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UNITED KINGDOM
DEBT MANAGEMENT OFFICE

**Index-linked Gilt Switch Auctions:
Response to Consultation**

10 May 2001

UK DEBT MANAGEMENT OFFICE

Response to the DMO's Consultation Paper on Index-linked Gilt Switch Auctions

Introduction

The DMO received 11 responses to its consultation paper on index-linked gilt (IG) switch auctions, published on 12 March 2001. Nine index-linked gilt-edged market makers (IG GEMMs) and 2 investment funds responded. The DMO is grateful for the constructive feedback received from gilt market participants.

2. All respondents welcomed the concept of extending the switch auction framework to IGs, for the specific purpose of facilitating index-tracking as a particular stock falls out of a significant maturity bracket¹. There were no dissenting opinions on proceeding along the lines outlined in the original consultation paper, but some of the details of the proposals prompted debate. The DMO has adapted some of the proposed features of IG switch auctions in the light of these comments. A summary of the final framework for the conduct of IG switch auctions is given in Annex A (including those features of conventional stock switch auctions which will also apply to IGs). Annex B provides some worked examples of the IG switch auction allocation calculation, and Annex C sets out the methodology for IG switch taps.

3. Any questions on this paper should be addressed to Gurminder Bhachu, UK Debt Management Office, 138 Cheapside, London EC2V 6BB; telephone no. (020) 7862 6512; e-mail gurminder.bhachu@dmo.gov.uk.

¹ As part of its forthcoming consultation exercise on potentially re-designing IGs, the DMO expects to seek views on whether (and if so, the extent to which) the existing stock of IGs should over time be converted or switched into issues based on any new design. This potentially opens up a wider role for IG switch auctions, on which further views will be sought in the IG design consultation.

IG switch auction in July 2001

4. Subject to the views expressed at the market consultation meetings on 18 June 2001, **it is the DMO's intention to hold an IG switch auction out of 2% IL 2006 in the second half of July 2001.** The DMO will also consult market participants about the date, size and destination stock of this IG switch auction; these details will then be announced with the quarterly issuance announcement at 3.30pm on Friday 29 June 2001. The DMO will refrain from transacting in 2% IL 2006 via the IG Shop Window from 3.30pm on 10 May 2001 until 1½ weeks after the IG switch auction (see 'DMO secondary market activities' below).

Discussion of specific proposals

5. Size range. **Initial proposal:** the size range of such an offer should be **£250 million to £750 million nominal of the source stock.** Most respondents were reasonably comfortable with the proposed size range. Some, however, thought that the DMO should err on the low side, whereas others were of the view that the DMO should increase the upper limit to £1 billion nominal. Given the roughly even split between those suggesting smaller switches and those suggesting larger ones, and the fact that, in cash terms, a £1 billion nominal switch auction out of most IGs (including 2% IL 2006) would be larger than the maximum allowable conventional switch auction (and therefore a large risk event in a less liquid market), the DMO has decided to adopt the originally suggested size range. This allows sufficient flexibility whilst offering comfort that the DMO would not consider switching a substantial proportion of a stock in one operation.

Conclusion: the size range for IG switch auctions will be **£250 million to £750 million nominal of the source stock.**

6. Size of remaining source stock after switch auctions. **Initial proposal:** the DMO would not hold an IG switch auction for a stock that would

reduce the amount in issue to below £1.5 billion nominal. The DMO received one comment on this proposal. It pointed out that the DMO's proposed minimum remaining size of £1.5 billion nominal would not provide sufficient switching opportunity out of 2% IL 2006 (because it judged that at least £1bn nominal should be switched longer out of this stock). It suggested setting the remaining size limit in cash terms (this would be useful if future switches were to be made out of stocks trading at a lower price), and that this floor figure should be £2.5 billion cash.

7. If a total of £1 billion nominal of 2% IL 2006 was switched longer, that would amount to about 40% of the stock, and the DMO would prefer not to switch more than that. It also prefers to maintain the consistency and simplicity of expressing the size range in nominal terms. The suggested cash measure has the disadvantage of not providing a well-defined limit as this depends on the price source used and varies from one day to the next.

***Conclusion:* the DMO will not hold an IG switch auction for an amount of stock that would leave the resultant amount outstanding in the stock at less than £1.5 billion nominal.**

8. Maturity brackets. ***Initial proposal:* the DMO would apply the following different maturity brackets for IGs: short (0-7 years) and medium/long (over 4½ years).** All respondents were reasonably comfortable with the proposed maturity brackets, although none had any particularly strong opinions on this issue. Some respondents questioned the need for the shorter bracket: it was stated that the DMO already uses a facility to buy back short-dated IGs over the desk, so there would be no cash management need for shorter-dated switches. Two IG GEMMs recommended that the DMO retain maximum flexibility in these operations and adopt no brackets at all.

9. Whilst retaining maximum flexibility does hold advantages for the DMO, it believes that in order to provide transparency in its operations and the

decisions underpinning them, it does need to set parameters for its operations. In the case of IG switch auctions, the specification of (a) maturity bracket(s) which mirror the most heavily tracked index naturally follows from the primary rationale for conducting such operations. The DMO also agrees that there does not seem to be any need for the shorter bracket.

***Conclusion:* the DMO will adopt one maturity bracket of over 4½ years within which IG switch auctions are permitted.**

10. Auction format. A number of views were considered in relation to the auction format. Some respondents attached greater significance to the parallels between IG switch auctions and conventional switch auctions while others saw more parallels with outright IG auctions. The arguments in favour of a uniform price format for outright IG auctions also largely hold for IG switch auctions. Under a bid-price format, the winner's curse would still exist, and be represented in the yield spread paid. On balance the DMO feels that it will be appropriate to launch this operation by adopting a uniform price format. This should encourage participation and reduce risk in a market with few suitable hedging instruments. However, the DMO will monitor the outcomes of bidding behaviour and keep the format under review.

***Conclusion:* IG switch auctions will be conducted on a uniform price format. The DMO will keep the auction format under review.**

11. Multiple destination stocks. This was suggested by four respondents but dismissed by another. Those in favour explained that index-matching funds which choose to match the index exactly will need to sell their holdings of the source bond and invest in the correct market value weighted proportions in every other bond in the over 5 year index. However, the DMO believes that a multiple destination stock feature would add considerably to the complexity and uncertainty of the process, and there would be no guarantee that a participant would be allocated stock in the desired proportions.

12. Multiple source stocks. A small number of respondents made the suggestion of switching a range of source stocks into one longer destination stock. The motivations for this were that there might be interest in switching 2½% IL 2001 (which redeems in September 2001) as well as 2% IL 2006 into a medium-dated IG; and that the key demand caused by the index lengthening will be for duration, and this demand will be sourced from a range of stocks. Following on from the latter point, the respondent questioned whether many *active* investors are holders of the 2% IL 2006, given its expected under-performance.

13. Given the DMO's purchases of near-maturity gilts over the desk over the last six months of their existence, the DMO is of the view that there is no pressing cash management need to carry out a switch auction out of a maturing IG. For those investors looking to re-invest their redemption monies back into IGs, the DMO's regular auction schedule provides an opportunity. Moreover, the passive tracking group will be looking to sell the one bond which is about to fall out of the index, and re-invest the cash back into the index.

Conclusion: IG switch auctions will be out of a single source stock into a single destination stock.

14. IG switch taps. Feedback on this was mixed. Whilst some welcomed the option of using IG switch taps, a small minority were inclined for them not to be used at all. One preferred that their use to be kept to a minimum, whilst another requested reassurance that any IG switch tapping could be either shorter or longer.

15. As with outright taps (and conventional stock switch taps), the DMO envisages employing IG switch taps only in exceptional circumstances, for market management purposes. As such, adding this operation to the DMO's armoury does not signal a more interventionist approach.

Conclusion: IG switch taps will be added as an operation available to the DMO, with an upper limit of £250 million nominal of source stock. As with outright taps, this operation will be deployed only in exceptional circumstances, for market management purposes. Any IG switch tapping could be either shorter or longer, depending on the nature of the market distortion; and the maturity bracket for IG switch auctions will not apply for IG switch taps given that the underlying cause of the severe market distortion could be unrelated to stocks falling out of indices. The DMO will refrain from switch tapping out of the source bond or into the destination bond from the time when any IG switch auction has been announced (usually at the end of the previous quarter) to three weeks after the IG switch auction, and will refrain from *any* switch tapping for a period of three weeks either side of an IG switch auction (see 'DMO secondary market activities' below). IG switch taps will be conducted on a uniform price basis.

Additional features of IG switch auctions

16. DMO secondary market activities. **The DMO will refrain from certain secondary market activities around IG switch auctions.** It will refrain from:

- outright sales and purchases and switches in the source bond once the IG switch auction has been announced (usually at the end of the previous quarter) to 1½ weeks after the IG switch auction (this includes switch tapping out of the source bond);
- outright sales and purchases and switches in the destination bond once the IG switch auction has been announced (usually at the end of the previous quarter) to 1½ weeks after the IG switch auction (this includes switch tapping into the destination bond);
- outright sales and purchases (via the IG Shop Window) in the other medium and longer IG stocks in the period 1½ weeks either side of an IG switch auction;

- tapping or switch tapping *any* IG in the three weeks either side of an IG switch auction.

17. Switching out of a recently auctioned bond. The conventional switch auction framework states that a stock will not be a source stock in a switch auction within eighteen months of its last auction date. Given that the DMO issues into benchmark stocks in the conventional sector, with the aim of building a small number of large, liquid issues, possibly by using switch auctions out of a range of bonds, this policy is appropriate for conventional bonds. However, in the index-linked sector the DMO currently issues into all stocks across the range of medium and longer maturities. This rule, therefore, would be too rigid if applied to IGs. The DMO has determined that **an IG will not be made a source stock for an IG switch auction within six months of its last auction date.**

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Annex A: Summary of the framework for the conduct of IG switch auctions

Candidate stocks:

- The DMO will not hold an IG switch auction for an amount of stock that would leave the resultant amount outstanding in the stock at less than £1.5 billion nominal.
- IG switch auctions will not be used as a means to issue entirely new stocks to the market. The DMO will not hold an IG switch auction into a stock that has been auctioned outright less than 21 days earlier unless both such auctions had previously been announced in a regular DMO quarterly auction announcement. An IG will not be switched out of by auction within six months of its last auction date.
- The DMO will only hold IG switch auctions where both the respective stocks are within the same maturity bracket: 4½ years and over.

Size of IG switch auctions:

- The size range of an IG switch auction will be £250 million to £750 million nominal of the source stock. A maximum allocation limit at IG switch auctions may be considered on a case-by-case basis depending on the circumstances of the IG switch auction in question.

Timetable for the conduct of an IG switch auction

- The possibility of using IG switch auctions will be specified in the Treasury's annual remit to the DMO published in the Debt and Reserves Management Report.
- The DMO will preannounce the auction and settlement date(s) of IG switch auction(s) in the quarterly auction calendar, including the stocks involved. This will follow the usual consultation with market participants at the relevant quarterly meetings.
- At 3.30pm on the Tuesday of the week prior to the IG switch auction, a press notice will be issued confirming the details of the IG switch auction, settlement details, maximum size and whether any limit on maximum allocation will apply. However, given the uncertainty over the amount of the destination stock to be created as a result of the IG switch auction, this stock would not be created and listed until settlement (as with a standard conversion offer or conventional switch auction). Consequently, a formal 'when-issued' market in the new stock will not exist.

- On the IG switch auction day:
 - At 10am, the DMO will publish on its wire service screens a fixed clean price for the source stock involved in the IG switch auction.
 - Between 10.00am and 10.20am, Index-linked Gilt-edged Market-Makers (IG GEMMs) will be allowed an unlimited number of telephone bids to switch a nominal quantity of the source stock at the price announced by the DMO into the destination stock at a clean price of the destination stock.
 - Between 10.20am and 10.30am, IG GEMMs will be allowed up to 10 telephone bids to switch a nominal quantity of the source stock at the price announced by the DMO into the destination stock at a clean price of the destination stock.
 - Before accepting any bids, the DMO will be mindful of fair value in the market and reserves the right not to switch upto the full amount on offer. Any shortfall from the pre-announced maximum simply means that less of the destination stock will be created.
 - By 11.10am, the DMO will aim to publish the results of the IG switch auction. This will include the common allotment clean price of the destination stock, and its dirty price ratio equivalent; the percentage allotted of the bids at the common allotment price; the nominal amount of the source stock to be switched; the nominal amount of the destination stock that will be created as a result; and the new amounts outstanding following the IG switch auction.
- Settlement of the IG switch auction (and cancellation of the source stock purchased) will normally occur on the following business day unless specified otherwise.

DMO secondary market activities

- The DMO will refrain from certain secondary market activities around IG switch auctions. It will refrain from:
 - outright sales and purchases and switches in the source bond once the IG switch auction has been announced (usually at the end of the previous quarter) to 1½ weeks after the IG switch auction (this includes switch tapping out of the source bond);
 - outright sales and purchases and switches in the destination bond once the IG switch auction has been announced (usually at the end of the previous quarter) to 1½ weeks after the IG switch auction (this includes switch tapping into the destination bond);

- outright sales and purchases (via the IG Shop Window) in the other medium and longer IG stocks in the period 1½ weeks either side of an IG switch auction;
- tapping or switch tapping *any* IG in the three weeks either side of an IG switch auction.

Annex B: Worked example of an IG switch auction bid and settlement

As a worked example, assume that an IG switch auction had been conducted out of 4 3/8% IL 2004 into 2½% IL 2016 on 22 October 1999 with the following parameters:

- Maximum nominal amount of 4 3/8% IL 2004 for switching: £500 million.
- Clean price fixed by the DMO for 4 3/8% IL 2004: £127.65 (dirty price for next business day settlement - £127.708356).
- Accrued interest for 2½% IL 2016 for next business day settlement: £1.254217 per £100 (nominal).
- Individual bids to comprise the following pairing: clean price for 2½% IL 2016 and nominal quantity of 4 3/8% IL 2004 (in £1 million units) offered.

Assume that an IG GEMM offered £10 million (nominal) of 4 3/8% IL 2004, and that the common allotment clean price of 2½% IL 2016 was £204.71.

Case 1: Bid is successful with no scaling required (i.e. the clean price £204.75 (say) bid for 2½% IL 2016 is greater than the common allotment price)

The nominal quantity of 2½% IL 2016 allocated is derived as follows:

$$\begin{aligned} (1) \text{ Effective dirty price ratio} &= \text{dirty price of } 4 \frac{3}{8}\% \text{ IL } 2004 / \text{dirty price of } \\ &\quad 2\frac{1}{2}\% \text{ IL } 2016 \\ &= £127.708356 / [£204.71 + 1.254217] \\ &= 0.6201 \text{ (when rounded to 4 decimal places)} \end{aligned}$$

$$\begin{aligned} (2) \text{ Nominal } 2\frac{1}{2}\% \text{ IL } 2016 \text{ allocated} &= (1) * \text{Nominal } 4 \frac{3}{8}\% \text{ IL } 2004 \text{ offered} \\ &= 0.6201 * £10,000,000 \\ &= £6,201,000 \end{aligned}$$

Case 2: Bid is successful but scaling of 60% is applied (i.e. the clean price bid for 2½% IL 2016 is equal to the common allotment price)

The nominal quantity of 2½% IL 2016 allocated is derived as follows:

$$\begin{aligned} (1) \text{ Effective dirty price ratio} &= \text{dirty price of } 4 \frac{3}{8}\% \text{ IL } 2004 / \text{dirty price of } \\ &\quad 2\frac{1}{2}\% \text{ IL } 2016 \\ &= £127.708356 / [£204.71 + 1.254217] \\ &= 0.6201 \text{ (when rounded to 4 decimal places)} \end{aligned}$$

$$\begin{aligned} (2) \text{ Nominal } 2\frac{1}{2}\% \text{ IL } 2016 \text{ allocated} &= (1) * \text{Nominal } 4 \frac{3}{8}\% \text{ IL } 2004 \\ &\quad \text{offered} * \text{Scaling factor} \\ &= 0.6201 * £10,000,000 * 0.6 \\ &= £3,720,600 \end{aligned}$$

Annex C: Methodology for IG switch taps

The choice of IG switch tap stocks would be constrained by the same considerations as for IG switch auctions, except that the maturity bracket would not apply to IG switch taps. However, an IG switch tap would be announced at short notice and would be limited to a maximum of £250 million nominal of the source stock. The tap result and allocation would be calculated on a uniform price basis. The DMO would not publish a minimum price for the destination stock but would reserve the right not to allot bids if they were at too great a discount to prevailing market terms. Given the greater complications of bidding at an IG switch tap, the DMO would give more notice than for an outright tap of stock.

Timetable

Day preceding the IG switch tap:

3.30pm: The DMO announces its intention to switch tap including the source gilt against which the switch will occur; the destination stock; and the maximum nominal amount of the source gilt allowable for switching. The DMO has the discretion to impose a per IG GEMM allocation limit.

Day of the IG switch tap:

10.15am: The DMO announces the clean price of the source stock at which it will settle the switch.

10.45am: Opening of bidding by IG GEMMs. Bids comprise nominal quantities offered of the source stock (in units of £1 million), and the clean prices bid for the destination stock (to 2 decimal places). IG GEMMs would be limited to a maximum of six bids.

10.50am: Close of bidding.

As soon as practicable after 10.50am: Publication of IG switch tap results. The DMO would publish on the screens the nominal amount of the source gilt offered and the nominal amount successfully switched, the nominal quantity of the destination gilt created, the new amounts outstanding following the IG switch tap, and the striking (clean) price of the destination gilt. Settlement and creation of the new stock would be next business day. Source stock that was successfully switched would be cancelled at the same time as the new stock was created.

In the tap process, the bids would be ranked as usual. The bids would be filled from the top but the striking price would be calculated on a uniform price basis (as with outright taps). The nominal quantities of the destination stock created and allocated to each IG GEMM would be calculated as the ratio of the dirty prices of the two gilts, which would be rounded to the nearest 4th decimal place as with IG switch auction dirty price ratios, multiplied by the nominal quantity of the source stock.

The DMO reserves the right not to allot bids if they were at too great a discount to prevailing market terms. If the IG switch tap attracted insufficient demand to clear at an acceptable price, the remainder of the destination stock would not be created, and an announcement made to this effect.