London Borough of Hammersmith & Fulham Pension Fund: Review of LGIM Matching Fund Mandate

Summary

- The Committee previously agreed to a Matching Fund strategy which required investment in one of LGIM's "Enhanced Matching Funds" ("the EMF"), a leveraged LDI vehicle.
- Investment in this element of the Matching Fund strategy was deferred as the implementation costs associated with investment in Quarter 2, 2009 were deemed prohibitive. The Panel instead implemented an alternative strategy, investing in very long-dated index linked gilts.
- Whilst this strategy has been somewhat successful in broadly achieving its overall objective, performance over the last 12 months has highlighted the approximate nature of the protection within the strategy.
- We have reviewed the current LGIM mandate against the alternatives previously considered in light of current market conditions. We do not believe the Panel should implement the previously agreed strategy at this time for the following reasons:
    - Although the costs of investment in LGIM's Enhanced Matching Funds have reduced significantly over the last year, these costs remain reasonably high;
    - Hedging liability risk through gilts remains more attractive than hedging liability risk through a combination of cash and swaps;
    - Whilst P-Solve believe that increasing inflation presents a serious risk to the Fund at this time, we also believe that interest rates are more likely to rise than fall. We therefore believe it appropriate to implement inflation protection independently of any increase in interest rate protection.
- We propose the Committee agree to the following actions at this time:
    - To retain the current investment strategy at this time whilst continuing to monitor prevailing market conditions;
    - That P-Solve should engage in dialogue with LGIM with regard to the implementation of a more bespoke strategy that may, for example, permit the level of inflation risk hedged to be increased independently of the level of interest rate hedging;
    - To review the Matching Fund strategy alongside a more general review of investment strategy early in 2011.

Background

The Fund's Matching Fund strategy seeks to deliver a return of 1% per annum in excess of the return on index linked gilts. The Matching Fund strategy currently consists of one mandate with Legal & General Investment Management ("LGIM") and one with Goldman Sachs Asset Management ("GSAM"), with the GSAM mandate being used to generate the target outperformance above gilts.

Following P-Solve's advice of May 2009, the Investment Panel deferred the proposed investment in LGIM's Enhanced Matching Fund and agreed to transfer the Fund's mandate with LGIM from the Over 5 Year Index-Linked Gilt Fund to the 2055 Index-Linked Gilt Fund. This provided the Fund with a mandate that offered greater sensitivity to inflation expectations in line with that of the Fund's liabilities.

Over the 12 month period to 30 June 2010, the Matching Fund strategy has delivered a return of 10.8% compared to a target return of 11.7% over this period. This performance breaks down as follows:

- GSAM achieved a return of 10.2% over the year compared to a target return of 2.9%, i.e. outperformance of 7.3%.
- LGIM achieved a return of 11.3% over the year compared to a target return of around 20.5%, i.e. underperformance of around 9.2%

The underperformance from LGIM is a consequence of the approximate nature of the strategy against the chosen benchmark. The performance from LGIM (as a passive vehicle) has been as expected.

Investment in the EMF

We believe there are several issues for the Committee to consider in deciding whether to progress the investment:

Costs

Since the Fund's investment in the 2055 Index-Linked Gilt Fund, liquidity has returned to the swaps market, dramatically reducing the investment costs for swap based funds.

At the time of our previous advice, in May 2009, the bid-offer spread for the proposed investment in the Enhanced Matching Fund was substantial (circa 12.0%) At this time, the combined cost of disinvestment from the index linked gilt fund and reinvestment in the EMF is around 3% of assets, or around £2 million.

Gilt vs. Swap yields

We previously highlighted the relative benefit of hedging interest and inflation risks through the use of gilts rather than swaps. The "yield gap" remains and is illustrated in Appendix A.

In effect, if the Committee were to elect to invest in the EMF, relative to the benchmark, the investment would create a "drag" of around 0.4% per annum relative to the gilts benchmark. This in turn would require the GSAM mandate to deliver an additional 0.8% per annum in order to achieve the Matching Fund objective.

Current market views

As set out in detail in Appendix B, our expectations are that interest rates are more likely to rise than fall from here. Over the next few years, we believe that swap interest rates are likely to rise into the 4.5% to 5.5% range. At the current time, swap interest rates are below 4% p.a.

Another possible scenario is an "Inflation" scenario, where the inflationary cycle takes hold, and long term swap rates rise to above 5.5% and medium term interest rates and inflation potentially both reach double digits. This is not an immediate concern as the Fund currently has relatively low asset exposure to interest rates albeit that the Fund's liabilities are all inflation linked through salary increases, increases to pensions in deferment and in payment.

This suggests that the Fund should seek to increase protection against rising inflation whilst deferring the introduction of further interest rate protection.

Proposed Actions

We propose that the Committee pursue investment in the EMF on the basis that inflation exposure can be introduced independently of interest rate exposure.

Although, at this time, LGIM do not offer such a pooled fund, from our initial discussions with them, we understand this is under active consideration. We propose to progress discussions with LGIM on this matter as well as the possibility of introducing a more bespoke solution.

Given this restriction, we therefore propose that the Committee retains the Fund's investment in the 2055 Index-Linked Gilt Fund at this time, given the cost of investment in the EMF and the drag on return against its benchmark. However, we propose market conditions, namely the overall real yield available and the real yield "gap" between index linked gilts and swaps, continue to be monitored.

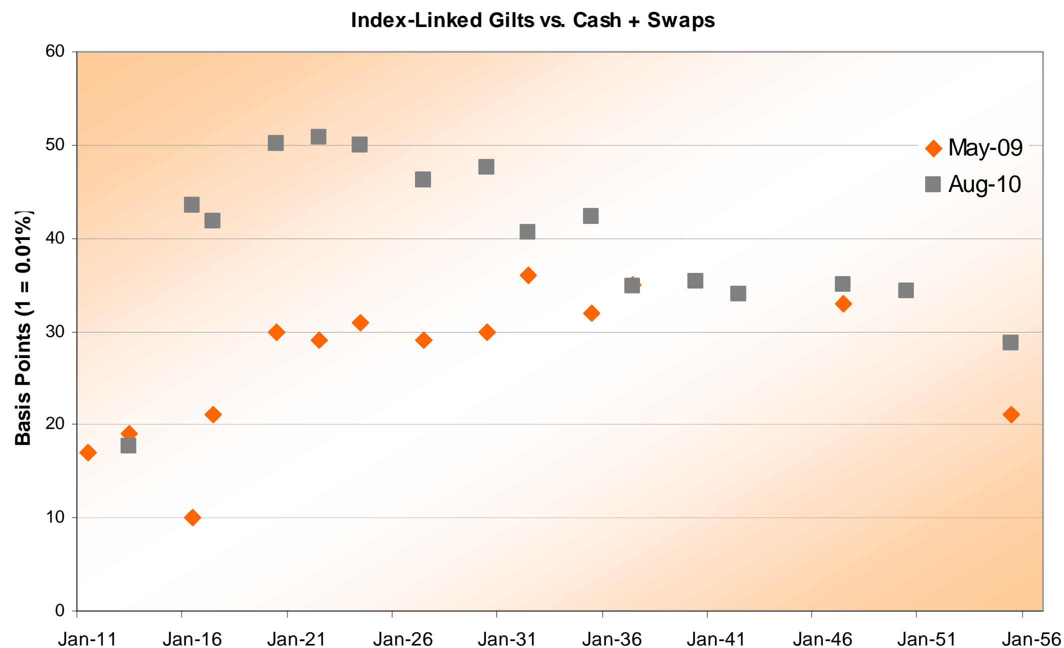
Following the current actuarial valuation, it is also proposed to review the overall investment strategy. Consideration will be given within this review to the more general hedging of liability risk.

We look forward to discussing this paper with the Pension and Audit Committee.

P-Solve Asset Solutions
September 2010

Appendix A: Index-Linked Gilts pick-up relative to Cash+Swaps

The chart below shows the spread offered by Index-Linked Gilts of different maturities above an investment in cash and swaps. We compare the spreads as at May 2009 and August 2010.



It can be seen that Index-Linked Gilts currently offer a greater yield than an equivalent investment in cash and swaps. We would expect this yield to reduce, and even revert to its pre-crisis negative level. However, we cannot be certain that it will revert, or if new positive yield normal will be set.

Appendix B – Economic argument for interest rates rising

P-Solve's view is that long term interest rates should rise over the medium term (3-5 years), and rise by more than the market is current pricing in. In this appendix we outline the economic rationale for this view.

Background

Market long term interest rates are the current going rate of interest at which market participants lend to one other for fixed interest loans for a long period of time, typically 15 years plus. They are calculated as the yield on low risk long-term fixed interest investments such as Government bonds and collateralised interest rate swaps.

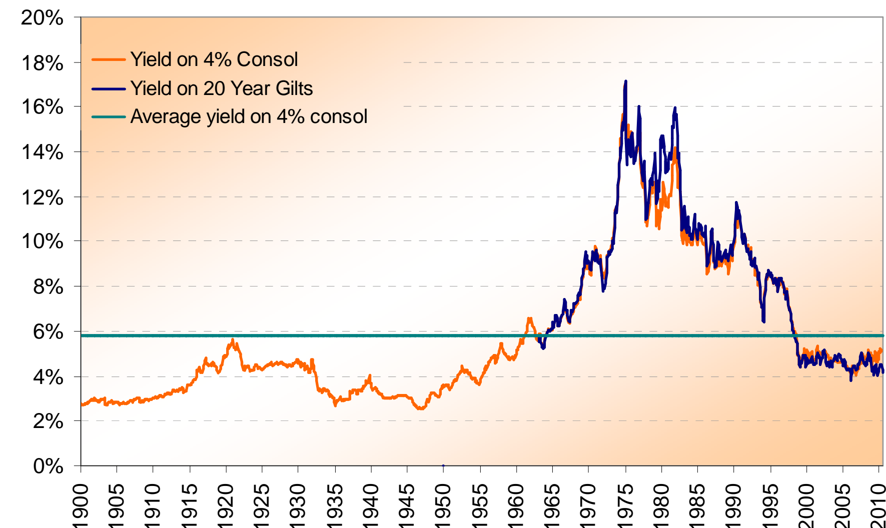
They are quite separate from short term (or "cash") interest rates such as the Bank of England interest rate (or "base rate"), which is the rate at which financial institutions can borrow money from the Bank of England overnight. For example, at the present time the base rate is 0.5%, the interbank rate Libor is c.0.7% whilst yields on 30-year par swaps are c.3.9%.

To a limited extent an investment in cash could be a substitute for an investment in a 30-year fixed interest bond, and so it is common parlance to describe the 30-year interest rate as "the market's expectation" for average short-term rates over that period. However, in reality cash and fixed interest bonds have very different financial characteristics (one preserves capital, the other matches a fixed long-dated liability). Therefore, in practice, long-term interest rates move with supply and demand for fixed interest investments and are not useful predictors of short term rates.

As a consequence, in framing our arguments we do not discuss the reasons why the Bank might or might not change the base rate. Instead, we consider the behaviour of long dated yields in the past, and focus on factors that we see affecting supply and demand for long-dated fixed interest sterling investments over the next few years.

History of long term interest rates

The chart below shows how 20 year interest rates on Gilts have changed over time since 1900. The average over that period is 5.8%, which is above the current level of 4.2%. The high interest rates in the 1970s are a result of the economy being in a stagflation environment: inflation was high meaning that prices of fixed interest investments fell and their yields increased sharply.



Source: Thompson DataStream, P-Solve

Since then, Gilt interest rates (and inflation) have fallen and apparently stabilised around 4.5% to 5.0%. Some have argued that a new low-inflation paradigm has been reached, and that periods like the 1970s can safely be ignored. However, even if we consider a shorter time period such as from 1985 onwards, 20 year interest rates are still close to historic lows - this is shown in the table below.

Yield on 20 Year Gilts	
As at 30 June 2010	4.2%
Average post 1970	8.9%
Peak (15/12/1974)	17.2%
Low (15/01/2006)	3.8%

** Peak and Low refer to period Post 1985. Source: Thompson DataStream, P-Solve*

Although interest rates are currently below the observed averages both over the long term and since 1985, this is only part of the reason behind why we expect long term interest rates to rise. Our view is also strongly driven by the structural issues within the UK economy, and particularly the level of debt in the UK economy. In particular, we do not rule out a return to higher levels of inflation, albeit not necessarily to the levels seen in the late 1970s.

The relationship between swaps and Gilts

Sterling long-term interest rates may be derived from either from Gilt yields, or from the Libor interest rate swap market. Gilts are the main ultimate source of long-dated fixed interest exposure, and supply of Gilts is the factor that is expected to be the driver of interest rate rises.

Typically these two are close and move together, with Gilts yielding 0.2% to 0.3% **less than** swaps reflecting the fact that least risk cash investments generate below Libor.

In the current environment, longer dated Gilts are actually yielding 0.3% to 0.5% **more than** swaps, so the relationship is inverted. This has resulted from a shift in the supply/demand balance towards long-dated swaps and away from long-dated Gilts. We believe that this has occurred because:

- The market is concerned about the risk of Government default.
- Pension schemes are not in a position to move from return-seeking assets into Gilts due to poor performance of equity markets (most other Gilt investors prefer short or medium dated Gilts). They have continued to implement liability hedging but have instead tended to use long-dated swaps.
- Where banks used to hold long-dated Gilts and resell the inherent interest rate exposure in the form of swaps, they are now less willing to do so. This has resulted from bank weakness and increased risk aversion, coupled with increased volatility in the swap gilt spread.

However, there is a limit to which Gilts and swaps can be expected to diverge as they are close substitutes for one another in the long run, economically speaking. Even in terms of credit risk they are related to one another because swaps are typically collateralised by posting Gilts, and the Government is the ultimate guarantor of the banking sector.

Going forward, we expect UK pension scheme funding to improve through increased sponsor contributions, recovery of return-seeking assets and/or reduction of benefits through entry into the PPF. As interest rates rise, pension schemes will therefore become both more willing and more able to buy long-dated Gilts. This will put pressure on the Gilt swap spread to revert, meaning that, if anything, swap interest rates may be expected to rise more than Gilt rates.

The graph opposite shows a history of swap interest rates for the period covering five years up to the credit crunch (from June 2002 to June 2007) which excludes the recent extreme moves. It gives an average rate of 4.7%, which is also in line with the 4.5% to 5.0% range mentioned above.

Source: Bloomberg

What is the "normal" level for interest rates?

The empirical evidence indicates that long-term risk-free interest rates, averaged over long periods, tend to be broadly in line with the nominal economic growth of a country. This is in line with what may be expected from economic theory. For the UK, we might expect:

- inflation of 2.0% to 2.5% (based on the existing Bank of England inflation mandate) and,
- in the absence of a protracted depression, real growth of 2.0% to 2.5% (based on historical averages).

This implies a long term level for interest rates of 4.5% to 5.0%.

Therefore, on this argument alone, there is some scope to expect rates to rise from their current levels of c.4.0%. Indeed the swaps market is already pricing in that the 30-year par swap yield will rise from 3.90% to 4.32% by June 2014. However, we believe that there is good reason to expect interest rates to overshoot their normal levels over the next few years. We next set out why this should be the case.

The case for rising interest rates — the source of the problem

The UK is currently facing the highest budget deficit since World War II – historically the only other times that the UK has ever borrowed on such a large scale (and run such a high Debt to GDP ratio) were in order to finance major wars. Spending by the previous Government over the last 10 years means the UK now needs to take action to reduce its debt.

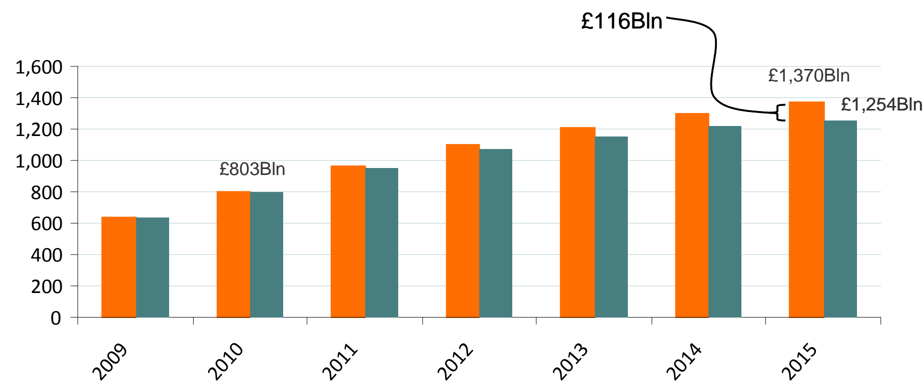
If the Government does not manage to maintain investor confidence, investors will demand much higher yields on Gilts, sterling will suffer and imported inflation will set off an inflationary spiral that will be difficult to bring under control. This time however, the UK also has off balance sheet commitments that dwarf the official debt, such as PFI debt, Network Rail bonds, and over £1,000bn of underfunded and even entirely unfunded public sector pension liabilities, quite apart from the unfunded state pension system.

So interest rates must rise significantly, unless the Government can swiftly diffuse the ballooning national debt. Historically, governments have dealt with excessive debt via austerity, growth, default and/or inflation. We discuss next how relevant each of these might be to the current situation.

Austerity

One likely solution is austerity: cutting government spending and/or increasing taxes. We have already seen some austerity measures being announced by the new coalition government who have pledged to reduce the annual budget deficit by £40bn over the period to 2015 with broadly 80% of this coming from spending reductions and 20% from tax increases. However, we do not see this as the magic bullet for the following reasons:

- Austerity is generally unpopular with voters, it can lead to strikes by unions and, it ultimately has little impact on plugging the UK deficit. The lack of a Conservative majority does not help here, and there is a risk that the coalition Government could collapse if voter or union resistance is too strong.
- The public and private sectors are inter-dependent and austerity could threaten the nascent private sector recovery. Reduced Government spending means public sector employees have less to spend, and companies that provide goods or services to the Government will suffer reduced revenue and keen pricing pressure.
- Even if the Government succeeds in finding ways to implement the cuts proposed, with associated huge numbers of public sector job losses, the forecasts optimistically assume that the private sector will replace the majority of those jobs. If it does not, and private sector growth currently looks to be at best sluggish, then the consequential reduction in tax take and increase in welfare spending will put paid to any hope of balancing the budget by 2015.
- More worryingly still, even if the arguably optimistic forecasts turn out right, the impact on the required investor base for Gilts is relatively limited. The graph below shows the projected Gilt stock first as projected by Labour (teal bars), and then following the "most austere budget for a generation" (orange bars).



Source: UK Treasury, OBR

Growth

Another potential solution would be real economic growth[1]: growth helps because it increases the tax base and makes the debt stock seem smaller relative to an increased national income (GDP). Indeed, growth was the main factor which enabled Britain to deal with the huge national debt that resulted from the Napoleonic wars; it was also through growth, along with some austerity measures, that Canada dealt with its excessive levels of national debt in the 1990s.

However, we expect the UK to struggle to achieve significant real economic growth because:

- During the 1980s, the solution was growth driven in the main by improvements in productivity and working practices. This time however there are few obvious major inefficiencies in the private sector and hence easy wins for productivity as a source of growth.
- The UK population is ageing. This means the workforce is shrinking relative to the retired population and the concept of retirees being funded by the working population no longer works as well as it once did, leaving the Government with another spending issue to deal with. We have seen some measures such as an increase in the State Pension Age and linking pensions to CPI rather than RPI. However these will only take effect slowly and will have a limited effect as currently proposed.
- The burden of paying the interest on the existing and projected national debt of itself acts as a drain on our national resources, meaning that tax rates are higher than they would otherwise be. This "fiscal drag" acts to slow economic growth and diverts resources that could otherwise be invested in the real economy.
- A shift of powers away from the Western economies to more developing economies like India and China means it is difficult for the UK to become a manufacturing nation again and achieve growth through exports. Most emerging markets do not have an ageing population, and are well placed to grow through increasing domestic demand.

As a consequence, we do not see real growth as a solution now.

Default

A further measure the Government could take to plug the deficit would be to simply default on its debt. Historically, the UK has not formally defaulted on its debt since 1688. However, the "voluntary" conversion of War Loans in 1932 from 5% coupon to 3% coupon was in effect a partial default. This was done in grip of the Great Depression, alongside austerity measures and associated deflation, and in effect reduced the rate to one in line with the then market levels for new debt.

The importance of reputation has always been a driver for the British to find other ways to solve the problem, not least because much of our prosperity has depended and continues to depend on London's pre-eminence as a global financial centre. In the modern day this reputational concern is seen in the new Government's commitment to maintain the UK's AAA credit rating. We believe that default will be avoided unless all other possible solutions have been tried and failed.

[1] In fact, it is nominal growth that is needed: this could be achieved by real growth combined with modest inflation (discussed here), or by inflation combined with stagnation or modest growth (discussed overleaf).

Inflation

We therefore see challenges with the Government significantly solving the deficit problem through austerity measures or economic growth, and we do not believe the Government will default of its debt. Instead we believe the Government will increase and extend its borrowing by issuing gilts and, it will fail to adequately control inflation (leading to a reduction in the real economic value of its debt).

Inflation is in effect a "polite" way to default: the debt is paid back in pound terms but its purchasing power is much reduced. Inflation increases the tax base and reduces the burden of the outstanding debt stock relative to incomes. Whilst some UK government debt is linked to inflation (index-linked Gilts), these represent only a minority of the current total stock.

Clearly, it is in the Government's interest to convince investors that inflation will remain under control, otherwise investors (especially foreign investors) will demand high yields on Gilts to compensate for the risk of loss of purchasing power on the capital invested, increasing the national interest burden. This is the reason for the independence of the Bank of England and (albeit questioned) the new Office of Budgetary Responsibility.

High inflation will never therefore be a stated policy, though the Bank's current 2% inflation target could be raised. Indeed we have already seen speculation in the press that the Bank is considering increasing the 2% CPI target to 4%. Alternatively the rules changed surrounding divergence from the target or around measurement of inflation could be changed, or the mandate of the Bank altered to take into account the wider economy (as is already the case with the Federal Reserve in the US).

Alternatively, inflation may arise from other sources, such as:

- Fall in the value of sterling, if foreign investors become nervous about the government's ability to repay its debt. This increases prices of imports and exports, increasing inflationary pressure.
- A return to commodity price inflation, driven by emerging market consumption growth.
- A specific commodity driven crisis, such as the 1973 oil crisis.
- Wage inflation driven by increased taxation or the need to pay privately for services no longer provided by the public sector.

Whilst the source is not easy to predict, the emergence of higher levels of inflation, could lead to the resolution a number of current imbalances including excessive nation debt (and indeed private sector debt).

We therefore do not believe the Bank will seek to control inflation as tightly as they have in the past. For the Government, higher inflation has the side effect of reducing the size of the budget deficit in real terms. Importantly, it also means that investors, especially those overseas, will demand higher yields before they are willing to buy Gilts.

Consequences for Gilt issuance and hence interest rates

Given that we do not see further austerity, significant real growth, or default as likely possibilities, we come to the conclusion that:

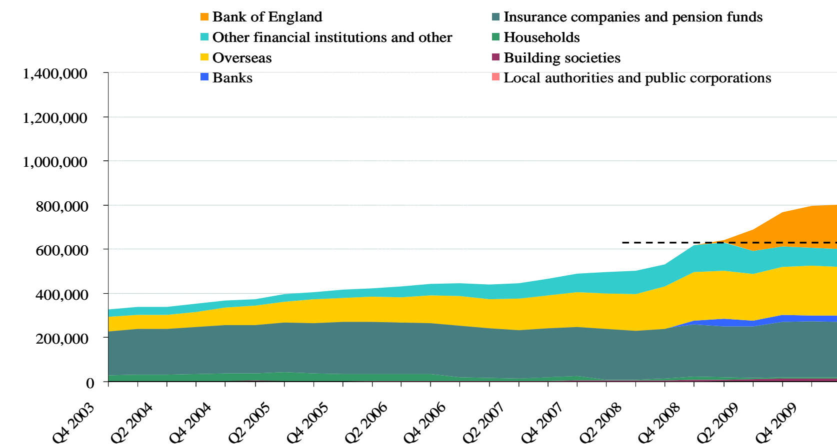
- Inflation is likely to run at a higher rate than the current 2% CPI target.
- Gilt issuance is likely to be at least at the levels shown in the latest OBR projections.

Both increased Gilt issuance and higher inflation will tend to lead to a rise in long term interest rates. As seen in the chart on page 7, the Government intend to issue approximately £450bn of Gilts to the end of 2015. (This is the net issuance, not counting issuance required to roll over existing debt that matures.) This will bring the total level of Gilts in issuance from c.£800bn to £1,250bn – a more than 50% increase relative to the gilts currently in issuance.

The main problem with issuing a high amount of debt is finding a buyer for this debt. Typically, the buyers of gilts have been insurance companies and pension schemes, overseas investors and financial institutions such as banks and building societies. However, the market is now arguably saturated with Gilts and last year the investor base was a net seller of gilts - a by product of the quantitative easing project in which the Bank bought £200bn of Gilts.

So which of these investor groups might be able to absorb some of this huge increase in supply?

- Local authorities, building societies and households have little reason to hold Gilts. Retail investors are unlikely to choose Gilt funds, especially as interest rate rises begin and capital values of Gilts fall leading Gilt funds to produce negative performance.
- There is no reason to expect insurance companies to dramatically expand their business. They may take some increase in Gilts if Solvency II makes corporate bonds less attractive, but this is unlikely to be material to the scale of the additional issuance required.
- Banks currently own relatively few Gilts, which reflects their function as financial intermediaries — they are in the business of lending money out again! There may some increase in bank holdings as a result of mooted increased capital requirements, but again it will not be material compared to the additional issuance required.
- Pension schemes (also included in the "Other financial institutions" via their pooled fund holdings) are unlikely to buy many more Gilts at current yields. However, if yields increased significantly then scheme funding would improve and pension schemes' appetite for Gilts would increase.
- Overseas investors have increased their holdings over the period since 2003, but last year actually decreased their holdings, as worries about the UK losing its AAA rating mounted. Most developed world governments are in a similar situation to the UK, and even if international appetite for sovereign bonds increases, there will be strong competition for that money, especially from the US which has the benefit of the dollar being the leading reserve currency.
- The Bank of England has already bought £200bn of Gilts and, if the economy does recover, will need to sell them back to the market in order to mop up the excess money that quantitative easing generated. If the economy falters, quantitative easing may be extended and the Bank may be a purchaser of Gilts in the short term. However, this only defers the problem, and stores up more surplus supply for when quantitative easing is eventually reversed.



In our view, there is therefore no obvious buyer for additional UK Gilts in the near future, at current yields. Therefore, given the dramatic increase of supply required, we expect Gilts prices to fall and yields to rise, and hence swap interest rates to rise.

We also believe it is likely that further quantitative easing will be necessary to help soak up the additional supply of Gilts. This amounts to monetising a deficit and will tend to have the effect of storing up more inflation for the future,

Why interest rate rises might take longer to happen

Based on the above arguments, the only realistic way that interest rate rises might be avoided entirely would be our **"Japan" scenario** where the UK follows Japan into a deflationary environment with extremely low interest rates. However, the political consensus and the political will to avoid a repeat of the Great Depression makes a deflationary scenario appear unlikely.

The most serious risk to our view is therefore not that interest rates do not rise, but that they do rise, yet take longer to do so than the 2–4 years that we anticipate. We see two main circumstances where this may occur:

- A Eurozone crisis which causes confidence in European markets to fall. If this happens, foreign investors in European sovereigns may flee to UK Gilts as a safe haven. However, this is relatively unlikely because even if the Euro does collapse, the US is more likely to be viewed as a safe haven. (The US is a more diverse economy with a stronger manufacturing industry and broad skill base compared to UK which is heavily dependent on financial services.)

- A **"Stagnation" scenario** where there is relatively limited industrial action, the coalition government holds together, there is qualified success in implementing the austerity measures, and as a consequence the private sector growth stagnates and base rates are held low and quantitative easing is extended. If anything this would push down medium dated rates (5–10 years) more than long-dated, as cash investors go out along the curve in the search for yield. Whilst "Stagnation" is a genuine possibility, it requires too many things to go right to be viewed as a central scenario.

Conclusion

As a result, we believe that the most likely outcomes (in order) are:

- A **"Growth" scenario**, where the combination of higher but controlled inflation, and a degree of austerity measures, leads to a reasonable economic recovery. Even though real GDP growth may not be particularly strong, above target inflation means that the nominal GDP growth would be high enough to inflate away the problem in a controlled way over a period of 5 to 10 years. Gilt yields rise and a combination of pension schemes de-risking and foreign investors soak up the additional supply. In this scenario we see swap interest rates at 4.5% to 5.5% in 2014.

- An **"Inflation" scenario**, where the inflationary cycle takes hold, and long term swaps interest rates rise to above 5.5% and medium term interest rates and inflation potentially both reach double digits.

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