executing hedging strategies and felt it could move more quickly than the trustees to implement the hedge. Therefore, in lieu of the £150m cash contribution it was due to make, ABC purchased a £150m liability matching bond from RBS and contributed it to the pension scheme; the contribution was eligible for tax relief.

Although £150m was less than 10% of the scheme's assets, the bond was structured so that it removed half the scheme's inflation and interest rate risk (by embedding the required swaps within it). The trustees planned to remove the rest of the risk in a phased manner over the following year.

Around the time the bond was executed, RBS notified ABC that it had some potential inflation supply it was expecting in the next few weeks. When the exact timing of this supply became clear, the purchase of the bond was arranged to be on the same day. This minimised the implementation cost of purchasing the bond.

The charts here show the 20-year UK RPI rate and 20-year UK interest rate during the period the trade was implemented. Even though the trade was fairly large, the price did not move against ABC because the market was not aware of the transaction.



approach does not constrain the scheme's investment strategy and allows for greater freedom in the precision and type of hedge.

**RECENT DEVELOPMENTS** Pension liability hedging solutions are evolving rapidly, with increasingly sophisticated techniques being employed. These include:

- The use of various caps and floors on retail price index (RPI) to closely match a scheme's liability profile, such as limited price indexation (LPI) [0,5], LPI [0,3], LPI [3,5];
- Switching from investing in gilts to investing in swaps and a Libor generating asset. This switch can achieve an additional return of 0.3% to 0.4% a year for replacing government debt with collateralised AA bank risk;
- Using options on swaps ('swaptions'). For example, if a scheme wants to hedge its liabilities if the 20-year real yield rises above 1.8%, then it can sell an option struck at 1.8%. The scheme receives an upfront

premium; in return, if the rate finishes above 1.8% it will be delivered a swap struck at a 1.8% yield; and

- Using the swap market, which is now very liquid out to 50 years. In RPI, the 50-year rate has tended to trade lower than the 20- to 30-year region, so hedging at the long end can be cheaper.

Implementation of hedging strategies is an area where the sponsor often has considerable experience while the trustees usually have limited experience. It often brings greater comfort for trustees if the corporate plays an active role in giving input to the implementation strategy of any solution. In addition, there is much a partner bank can do to help make the process as straightforward as possible.

**For more information call the RBS Pension Solutions Group on 020 7085 1362 or visit [www.rbsmarkets.com/pensions](http://www.rbsmarkets.com/pensions)**

