



**The Actuarial Profession**

making financial sense of the future

**Consultation Response**  
**UK Debt Management Office**  
Super-long and Perpetual Gilts

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## **About the Institute and Faculty of Actuaries**

The Institute and Faculty of Actuaries is the chartered professional body for actuaries in the United Kingdom. A rigorous examination system is supported by a programme of continuous professional development and a professional code of conduct supports high standards, reflecting the significant role of the Profession in society.

Actuaries' training is founded on mathematical and statistical techniques used in insurance, pension fund management and investment and then builds the management skills associated with the application of these techniques. The training includes the derivation and application of 'mortality tables' used to assess probabilities of death or survival. It also includes the financial mathematics of interest and risk associated with different investment vehicles – from simple deposits through to complex stock market derivatives.

Actuaries provide commercial, financial and prudential advice on the management of a business' assets and liabilities, especially where long term management and planning are critical to the success of any business venture. A majority of actuaries work for insurance companies or pension funds – either as their direct employees or in firms which undertake work on a consultancy basis – but they also advise individuals and offer comment on social and public interest issues. Members of the profession have a statutory role in the supervision of pension funds and life insurance companies as well as a statutory role to provide actuarial opinions for managing agents at Lloyd's.

# **UK Debt Management Office: Super-long and Perpetual Gilts**

## **Response from the Institute and Faculty of Actuaries**

### **Introduction**

The Institute and Faculty of Actuaries (the Actuarial Profession), welcomes the consultation from Government to widen its range of debt instruments to include super-long and perpetual gilts.

As the professional body of actuaries in the UK, many of our members are involved in the financial management of pension schemes and insurance funds that may have some need for super-long gilts. We believe that there may be a small amount of demand for super-long gilts from some defined benefit pensions with active and/or deferred members. However, this would represent a relatively low proportion of pension scheme liabilities and many schemes may choose to have more liquidity from gilts in the 30 to 50 year range, rather than hedging with a super-long gilt. Selected annuity books might also have some demand, although significantly less than defined benefit pension schemes.

We would also suggest that the evolution of the pensions market may reduce any demand over time. Defined benefit pension liabilities are expected to run off and potential changes in the annuity market, such as people annuitising later or not annuitising at all, would remove a need for gilts of this nature. We also see there being limited demand from pension schemes or annuity books for perpetual gilts but offer some practical considerations if the Government does decide to issue these.

Further to this, the regulatory regime for insurance companies, specifically the adoption of Solvency II, may also reduce the demand for gilts with such a long maturity date.

Our responses to the specific questions are outlined on the following pages. This has been compiled through drawing on the expertise of actuaries working in the fields of life insurance, pensions, finance and investment. If you have any questions about our response or would like to meet to discuss any of our response in more detail, please contact Kirstin Lambert at the Actuarial Profession, on telephone number 0207 632 2168 or e-mail [Kirstin.Lambert@actuaries.org.uk](mailto:Kirstin.Lambert@actuaries.org.uk).

## Responses to Specific Questions

### A. Market demand for super-long or perpetual issuance

#### 1. What are the potential sources and scale of demand (both new and existing) for super-long and perpetual gilts?

The main source of potential demand for super-long gilts could be UK pension funds and insurance companies that have pension and annuity liabilities. While most pensions in payment will have negligible liability extending beyond 50 years, where these funds have liabilities for deferred pensions and/or dependents' pensions, there may be a material liability beyond 50 years.

Insurance companies are strongly encouraged by current regulations to hedge these liabilities with gilts or swaps. Over the last ten years, a rapidly increasing proportion of pension funds have moved to hedge out the interest rate and inflation risk in their liabilities with liability driven investment strategies, using gilts or swaps.

Typically, the liabilities beyond 50 year maturity will currently be hedged by the longest maturity gilts available, or with 50 year maturity swaps (the swap curve is illiquid beyond 50 years). Currently gilts are popular for hedging the longest dated liabilities as they offer a higher yield than the equivalent swaps.

As an example, Insight Investment has estimated that the typical proportion of a defined benefit pension scheme's liabilities beyond 50 years could be around 3.5% of the total discounted value of liabilities. If gilts with maturity dates longer than 50 years were available, they would represent more suitable hedging instruments for these liabilities than existing bonds. However, most of the demand would be for gilts slightly longer than 50 years (e.g. 60 years), rather than anything significantly longer. We would envisage there being little or no demand for a 100 year gilt for pension fund hedging purposes. A large proportion of long dated pensions liabilities are index-linked, so there would be demand for super-long gilts in index-linked as well as conventional form.

Changes in the regulatory environment for insurance companies could also influence the level of demand for such long-dated gilts. The risk discount rate framework within the Solvency II regulatory regime could reduce the level demand for super-long gilts from insurance companies. Under this regime, insurers holding super-long gilts would be exposed to balance sheet volatility. This arises due to:

- the use of swap-based discount rates (exposing the insurer to gilt-swap basis risk), and
- the yield curve extrapolation approach, which extrapolates from the last liquid point on the swap curve to a fixed long-term forward rate (exposing the insurer to basis risk between the extrapolated rate and the market rate)

There are on-going discussions on the inclusion of a "matching adjustment" within the risk discount framework under Solvency II. To the extent that insurance companies are able to hold these gilts within asset portfolios that could qualify for a "matching adjustment" (for example, assets backing annuity business), there would be less impact on insurance company demand for these gilts.

There is little demand currently from pension funds or insurance funds for perpetual gilts. While this may, in part, reflect the lack of availability of perpetual gilts (the issues available are extremely small size and illiquid), it also reflects the fact that a perpetual gilt is not a particularly good hedge for a typical profile of projected pension cash flows. A better hedge can be constructed using a combination of gilts with defined maturity dates across the yield curve.

In addition, under the latest draft Solvency II text, if an asset portfolio is to qualify for a “matching adjustment”, it cannot hold bonds that have embedded issuer options and, so, perpetual bonds could not be held in these portfolios.

There may be some demand for super-long or perpetual gilts from other hedging investors (e.g. funds to provide for decommissioning nuclear power stations) and we would encourage the DMO to explore some of these sources.

If super-long gilts or perpetual gilts are issued there may be some demand from more speculative investors. However in the absence of demand from hedging investors, these speculative investors would be likely to demand a yield premium to invest in significant size.

## **2. To what extent would demand for super-long and perpetual gilts translate into more cost-effective financing for the Government relative to existing instruments?**

Given the current historically low levels of yields across the curve, there would seem to be sense, from a funding perspective, in issuing super-long or perpetual gilts at these yields, provided there is sufficient demand.

The assessment of “cost-effective” that has been used is that of yields being lower than market expectations of long-term future interest rates.

Given that, it is worth noting that the risk discount rate framework within the Solvency II regulatory regime (and, in particular, the use of a prescribed long-term forward rate in the extrapolation approach) could drive changes in market rates and, as a result, the cost effectiveness of any issuance of super-long gilts. As an illustration, the recent changes in discount rates for Dutch and Danish pension funds, to a basis similar to that of Solvency II, led to changes in the shape of the Euro swap yield curve.

## **3. How would issuance price relative to existing ultra-long gilts?**

If a new 60 year bond were issued, we believe there would be incremental demand for it, as mentioned under question 1. We think it is likely that it would price on a similar basis to the existing 2060 gilt.

If the maturity were much later (e.g. 100 years), there would be greater uncertainty in pricing, given the lack of obvious demand for bonds of such a long maturity.

If a perpetual bond were issued, the yield on existing perpetuals could provide a reference point. However, we would anticipate that a new perpetual would be issued in significantly larger size than the outstanding stock of perpetual gilts. Pricing would probably then be affected by the greater liquidity of the new issue, and also by a change in the balance of supply and demand for perpetual gilts.

## **4. To what extent would issuance of super-long and/or perpetual gilts displace demand for existing ultra-long gilts?**

Both the current longest dated conventional and index-linked gilts attract some extra demand by virtue of being the longest dated bond available. However, this is not thought to have a substantial impact on pricing as any distortion observed in the end of the yield curve appears very small. Some of the demand for the longest conventional gilt would switch to a new super-long gilt simply by virtue of it being the longest maturity bond available, but this is not likely to have a major impact on demand for the current longest dated gilt. Similarly, if a new longest dated index-linked gilt were issued it would take some of the demand away from the current longest dated index-linked gilt.

If new perpetual gilts are issued in a substantially larger volume than the existing perpetual gilts in issuance, this could displace demand for the existing gilts due to greater liquidity with the new gilts. In this event, we suggest that it would seem sensible to offer terms to switch the existing perpetual gilts into the new perpetual gilt, to remove the current situation of a number of very small, illiquid issues.

## **5. How sustainable would demand be for super-long and perpetual gilts?**

Initially, demand would be as described above. However, we would expect there to be limited additional future demand from defined benefit private pension plans, because most of these funds are now closed to new entrants or active service and the liabilities will run-off over time. Similarly, there may be a small amount of initial demand from insurance companies writing annuity business. However, as retirement patterns change – for example, people retiring later or making use of drawdown facilities on their pension - the age that people purchase annuities is likely to be later, resulting in a shorter expect term for insurers' annuity liabilities. Therefore, for annuity businesses, any need for gilts longer than 50 years is likely to disappear altogether.

There could be some future additional demand from funded public sector schemes that remain open to new entrants, to the extent that these funds adopt liability driven investment strategies.

## **6. If the longest maturity at which the Government issues conventional and index-linked gilts was to be extended, at which new maturities would there be most potential demand for issuance?**

We would expect the greatest demand to come from an incremental increase in the longest dated bonds available, i.e. the new issue would be expected to attract greatest demand if it were targeted at around 55-60 years maturity.

## **B. Supply of new instruments**

### **7. How should the Government seek to integrate issuance of super-long and/or perpetual gilts within its existing issuance programme?**

The DMO could look to extend the yield curve out from current longest gilt, by 5 or 10 years at a time. Once the yield curve had been extended as far as demand would permit (which may in fact be only 60-70 years rather than 100 years), the DMO could look to fill in the gaps left (i.e. 5, 15, 25 years beyond current longest maturity if extend 10 years at a time).

Once a 60 year conventional gilt has been issued, the DMO could consider issuing a 60 year index-linked gilt. This would have greater potential for market impact, due to the very long duration of the bond, and there would be demand for it, as a large proportion of very long dated pension liabilities are inflation linked. However, the DMO may wish to resolve the question of whether future index-linked gilt issuance should be linked to RPI or CPI before issuing a new longest dated index-linked gilt.

If super-long index-linked gilts are to be issued, it may make sense to issue a super-long conventional gilt ahead of an index-linked gilt at each maturity, so that at least the nominal yield curve is defined and the inflation breakeven is the main variable in pricing the new index-linked gilt. Although, as highlighted above, the additional demand for index-linked gilts may also impact on pricing.

The case for new perpetual gilts is weaker. However, if these are to be issued, we would suggest that liquidity could be maximised by offering just one new perpetual gilt and to offer switching terms for all existing perpetual gilts into it as a tidying up exercise. Given the lower expected demand, this would probably be lower priority than super-long conventional and/or index-linked gilts at the 60 year maturity.

It seems unlikely that there would be demand for a perpetual index-linked gilt. Based on the current yield curve this would theoretically have an infinite price.

**8. If the Government proceeds with issuance of super-long gilts, how much should it seek to supply per financial year?**

In order to avoid distorting the current supply/demand balance along the yield curve, the issuance should reflect the likely demand from hedging investors for super-long gilts. We believe that supplying up to around 3%-5% of the new issuance of gilts with super-long gilts could fit with the demand currently arising from pension liability hedging investors. It may be that super-long gilts are issued as a greater proportion of the total initially (e.g. 10%) to build up size, but care should be taken to manage the overall maturity profile of gilt issuance.

If we assume the total defined benefit pension liability is £2 trillion, then maybe £50 billion to £100 billion of that would be in respect of maturities currently greater than 50 years. This could be a useful guide to the eventual size of the super-long gilt market, allowing for the point made under question 5 about limited future demand from defined benefit pension schemes and annuity funds. However, if the DMO is to avoid excessive concentration of gilt issuance to the super-long maturities, this would likely take a long time to build up (>10 years), by which time the demand from pension funds may have reduced significantly. There is a risk that if we experience higher yields or a steeper yield curve in years to come, this sector becomes less attractive over time to the Government from a funding cost perspective.

**9. Should the yield curve be extended gradually through issuance of superlong gilts, or are there specific maturities at which issuance should be directed?**

Gradual extension of the yield curve would seem the most sensible approach, as it would minimise disruption. The amount of issuance of super-long gilts could be adjusted over time to reflect actual patterns of demand observed.

**10. If the Government proceeds with issuance of perpetual gilts, how much should it seek to issue and over what period of time?**

At this stage we do not envisage a significant demand for perpetual gilts.

**11. What would be the appropriate method(s) of issuance of super-long and perpetual gilts?**

The recent policy of issuing new long dated conventional and index-linked gilts by the syndication approach has been effective, and it would seem sensible to maintain this approach for new super-long and/or perpetual gilts.

## **C. Risks of issuance**

### **12. To what extent would issuance of super-long and/or perpetual gilts risk fragmenting long-dated or index-linked gilt supply or liquidity? What steps, if any, could the Government take to minimise this risk?**

The introduction of super-long and/or perpetual gilts would need to fit in with the overall management of the maturity profile of gilt issuance, as is currently the case for new issues. Provided that this is well managed and the rate of issuance is not too high, it should not cause serious problems of fragmentation of supply or liquidity.

In particular, we would suggest that:

- The DMO should limit other long dated issuance in the weeks before or after the introduction of a new super-long or perpetual gilt.
- The size of the initial issue should not be so large as to bring an excessive total duration of new gilts to the market, which could lead to a supply/demand imbalance.
- If super-long index-linked gilts are to be issued, this should happen after a conventional gilt has already been issued at a similar maturity (for the reason described under question 7).

### **13. Are there any other issues and risks that the Government should be aware of in launching super-long or perpetual gilts? If so, how might any such risks be managed and what is their relative importance in determining which (if any) instruments to issue?**

There may be a risk of a negative market reaction, because it is not common for the bonds to be issued at such long maturities, or perpetual bonds. This risk could be mitigated by initially focusing super-long issues in a maturity sector where there is clearly identified demand from the UK pensions market (for example, 60 years).

## **D. Instrument design**

### **14. Are there any changes that should be made to the design of conventional or index-linked super-long gilts relative to existing instruments?**

We make no suggestions for changes to the design of conventional gilts.

If super-long index-linked gilts are to be considered, it would make sense to try and find a long term answer to the question of whether future issuance should be linked to RPI or CPI before commencing issuance.

### **15. If the Government were to issue new perpetual gilts, how should they be structured? What key features should be included in their design? What features should be avoided?**

It would be desirable to offer switching terms to consolidate existing perpetual gilt issues into any new perpetual issue, so that liquidity is maximised.

## **E. Lead time required prior to issuance**

### **16. What would be the lead time required by Gilt-edged Market Makers (GEMMs) and investors before issuance of either super-long or perpetual gilts could take place?**

The market is aware of the possibility of super-long and/or perpetual gilt issuance, and liability hedging investors are accustomed to incorporating new issues into their hedging programmes, so we would suggest that three months lead time should be sufficient for investors.

## **F. Market maker responsibilities**

### **17. If the DMO were to issue either super-long or perpetual gilts, should the roles and responsibilities of the GEMMs be identical to those for existing gilts?**

Yes.

## **G. Gilt market management**

### **18. What should be the implications, if any, for existing undated gilts should the Government decide to launch a new perpetual gilt?**

We would suggest that holders of existing undated gilts should be offered fair terms to switch these into the new perpetual gilt, so they are not disadvantaged by the risk of liquidity in the existing perpetual gilts becoming even worse than at present.