GILT REVIEW 1997-98

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Overview

This report, the first to be published by the UK Debt Management Office, continues a series begun by the Bank of England and reviews the major developments in the gilt market in the past financial year. 1997-98 saw fundamental changes to the institutional monetary policy framework in the UK and a new proposed structure for the way that the UK Government manages its debt portfolio and cash position.

A NEW STRUCTURE

On 6 May 1997, the new Government announced that responsibility for the setting of official interest rates was being transferred from the Treasury to the Bank of England. As a corollary it also announced that the Bank's role as the Government's Agent for debt management, cash management and oversight of the gilts market was being transferred to the Treasury. The objectives were to ensure that debt management decisions could not be perceived to be influenced by inside information on interest rate decisions, and to increase transparency in debt management and cash management operations.

Following the announcement, the Treasury conducted a detailed consultation exercise on the future of UK Government debt and cash management operations, and in December 1997 Treasury Ministers announced that UK Government debt and cash management operations would be undertaken by an Executive Agency of the Treasury to be called the Debt Management Office (DMO).

The DMO was established on 1 April 1998. It took on responsibility for all official operational decision-making in the gilts market from this date. See box below for more details about the DMO.

The DMO will not take over active cash management until October 1998 at the earliest. Details of the proposed cash management operations will be announced in due course.

The remit for the DMO's operations in 1998-99 was set out in the Debt Management Report published on 19 March and as revised on 11 June (see chapter 2B below). The Chief Executive of the Debt Management Office reports to Treasury Ministers on the delivery of the Remit. The precise relationship of the DMO to the Treasury is set out in a "Framework" Document published in March 1998.

MARKET OVERVIEW

1997-98 was a strong one for the gilt market and bond markets in most other industrialised economies; gilt yields fell sharply, particularly at the longer end, where they fell by some 200 basis points to the lowest levels since the 1960s. In the UK this strength reflected market confidence that the Government's decision to give interest rate responsibility to the Bank of England would result in lower future inflation, as well as an improving fiscal position. UK gilts also benefited from the wider perception that global inflationary pressures were being contained and from safe haven status from the turbulence in Far Eastern markets later in the year.

UK DEBT MANAGEMENT OFFICE: STRUCTURE AND OBJECTIVES

The DMO was set up following the Chancellor's statement of 6 May 1997 with the aim:

"…to carry out the Government's debt management policy of minimising its financing cost over the long term, taking account of risk, and to manage the aggregate cash needs of the Exchequer in the most cost effective way…"

Structure and organisation

In institutional terms, the DMO is legally and constitutionally part of HM Treasury; but, as an executive agency, it will operate at arms length from Ministers. The Chancellor of the Exchequer determines the policy and financial framework within which the DMO operates, but delegates to the Chief Executive operational decisions on debt and cash management, and day to day management of the Office.

The separate responsibilities of the Chancellor and other Treasury Ministers, the Permanent Secretary to the Treasury, and the DMO's Chief Executive are set out in a "Framework Document" that was published at the end of March 1998 just before the DMO was formally established. The Framework Document also sets out the DMO's objectives and targets, and its Chief Executive's lines of accountability. The Chief Executive is accountable to Parliament for the DMO's performance and operations, in respect of both the Office's administrative costs and the Debt Management Account – the warehousing account being established to handle both debt and cash management operations. The DMO's annual remit is set out in the Debt Management Report, published in March 1998.

The DMO has 25 staff, split broadly evenly across primary issuance, secondary market structure and liaison, dealing and analysis, and central services. This number may change a little as the DMO develops its cash management responsibilities. The Bank of England continues to supply gilt settlement and registration services. The DMO's total administrative budget for 1998-99 is £4½ million, although this may reduce somewhat in the future as set up costs fall away.

Objectives and business plan

The DMO has 8 strategic objectives, which flow from its main aim. These objectives are set out in detail in the Framework Document but broadly relate to: meeting the remit; maintaining market liquidity; responding to the demand for new products; providing a high quality service to customers; and developing a successful cash management function. In addition, Ministers have given the Office 7 performance targets for 1998-99. As well as meeting the remit, these include a reduced maximum time taken to issue the results of auctions; to establish the cash management system; to record transactions accurately; to send timely responses to all letters from the public; and to minimise breaches to the procedures set out in the operational market notice.

In May 1998, the DMO published its "Corporate Overview and Business Plan 1998-99". The Corporate Overview develops a strategic framework for the next 3 years, identifying possible changes in the environment, the main aims of the DMO and how it will be organised to meet its policy objectives in the changing content. Over this period the DMO will organise itself, within its agreed resources, to maintain flexibility to respond to external changes; to make good use of its own skills, with highly flexible internal working methods; to liaise closely with the market and regulators; and to be open to new ideas and influences. The Business Plan then focuses in more detail on the activities, priorities and risks in 1998-99.

Copies of the Framework Document, the Corporate Overview and Business Plan and the Debt Management Report are available from the DMO.

Chapter 1

Economic and Market Background

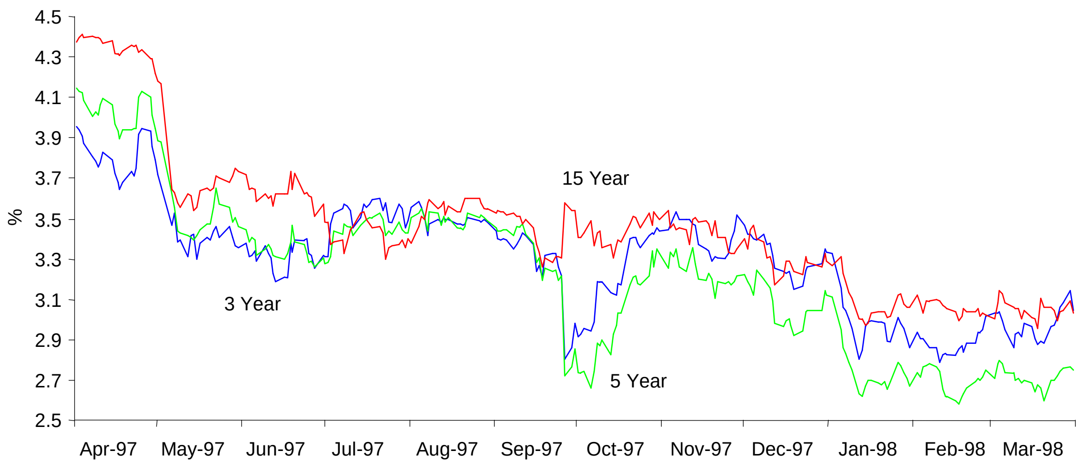
The gilt market was affected a generally benign combination of domestic and international events. Domestically, the change in monetary policy arrangements announced by the Chancellor on 6 May, granting the Bank of England independence in setting interest rates, led to a sharp fall in inflation expectations. Internationally, the UK economy saw an influx of capital as it took on a safe haven status spurred by speculation of a weak euro and a flight to quality after Asian turmoil, starting in the third quarter.

The UK economy

The economy grew above trend throughout the financial year and was dominated by the change in monetary policy at the start of the year in May, strong economic data, rising short term interest rates and strong sterling.

On 6 May 1997 the Chancellor wrote to the Governor of the Bank of England granting full independence in the setting of interest rates to meet the Government's inflation target (confirmed on 12 June as an annual target of growth in RPIX of 2.5%). Also on 6 May the Chancellor announced a ¼% increase in base rates. The reform of monetary policy, distancing interest rate decisions from the political context, led to reinforced expectations that the new Government was committed to low inflation and market expectations of future inflation (as derived from implied forward inflation rate curves) fell.

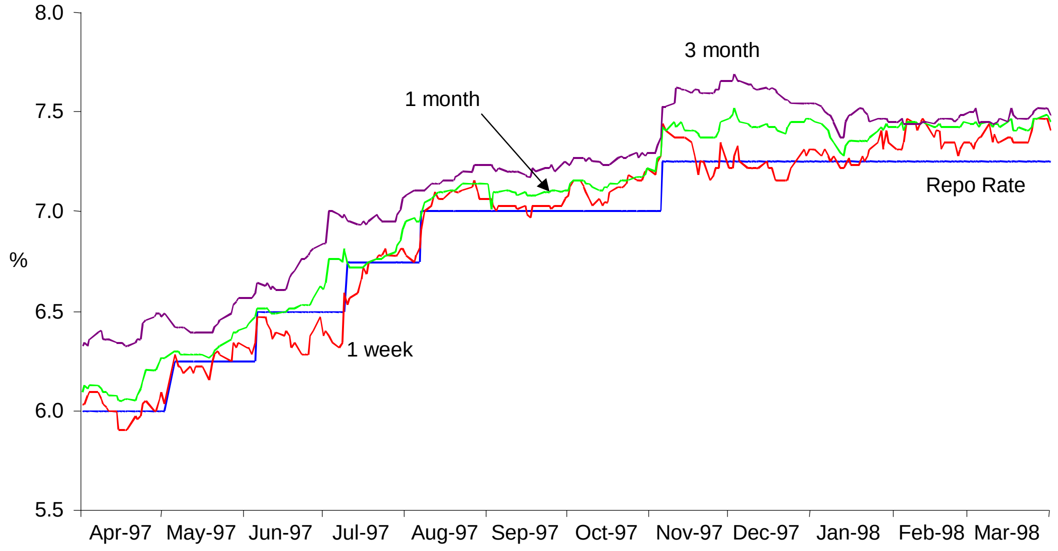
Chart 1 Implied forward inflation rates*



*In 3,5 and 15 years time - derived from inflation term structure

Following its inception, the Monetary Policy Committee of the Bank of England raised interest rates four times over the financial year with the repo rate increasing from 6.25% to 7.25% (see chart 2).

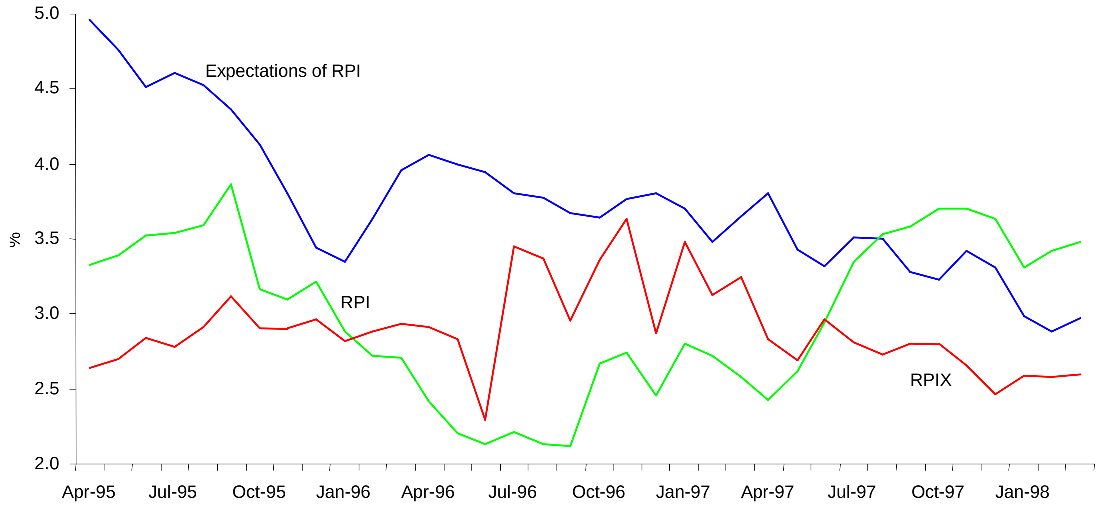
Chart 2 UK interest rates



The July Budget contributed to the downward pressure in gilt yields as markets became aware that the Government's fiscal position in both current and future years was stronger than expected. The 1997-98 Central Government net cash requirement (CGNCR) forecast was revised down from £20 billion to £12.4 billion in the July Budget. The CGNCR forecast was further reduced again to £11.7 billion in the November pre-Budget statement and then again to £6.1 billion in the March 1998 Budget itself. The shrinking CGNCR caused a fall in yields as the market anticipated a reduction in the future supply of gilts. The final outturn CGNCR for 1997-98 was £3.4 billion.

The UK experienced a divergence in measures of inflation in 1997-98. RPI rose over the period rising from 2.4% in April 1997 to a peak of 3.7% in October 1997, before falling to 3.5% in March 1998. Underlying inflation rose slightly over the period from 2.5% in April 1997 to 2.6% in March 1998. This divergence was a direct result of repo rate increases over the period leading to an increase in the mortgage payment component of the RPI. Inflation expectations, as derived from the three year implied forward inflation rates (see chart 1) also fell over the period from 3.8% in April 1997 to 3.0% in March 1998. This partly reflected the Chancellor's announcement on 6 May.

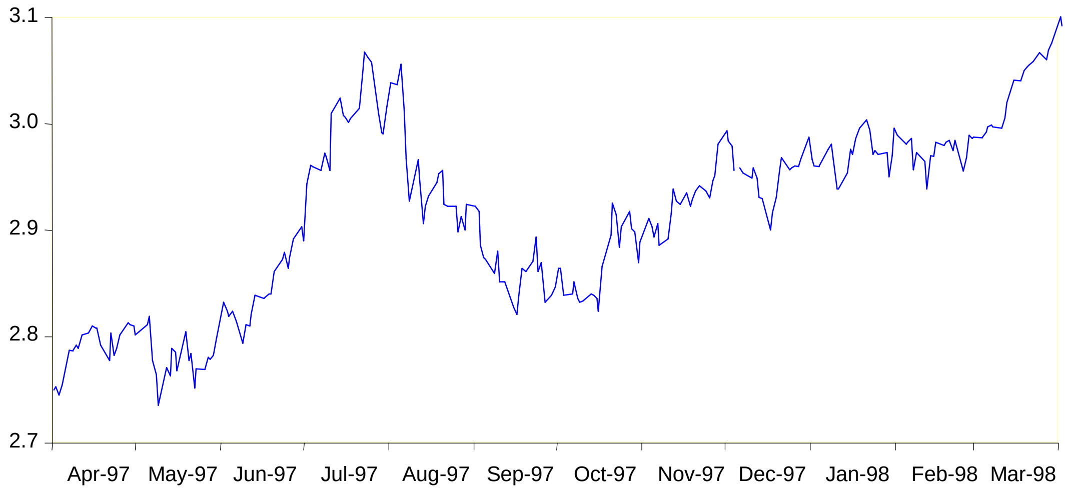
Chart 3 Actual and expected inflation



The UK economy grew by 3.1% in 1997-98 according to Q1 1998 figures. This maintained the growth in calendar year 1997 and represented a significant increase from the 2.5% figure for 1996. However, this growth began to slow in Q1 1998, falling to 3.0% year on year, partly due to high levels of sterling affecting manufacturing output. The service sector continued to grow strongly. Unemployment over the period also continued to fall, with the ILO rate falling 239,000 from April 1997 to March 1998.

Sterling remained strong throughout the period. By the end of the second quarter the pound had risen 24% against its all time low on the exchange rate index in November 1995. The pound gained as a result of speculation about interest rate rises, EMU and Asian economic crises. The pound rose steadily on the back of interest rate rises and strong economic data in June to reach a peak of 3.0625 against the Deutschemark on 24 July. This peak held until 7 August, when an increase in base rates to 7% was accompanied by a Bank of England press release indicating that interest rates had reached a level consistent with the inflation target.

Chart 4 Sterling against Deutschemark

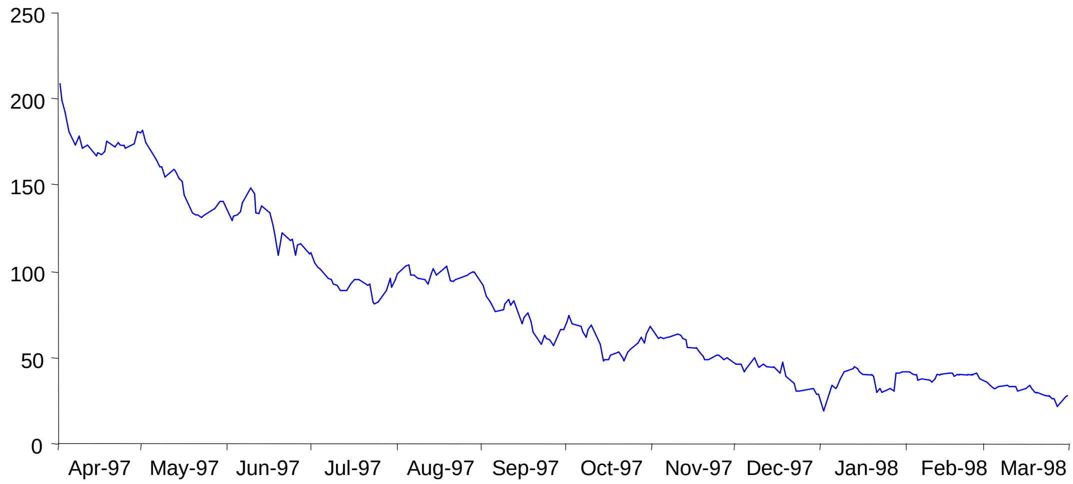


The fourth quarter saw the beginning of a steady and sustained appreciation of sterling, in part reflecting an expectation by the financial markets that the UK would not participate in the first wave of EMU, thereby contributing to 'safe haven' status from potential uncertainties associated with EMU. The Bank's MPC surprised the market on 6 November by increasing the repo rate by a further 25 bp to 7.25%. Sterling continued rising over the first quarter of 1998 on the back of further uncertainty about EMU, the Asian liquidity crises causing 'safe-haven' effects, and strong economic data. All these led to expectations of a further interest rate rise. However, the strength of sterling acted as a brake on the economy, reducing export demand and weakening growth in the manufacturing sector. This, coupled with low import prices, helped to check inflation and reduced the need for further interest rate rises, though speculation of a rate rise ran into financial year 1998-99.

In the second quarter of 1997-98, the markets began to speculate about the prospects for the euro. A statement by the newly-elected French government that employment would be the main priority was interpreted by the market as questioning the application of the Maastricht criteria. The markets were concerned that the French budget and would not be able to bear the cost of employment programmes. The Bundesbank agreed a formula for the Growth and Stability pact, but the markets continued to question their application of the Maastricht criteria. But at the same time the implied confirmation that the euro would go ahead in 1999 reassured financial markets.

The third quarter saw growing uncertainty over the level of German interest rates until the Bundesbank increased repo rates on 9 October. This led to an appreciation in the value of the Deutschemark, which the markets interpreted as a first stage in the convergence of short rates in the Eurobloc. 10 year Italian bond yield spreads against German bunds fell dramatically (see chart 5). Italian and Spanish interest rates also began to converge over the third quarter. However, the markets also became concerned over the cyclical divergence of the Spanish and Italian economies from other European economies.

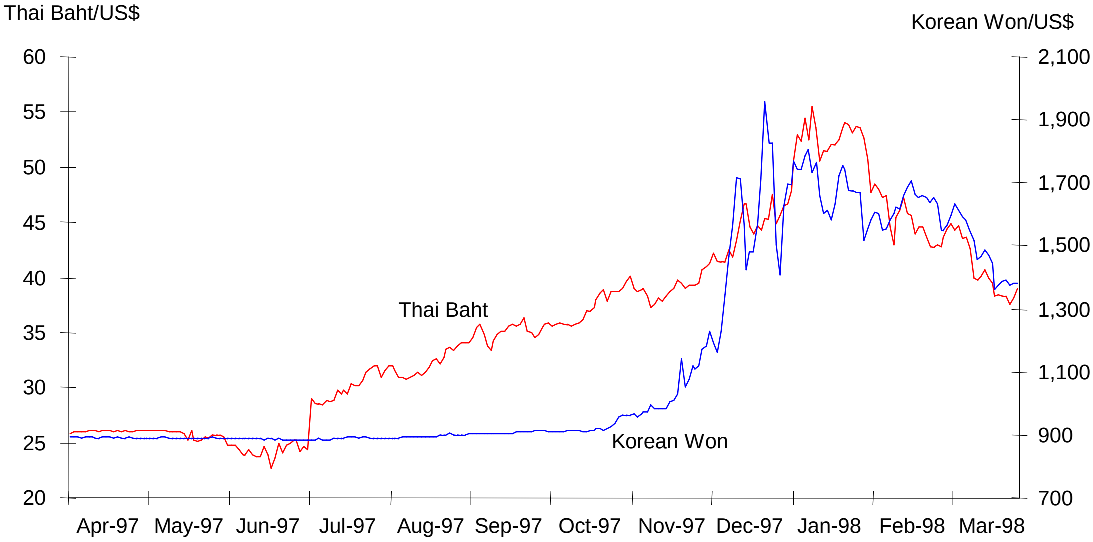
Chart 5 Spread of Italian and German 10-year benchmark yields



The Asian markets also significantly affected the global financial markets. Japan experienced a strong second quarter: the yen increased 9% in effective terms against the dollar as markets revised the expectation of an increase in US interest rates and became concerned over the Japanese trade surplus with the US.

The yen also appreciated after markets took account of the severity of financial difficulties in other Asian countries. The Thai baht came under attack and though this was initially fought off by the Thai authorities, the baht was forced to float on 2 July and fell by 11½% against the US dollar. The Phillipine peso and the Indonesian rupiah quickly followed, while other Asian currencies also fell. In the fourth quarter the Korean won and the rupiah fell around 40% against the US dollar (see chart 6).

Chart 6 Thai Baht and Korean Won against US Dollar



The yen began a slow depreciation from August as markets revised expectations of an increase in Japanese interest rates following a fall in consumer spending. This was the result of fiscal tightening in April, and weakness in the manufacturing sector. However, by the fourth quarter the markets were reassessing the Japanese economy in the light of large fiscal deficits and depreciating exchange rates throughout Asia.

Chart 7 Japanese 10-year benchmark government bond yields

On 24 November 1997 Yamaichi, the fourth largest Japanese bank, announced bankruptcy caused by corruption and bad debts. This prompted a flight to quality as capital moved to UK and US markets. The Japanese authorities announced foreign currency support and fiscal stimuli and this caused an appreciation in the yen in the first half of the first quarter 1998. However, speculation over further bankruptcies in Japan, and subsequent reports of intervention in the foreign exchange markets by the Bank of Japan, caused renewed depreciation to begin again mid-way through the first quarter. However, the Yen remained strong, possibly as a result of low growth rates in high powered money (notes and coins) in Japan.

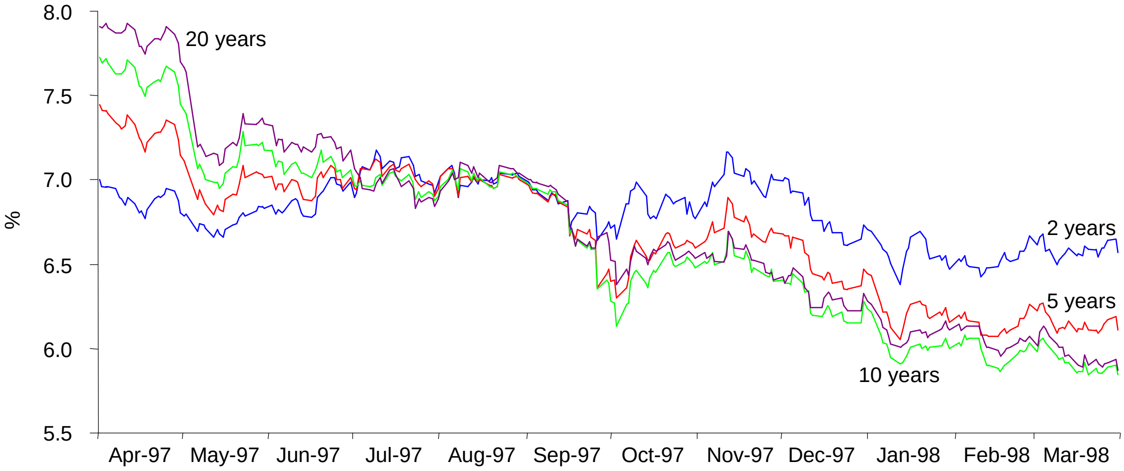
The US market began the financial year on the back of a Fed Funds rate rise from 5.25 to 5.5%. During the second quarter, expectations of a further rise receded as second quarter growth seemed to have slowed relative to the first and consumer prices remained stable. Inflation expectations derived from the ten year yields on TIPS (US Treasury Index Protected Securities) showed a fall over the period. However, changing expectations buoyed the third quarter and led to strong performances from 10 year Treasury yields, which fell 40 basis points, and the equity markets, with the S&P 500 increasing 7%, over the quarter. In August the market began to anticipate a further rate rise after strong NAPM index and non-farm employment data releases, which led to a large fall in long bond prices. However, weaker retail sales in September reassured the market and long bond prices picked up.

The fourth quarter saw the dollar appreciate against the yen and depreciate against the Deutschemark, after an increase in the German repo rate. However, by the first quarter in 1998 expectations of a rate increase began to dominate the market. Initially the markets expected a rate cut, expecting the Asian crisis to have a depressive effect on US trade. This sentiment changed, with a rate increase anticipated as the US equity markets continued to rise, fuelled by liquidity escaping the Asian markets. The buoyancy of equities was seen as reflecting asset prices rising above trend, and wealth effects began to have some impact on the real economy in the US. However, US inflation remained low throughout the year.

THE GILT MARKET

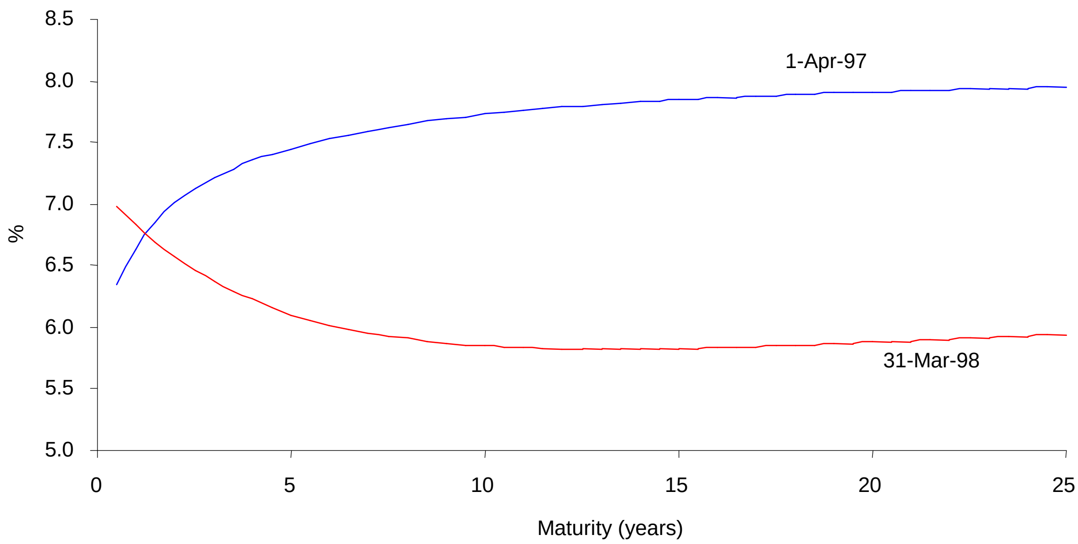
In common with many industrialised countries, 1997-98 saw UK gilt yields fall, particularly at the longer end, where 20 year yields reached their lowest levels since the 1960s. Over the year gilt yields of all maturities fell: mediums fell 79 basis points over the year, shorts fell by 122 basis points and longs by 199. This is illustrated in chart 7 below.

Chart 8 UK zero-coupon gilt yields 1997-8



The UK yield curve reflected the positive market response to the Chancellor's changes on 6 May. There was also a further fall in long gilt yields following the July Budget. The convergence of yields across the curve reflected uncertainty over UK entry into EMU. The conclusion of this uncertainty, following the Chancellor's statement in October, led the market to expect interest rates to rise in the short term relative to the longer term, thus inverting the yield curve. This was reinforced by strong UK economic data causing short term inflation concerns in the first quarter of 1998 with a fall in expected long term inflation. Long term inflation concerns were also alleviated by low US inflation. Chart 9 illustrates the inversion of the yield curve over the financial year.

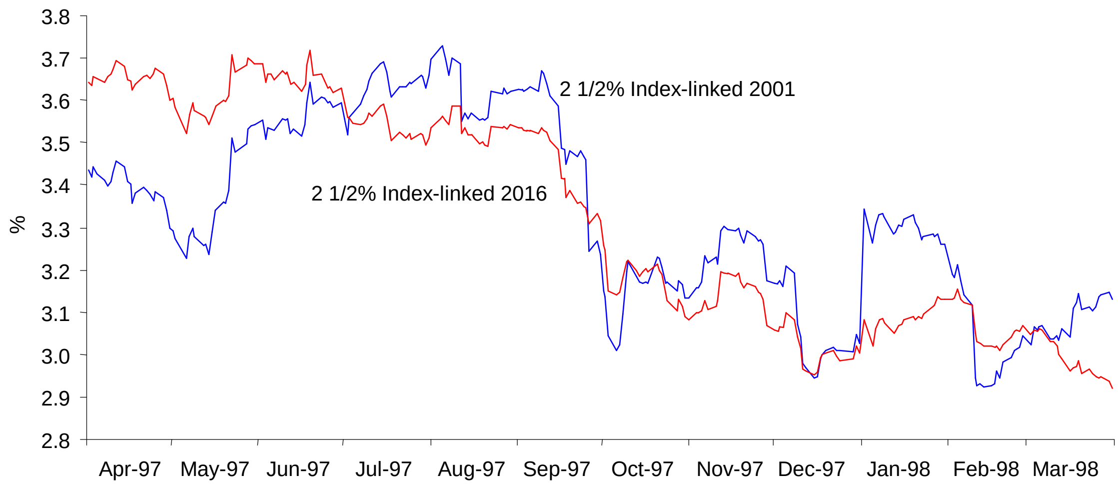
Chart 9 Zero-coupon yield curve at 1 Apr 97 and 31 Mar 98



Index-linked gilts

Index-linked gilt (IG) yields also fell over the financial year. The 2016 yield fell by 72 basis points over the financial year and the 2001 yield fell by 31 basis points. Unlike conventionals, index-linked yields rose after the Chancellor's announcement on 6 May. This was partly due to the increase in short term real yields, following the tightening of official interest rates that accompanied the change in policy, and partly to the fall in inflation expectations reducing the value of insurance from index-linked bonds to hedge inflation.

Chart 10 Short and long index-linked gilt real yields*

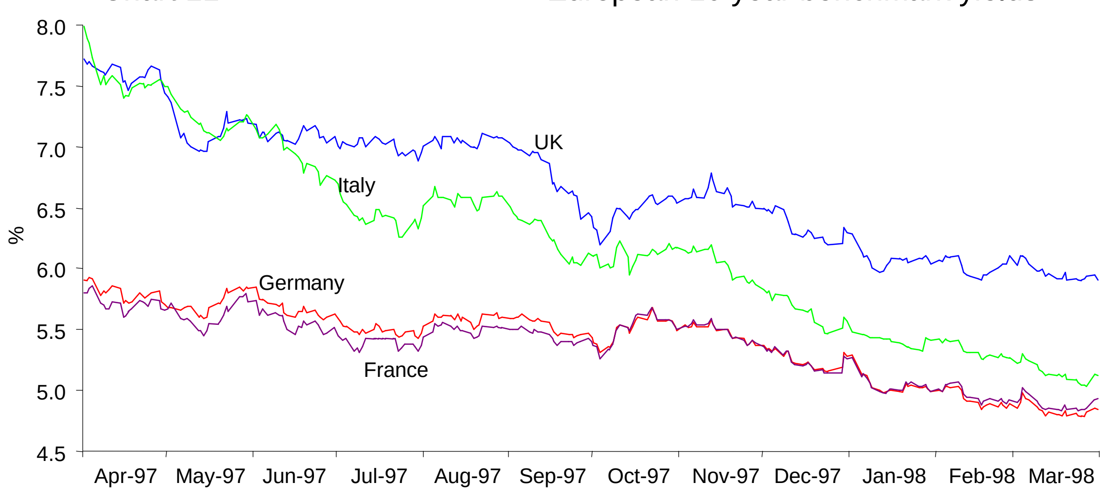


* Inflation assumption used: 3%

International comparisons

The 10 year bond spread between the UK and Germany fell as the UK economy and sterling strengthened and investors became concerned over developments surrounding the establishment of EMU. The UK converged on German bunds, moving from 182 basis points on 1 April 1997 to 102 basis points on 31 March 1998. The UK saw a sharp fall in yields in September as the markets speculated on UK entry into EMU in January 1999 and an early convergence of interest rates to lower central European levels. The spread fell to an in-year low of 88 basis points in this period. To clarify the position the Chancellor made a statement stating the UK was unlikely to enter EMU during this Parliament.

Chart 11 European 10 year benchmark yields

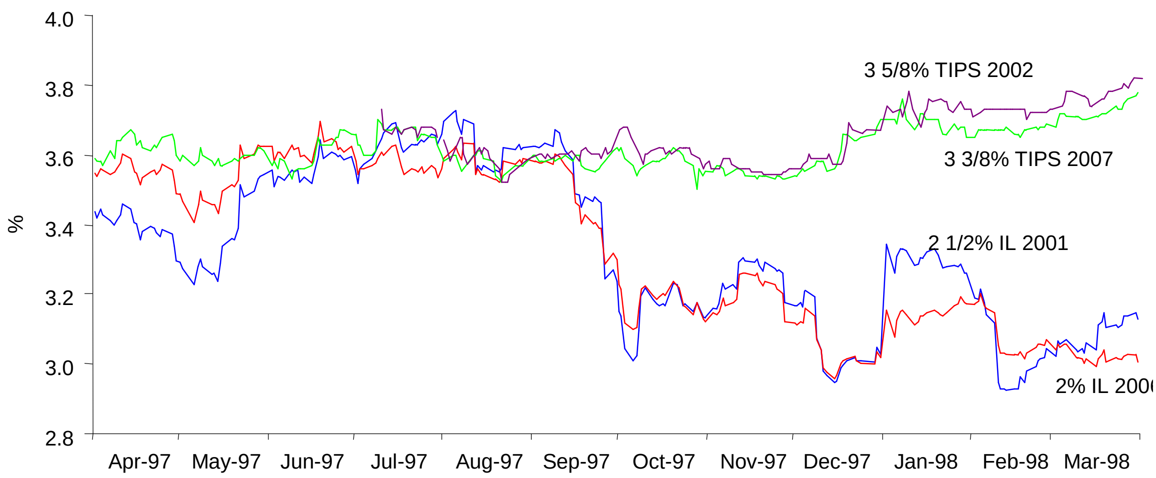


The French-German spread was –10 basis points at the start of the financial year and French 10 year bonds continued to trade at a lower yield for the first half of the year. The EMU speculation during September and October led to convergence of the two yields, which traded almost identically until mid-January when the spread became slightly positive.

The Italian-German spread fell dramatically throughout the year with the Italian economy preparing for EMU entry. The spread began the year at 209 basis points, but reduced significantly to 24 basis points by the end of March 1998.

UK real yields fell below relative to those of the US from September onwards (see chart 12 below). UK specific factors may partly explain the divergence. In particular, the Minimum Funding Requirement introduced in April 1997 boosted demand for index linked gilts from UK pension funds. Insurance fund managers have also reportedly been looking to IGs in search of longer duration assets. At the same time, supply expectations were reduced in face of the declining funding requirement. In contrast, the supply of index-linked bonds increased in the US (following their introduction in January 1997) while demand may have been muted, mainly because US inflation has continued to be lower than expected.

Chart 12 UK and US index-linked bond real yields



Chapter 2

UK Government Financing

HM Treasury's annual remit, contained in its Debt Management Report, published each March, contains a projection of the required gilt sales for the financial year. It outlines the intended mix of conventional and index-linked funding, including the maturities of conventional sales. This section reviews the Remit for 1997-98 and looks forward to the Remit for 1998-99.

A) 1997-98

The financing remit for 1997-98

The Remit to the Bank of England setting out the framework for gilt issuance in 1997-98 was published on 12 March 1997. The underlying objective was to finance the Central Government Net Cash Requirement (CGNCR) plus maturing debt and any net increase in the foreign exchange reserves by the sale of sufficient gilts and National Savings products. Although the financing programme could, in principle, include ultra-short term debt (of less than three years maturity) under the Remit for 1997-98 (as in the previous year), the Government indicated that it did not intend to use net Treasury Bill issuance or gilts of less than three years maturity to finance the 1997-98 requirement. The Remit was subject to confirmation following the General Election on 1 May 1998.

The gilt sales target for the year was initially forecast at £36.5 billion, based on a CGNCR forecast of £20 billion in the November 1996 Budget. Eleven gilt auctions were planned on a monthly basis (including four dual auctions). The new Government left the Remit unchanged, but an early Summer Budget was scheduled.

The financing arithmetic in table 1 shows how the requirement altered during the year. The major development was a steep fall in the forecast of the CGNCR, although there was also a significant element of over-financing (of £3.9 billion) to be carried forward from 1996-97 not quantified at the time the Remit was issued, which also reduced the financing requirement. The revised gilt sales target following the July Budget was £25.1 billion.

Table 1: The 1997-98 CGBR financing requirement (£ billion)

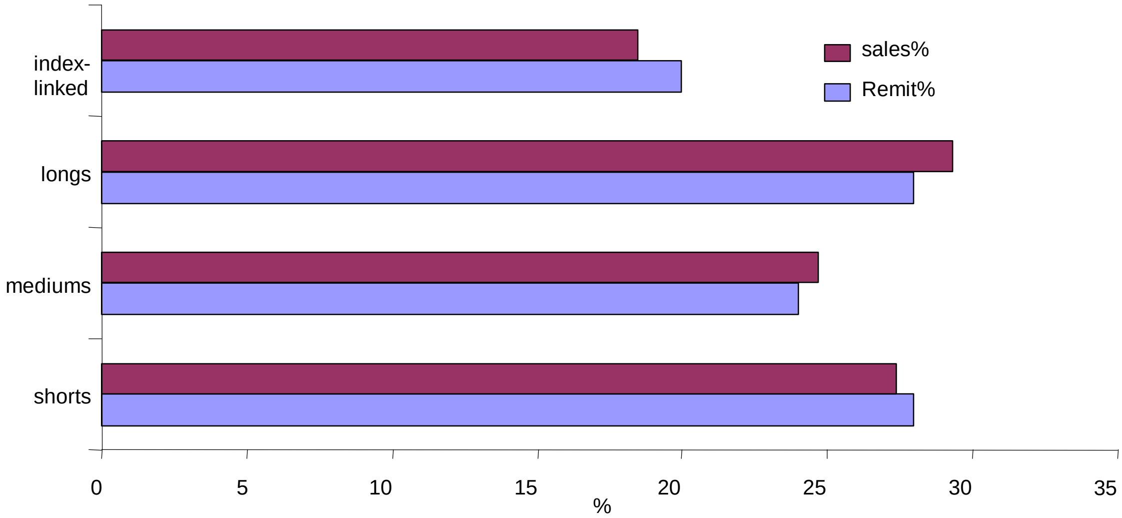
	Original Remit March 97	**Budget July 97**	**Budget March 98**	**Outturn**
CGNCR Forecast	20.0	12.4	6.1	3.4
Expected net change in official reserves	0.0	0.0	0.0	0.0
Expected gilt redemptions	19.6	19.6	19.9	19.5
Under (+)/overshoot (-) from 1996-97	*	-3.9	-3.9	-3.9
Financing requirement	39.5	28.1	22.1	19.0
Financed by:				
Assumed net National Savings contribution	3.0	3.0	1.6	1.5
Expected net sales of other public debt	0.0	0.0	-0.1	-0.1
Gilt sales required	36.5	25.1	20.6	17.6
Assumed gilt sales in 1997-98	-	-	25.8	25.8
Implied overshoot in 1997-98	-	-	5.1	8.2

Note: Figures may not sum due to rounding.
**1996-97 overshoot outturn only known after the original Remit was published.*

Following the new Government's first Budget in July 1997, which saw a reduction in the forecast CGNCR from £20 billion to £12.4 billion, and a reduction in the gilt financing requirement from £36.5 billion to £25.1 billion, the Bank of England announced on 2 July that the two dual auctions to be held in the third and fourth quarters of the financial year would become single auctions and that the auctions planned for August 1997 and February 1998 would be cancelled. The November pre-Budget report saw a further slight reduction in the forecast CGNCR to £11.7 billion and this virtually halved again to £6.1 billion in the March 1998 Budget.

The Remit for 1997-98 specified that the Bank of England should aim to sell gilts at a broadly even pace throughout the year. It also specified that approximately 20 per cent of the gilt financing requirement should be met by sales of index-linked gilts, with the remainder in conventionals. Approximately 35 per cent of conventional issuance was to be in both the short (3-7 year) and long dated (15 years and over) maturity bands and 30 per cent in in the medium (7-15 years) band. The actual distribution of gilt sales achieved for the year was very close to these targets. Sales of index-linked accounted for 18.5 per cent of total sales with conventional sales divided 33.7, 30.3 and 36.0 per cent across the short, medium and long maturity bands (see chart 13 below).

Chart 13 Gilt sales against Remit



All conventional issuance was in the form of sales at auctions. Taps of conventional stocks were permitted under the terms of the 1997-98 Remit but only as a market management instrument in conditions of temporary excess demand in a particular stock or sector or where there was an exceptionally sharp general rise in the market. It was envisaged that in 1997-98 conventional taps would not account for more than 10 per cent of expected total issuance, but in the event none was tapped. The disappearance of conventional issuance by tapping completed a process begun in 1990-91, when the vast majority of such issuance was carried out in this way. This reflects the move over the 1990s to a more structured and predictable regime for primary issuance, and increasingly over the more recent past a reduction in the amounts of issuance necessary.

Results of gilt auctions 1997- 98

Some £20 billion nominal of conventional stock was issued at eleven auctions, held on a regular basis throughout the year. £1.5 or £2 billion was issued at each auction. On a cash basis £21 billion was raised. Most auctions were re-openings of existing stocks (7% 2002, 7¼% 2007 and 8% 2021). Two new conventional stocks were created:

- £2 billion of a new five year benchmark (6½%Treasury Stock 2003) first auctioned in December 1997 and;

- £2 billion of a new “ultra-long” benchmark (6% Treasury Stock 2028) first auctioned in January 1998.

Both the new stocks are strippable (see chapter 3, pages 37-38 below) but, to ensure sufficient liquidity in the new ultra-long benchmark (and long coupon strips) it was decided that stripping of the 6% 2028 would would not begin until the outstanding nominal issue reached £5 billion.

(This was achieved following the successful auction of £3 billion of 6% 2028 on 20 May 1998).

Auction results in 1997-98 are summarised in table 2 below**.**

Table 2: Results of the auctions in 1997-98

Stock title	**Amount of Issue (£m nominal)**	**Date of Auction**	**Yield at LAP %**	**Yield at HAP %**	**Yield at NCAP %**	**Times covered**	**Tail (bp)**
7 TSY 2002	2,000	23-Apr-97	7.25	7.22	7.24	3.49	1
7 TSY 2002	1,500	20-May-97	6.94	6.93	6.94	3.03	0
8 TSY 2021	1,500	22-May-97	7.28	7.22	7.24	1.29	4
7 1/4 TSY 2007	2,000	25-Jun-97	7.14	7.12	7.13	2.71	1
8 TSY 2021	2,000	23-Jul-97	6.87	6.84	6.86	2.32	1
7 TSY 2002	1,500	23-Sep-97	6.72	6.69	6.71	2.30	1
8 TSY 2021	1,500	25-Sep-97	6.58	6.55	6.57	2.33	1
7 1/4 TSY 2007	2,000	29-Oct-97	6.67	6.64	6.66	2.39	1
6 1/2 TSY 2003	2,000	10-Dec-97	6.55	6.49	6.53	1.77	2
6 TSY 2028	2,000	28-Jan-98	6.01	5.96	5.99	1.25	2
7 1/4 TSY 2007	2,000	25-Mar-98	5.90	5.89	5.90	3.03	0

LAP = *Lowest accepted price* HAP = *Highest accepted price* NCAP = *Non-competitive accepted price*

Table 3 below shows how average cover, and tail on the 1997-98 auctions compared with those of the previous year.

Table 3: Auction results average statistics* 1996-97 and 1997-98**

	Average cover	**Average tail**
1996-97		
Shorts	3.47	0.50
Mediums	2.65	1.25
Longs	2.05	1.40
Total	2.80*	1.08**
1997-98		
Shorts	2.59	1.06
Mediums	2.71	0.67
Longs	1.65	2.18
Total	2.37	1.25

* Includes the floating rate stock
** Excludes the floating rate stock
*** Weighted by size of auction

INDEX-LINKED ISSUANCE

Index-linked primary issuance continued to be through the tap mechanism. Table 4 shows the details of the taps held during the year.

Table 4:Index-linked taps

Date	Stock	Amount £mns (nominal)	Yield at issue %	Price at issue (£ per £100 nominal)	Amount raised £mn
17-Apr	2 ½ IL 2013	200	3.61	146 18/32	295.46
03-Jun	2 ½ IL 2016	300	3.67	156 16/32	469.69
03-Jun	2 ½ IL 2009	100	3.62	172 8/32	172.25
16-Jun	2 ½ IL 2024	150	3.65	125 12/32	184.30
16-Jun	2 ½ IL 2013	150	3.61	147 28/32	223.38
04-Jul	2 ½ IL 2020	150	3.57	153 18/32	230.44
04-Jul	2 ½ IL 2011	150	3.54	181 8/32	271.69
14-Aug	2 ½ IL 2024	200	3.55	128 10/32	256.71
14-Aug	2 ½ IL 2003	100	3.56	183 18/32	183.59
03-Sep	2 ½ IL 2020	200	3.56	154 26/32	307.61
03-Sep	2 ½ IL 2009	100	3.52	172 22/32	174.81
16-Sep	2 ½ IL 2016	100	3.47	163 12/32	163.39
16-Sep	2 ½ IL 2024	100	3.48	130 24/32	130.28
02-Oct	2 IL 2006	150	3.22	201 15/32	302.26
28-Oct	2 ½ IL 2016	150	3.12	173 12/32	260.44
12-Dec	2 ½ IL 2020	100	2.99	172	172.16
12-Dec	2 ½ IL 2003	100	2.98	192 4/32	192.31
21-Jan	2 ½ IL 2003	200	2.94	193 10/32	386.63
13-Mar	4 ⅛ IL 2030	200	2.91	144 6/32	288.50

INDEX-LINKED AUCTIONS

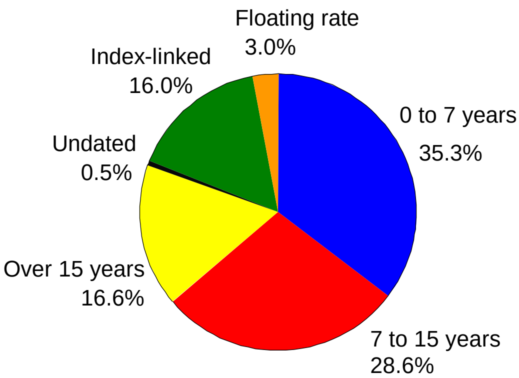
The Remit for 1997-98 recorded the Government's view that, in the interests of increasing market transparency, there would be positive merit in moving towards an index-linked auction programme. It looked forward to a consultation process with the market about the form of an auction programme and the chance to evaluate US experience in their initial auctions of index -linked securities. The consultation process itself was carried out jointly by the Treasury, the Bank of England and the DMO in January 1998. There was general market support for a move to an index-linked auction programme and the Government indicated it would begin such a programme in October 1998 (see section on 1998-99 gilt financing in paragraph 2B below and section on pages 29-30 below for more details about the plans for index-linked auctions).

Net secondary market operations, in index-linked and conventionals taken together, made a very small contribution to funding, some 1.2 per cent.

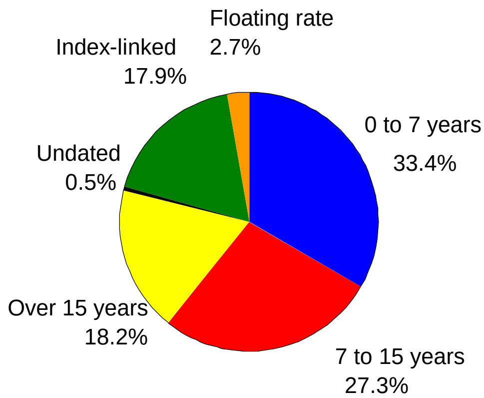
The Gilt Portfolio

There were £297.4 billion gilts outstanding in nominal terms at the end of March 1998 - including the inflation uplift on index-linked bonds, this was a £7.1 billion rise on the amount outstanding at the end of March 1997. The market value of gilts outstanding in market hands rose by 11.9% to £315.9 billion (see chart 14).

Chart 14



£282.2 billion
31-Mar-97



£315.9 billion
31-Mar-98

Sectoral holdings (Table 5)

Table 5 shows the sectoral breakdown of gilts at the end of calendar years 1996 and 1997.

Table: 5 Sectoral holdings

	1996 Holdings £ billion	1996 %	1997 Holdings £ billion	1997 %
Public Sector				
Local authorities	0.1	0.1	0.2	0.1
Public corporations	2.0	0.7	2.3	0.7
Financial Companies and Institutions				
Banks	20.9	7.5	26.2	8.3
Building Societies	5.5	2.0	1.1	0.3
Life Assurance	148.8	53.2	181.0	57.1
Other Financial Institutions	30.0	10.7	27.5	8.7
Industrial and Commercial Companies	1.1	0.4	0.8	0.2
Persons	16.3	5.8	10.1	3.2
Overseas	54.7	19.6	67.7	21.4
TOTAL	279.5		316.9	

Source: ONS

Benchmark stocks

The table below shows large gilts (over £5bn in issue) created over the past five years.

Table 6: Large stocks created over past 5 years

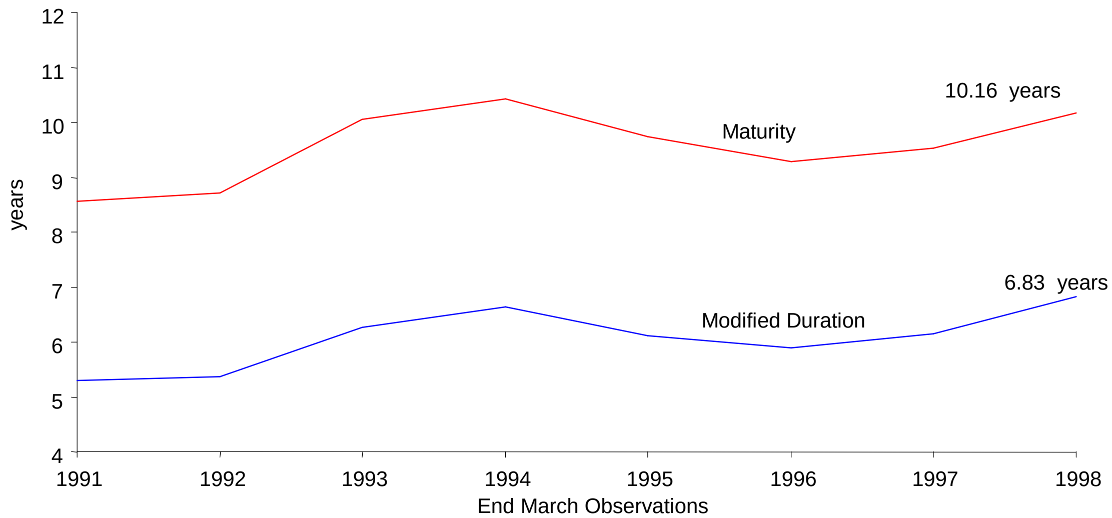
Stock	Amount outstanding (nominal) £ million	Date created
8% Treasury 2021	16,500	29-Feb-96
8% Treasury 2015	13,787	26-Jan-95
7% Treasury 2001	12,750	29-Jul-93
7½% Treasury 2006	11,700	28-Sep-95
7¼% Treasury 2007	11,000	29-Jan-97
8½% Treasury 2005	10,373	29-Sep-94
8% Treasury 2000	9,800	27-Oct-94
7% Treasury 2002	9,000	05-Dec-96
6% Treasury 1999	6,950	28-Oct-93
6 ¾% Treasury 2004	6,500	30-Sep-93
8% Treasury 2013	6,100	01-Apr-93
Floating Rate 1999	5,700	31-Mar-94
6% Treasury 2028	2,000*	29-Jan-98

*at end of 1997-98. £5,000m in issue after auction on 20 May 1998

Portfolio maturity and duration

Chart 15 below shows how the maturity and modified duration of the UK debt portfolio has changed since 1991. There has been a significant increase in the average maturity of the portfolio during 1997-98, from 9.53 to 10.16 years, as a result of the increased emphasis on longer dated issuance - in particular the opening of 6% 2028. Modified duration increased from 6.14 to 6.83 years[1]

Chart 15 Average Maturity and Duration of the Portfolio



The gilt issuance strategy for the year is set out in the Government's Remit to the DMO. The gilt stock and issuance strategy are therefore jointly looked at against the background of the three main elements of debt management objectives - cost, risk and consistency with the objectives of monetary policy.

[1] Partly as a consequence of a 3% inflation assumption for IGs in 1998.

PORTFOLIO ANALYSIS

The DMO, in conjunction with the Treasury, will continue to research into the optimal portfolio of debt instruments for the Government. This analysis is directed at quantifying the costs, benefits and risks of the range of government debt instruments and has been the subject of ongoing study by the Bank of England and HM Treasury for a number of years. Despite the questions raised being of vital practical concern to fiscal authorities, this has been a relatively neglected area of academic macroeconomic research. However, greater interest has been shown more recently.

Early work in this area drew analogies with corporate risk management models and attempted to match assets and liabilities within the government's portfolio. However, the majority of a government's assets tend either to be non-marketable and non-revenue producing, such as motorways and hospitals, or essentially future tax receipts. This mix and type of asset does not readily offer clear implications for the maturity and composition of a government's debt portfolio other than, perhaps, that foreign currency debt does not offer a match with either form of asset.

Academic studies into the optimal debt structure for tax and deficit smoothing purposes have yielded the following broad implications:

- long indexed debt should contribute to 'tax smoothing';
- but nominal debt is also useful to contribute to 'tax smoothing' if the tax base is subject to adverse supply shocks;
- longer maturity debt portfolios reduce the re-financing risk of the government and exposure to short-term market conditions, leading to a less volatile cost of financing and greater creditworthiness. However, long maturity nominal debt can lead to reduced anti-inflation credibility due to the incentive it gives to government to raise the price level.

These studies have concluded that either index-linked or nominal debt may be preferable depending on the macroeconomic shocks an economy is exposed to, and how the government's tax base responds. A government whose tax base suffers from productivity, commodity price or public spending shocks will benefit from having nominal debt, whereas a government whose tax base is subject to monetary or real aggregate demand shocks would be better off with index-linked debt.

Foreign currency debt offers some of the features of indexed debt from a government portfolio perspective to the extent that exchange rates are correlated with relative price level movements. However, this degree of correlation is rarely perfect and so foreign currency debt offers less of a hedge to the fiscal authority than indexed debt, whilst introducing exposure to exchange rate risk.

The Bank of England carried out risk-return and efficient frontier analysis on historical gilt market data, as summarised in the Gilts and the Gilt Market Review 1996-97. This analysis examined a number of simplified portfolios based on short, medium and long run nominal and index-linked bonds. The analysis calculated quarterly average real holding period returns and the standard deviation of the returns as a measure of risk. The conclusions were that, historically, a portfolio comprising long index-linked bonds offered least cost, but that risk would have been minimised with a combination of short conventional and index-linked gilts. However, this analysis is sensitive to the choice of time horizon over which risk and returns are measured as well as the data period used, and so cannot provide a definitive guide to the optimal composition of the UK Government's debt portfolio.

Research has also assessed the interaction of monetary policy and debt management. At the limit there is clear interaction. To finance government deficits by resorting to issuing cash or central bank liabilities would clearly be inflationary. Also, the credibility of the monetary policy framework to control inflation may be influenced to a degree by the composition of the government's debt portfolio. For instance, the UK government's willingness to issue indexed liabilities reduces the budgetary benefits that would otherwise accrue from a higher price level. However, other than at the limit, it is not clear in the UK context that the composition of the stock or flow of government debt has a marked impact on the level of inflation or the monetary transmission mechanism. Nevertheless, the DMO continues to have an interest in any monetary consequences of its decisions since consistency with the objectives of monetary policy remain part of the debt management objective set by the Treasury.

The current UK government debt portfolio reflects some of the above implications. The maturity and duration of the UK's debt portfolio is the longest of major industrial countries reflecting a longstanding preference to minimise refinancing risks, as well as providing UK pension and life insurance funds with the long maturity assets to meet their asset:liability management requirements. The UK debt portfolio also contains a relatively high proportion of index-linked bonds. In the past, this has provided lower cost debt financing, as holders have paid a premium for inflation insurance, and provides a hedge for the Exchequer against adverse monetary or real aggregate demand shocks. Whilst the UK does borrow foreign currency, this is currently only for foreign currency reserves purposes and the receipts from borrowing are hedged with foreign currency assets to minimise exposure to foreign currency risk. There are no current plans to meet the Government's financing needs through foreign currency issues.

Overall the UK debt portfolio therefore reflects current thinking and preferences on cost and risk minimisation. The DMO, in conjunction with HM Treasury, will continue research into the optimisation of the debt portfolio.

PERFORMANCE MEASURES

The performance of some government debt agencies is assessed against benchmark government debt portfolios, with duration limits set on the possible changes to the portfolio. The debt manager's performance is then assessed and reported as a net present value saving/cost over the lifetime of the debt portfolio. Remuneration may then be linked to performance against this benchmark.

The Treasury has decided not to assess the DMO against an explicit benchmark gilt portfolio. This decision was based on the belief that assessment against a benchmark would provide incentives for the DMO to trade against the market and reduce the transparency and precommitment of its actions. Moreover, in the UK context, since the government is the primary issuer in sterling, the DMO's decisions are likely to affect the gilt yield curve to a degree. Hence, the value of any benchmark portfolio would not be independent of the decisions that it was designed to assess.

Cheap/dear analysis

Measures of cheapness/dearness

One of the key analytical tools used by market practitioners as well as the DMO to assess the relative value of individual gilts is the historical spread to the fitted yield curve model. This section provides an introduction to the mathematical analysis underlying cheap/dear measures.

The basic cheap/dear residual for a gilt is the difference between its actual yield and its theoretical yield implied by the yield curve. On any given day, this "theoretical spread" for each stock gives an indication of whether it is trading cheap (positive spread) or dear (negative spread) to the yield curve, as well as enabling one to draw a static comparison between two stocks. This cheapness/dearness can be due to a number of factors which may be permanent (such as tax effects[1]) or temporary (such as the dearness caused by a gilt having benchmark status). Thus certain bonds may consistently appear cheap to the curve whereas others may consistently appear expensive. Tracking the theoretical spread over time gives an indication of how movements in cheapness/dearness can highlight a relative value opportunity – where a bond has cheapened or become more expensive relative to its recent history.

Standard historic cheap/dear statistics that market practitioners calculate are the mean, standard deviation and Z-score of the theoretical spread, as well as its maximum and minimum values. Here, the standard deviation of the theoretical spread gives an indication of how volatile it is over time. The Z-score associated with a particular theoretical spread observation represents the number of standard deviations that it is away from the mean. Mathematically, the Z-score $Z(x_n)$ for an observed theoretical spread x_n is given by:

$$Z(x_n) = \frac{x_n - m}{s}$$

where μ and s are respectively the mean and standard deviation of the theoretical spread. The Z-score provides an indication of how abnormal the current spread is relative to its past performance. The higher the absolute value of the Z-score, the more statistically significant is the current theoretical spread. Exactly how many observations to average over (ie. the length of the "window") is a judgement made by each practitioner. Table 7 illustrates the sensitivity of the Z-score for three conventional gilts to the window length chosen.

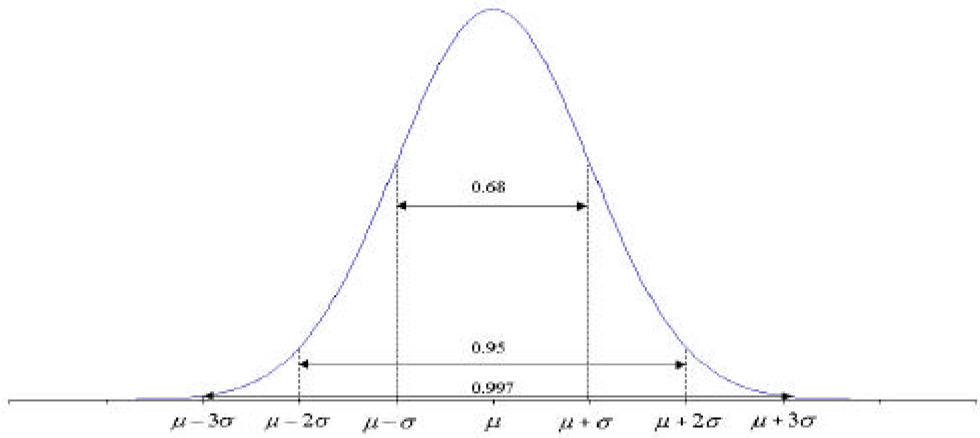
Table 7: Sensitivity of the Z-score to the length of the window

Stock	**Z-scores for different window lengths**					
	1 Month	**2 Months**	**3 Months**	**4 Months**	**5 Months**	**6 Months**
7 ¾% 2006	0.23	0.74	0.99	1.14	1.22	1.28
9% 2012	-2.10	-2.26	-1.65	-1.06	-1.07	-1.19
8 ¾% 2017	-1.32	-1.18	-0.61	-0.83	-0.82	-0.95

Under the assumption that the historic spread follows a normal distribution[2], it is possible to attach a probability to a particular Z-score occurring as well as a confidence interval for it. For

[1] The yield curve model should ideally be modified to remove such effects although this is not always possible in practice.
[2] This is a simplifying assumption, given that it is unlikely that the daily spreads are independent observations.

instance, if x_n has a Z-score of 1 this suggests that there is a probability of about 68% that the bond is trading either cheap or dear relative to its historic value ie. there is a 68% probability that the spread will be in the range ($-x_n$, x_n). Similarly, a Z-score of 2 suggests that there is a probability of about 95% that the bond is trading either cheap or dear relative to its historical value, etc. This is illustrated by the diagram below.

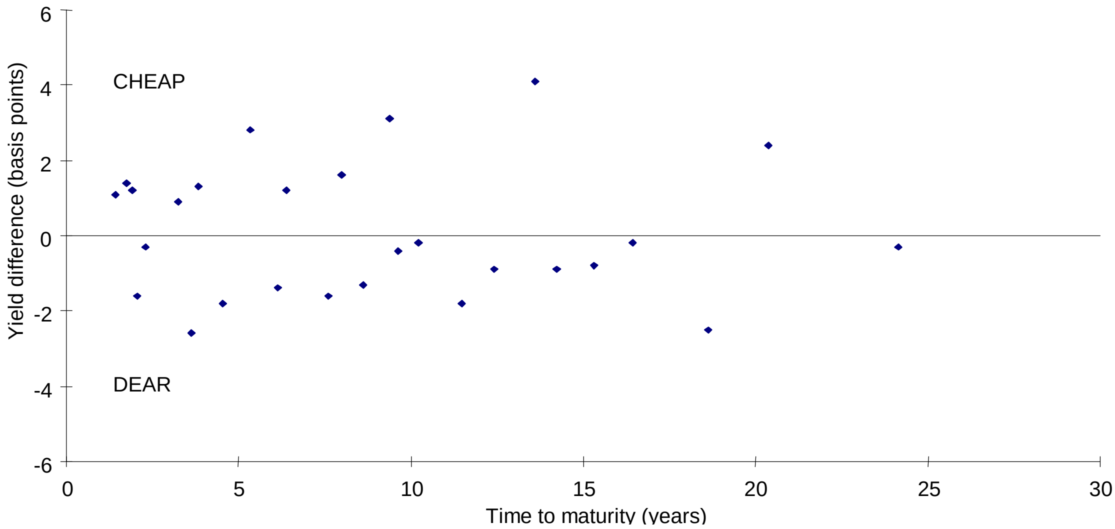


It should be noted that it is possible for a gilt to be trading cheap relative to the curve yet dear relative to its recent historical performance (or vice versa). In this case the theoretical spread will be positive and the Z-score will be negative.

The exact cheap/dear statistics as described above will be sensitive to the type and precise specification of the yield curve model used, as well as the selection of bonds used in its estimation.

Figure 1 below illustrates the cheap/dear residuals for a range of gilts on a recent date computed from the DMO's yield curve model.

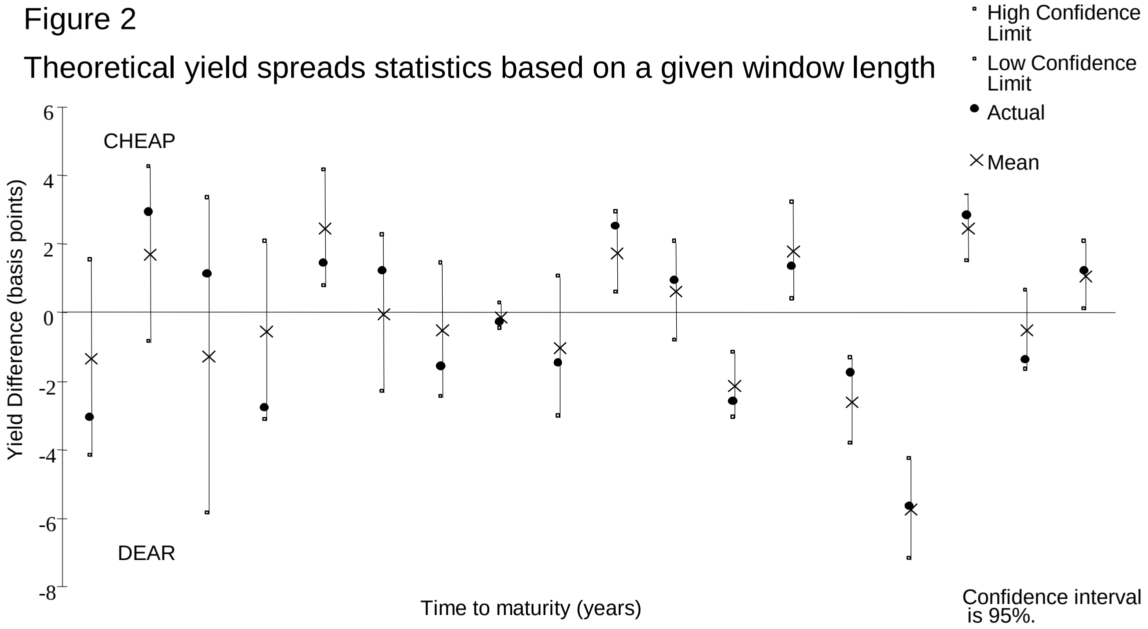
Figure 1
Theoretical spreads from the fitted yield curve



However, figure 2 is more useful in putting the cheap/dear numbers into the context of recent history and for spotting relative value opportunities.

Figure 2

Theoretical yield spreads statistics based on a given window length



Alternatively, the minimum and maximum observed values could be used instead of the high and low confidence limits, although these do not give as clear a picture of relative abnormality and are sensitive to one-off extreme values.

B) 1998 - 99

The Financing Remit for 1998-99

The Government's financing remit for 1998-99 given, for the first time, to the UK Debt Management Office, continued the broad approach of the previous year, albeit against the backdrop of a significantly reduced gilt financing requirement. It included a further increase in the proportion of planned index-linked issuance – including a commitment to begin index-linked auctions in October. In terms of maturity of conventional gilts however, the emphasis was toward the longer end at the expense of short and medium.

The Government's Remit to the DMO was published on 19 March 1998. The DMO, as an executive agency of the Treasury, has amongst its main strategic objectives:

- to meet the annual remit for the sale of gilts with high regard to long-term cost minimisation; and
- to promote a liquid market for gilts and conduct operations in a predictable, transparent way with a view to reducing the overall cost of financing.

The Remit explained that the target for gilt sales in 1998-99 would be subject to confirmation of the overshoot of the gilt financing target for 1997-98. At the time the Remit was published the overshoot was expected to be £5.1 billion, and the consequent gilt financing requirement £14.2 billion. In the event, the final extent of overfunding from 1997-98, as published in the Economic and Fiscal Strategy Report (EFSR) on 11 June, was £8.2 billion, and this, combined with a revised lower estimate of the CGNCR resulted in a fall of £2.6 billion in the gilt funding requirement for 1998-99, to £11.6 billion.

Following the revision to the Remit on 11 June 1998 reflecting this £2.6 billion reduction in the gilt funding requirement, the proportion of planned index-linked sales was increased further and the emphasis toward the longer end was reduced.

Table 8 below shows how the financing requirement changed between the Budget and publication of the Remit and the publication of the EFSR.

Table 8: Latest changes to finance requirement

1998-99 Financing Requirement	Budget and original Remit (£bn)	June 1998 EFSR (£bn)
Central Government net borrowing	2.0	0.0
Loans & sales of financial assets	1.1	1.9
Accruals adjustments	0.6	1.4
CGNCR (former CGBR)	**3.7**	**3.5**
Changes in official reserves	0.0	0.0
Gilt redemptions	16.7	16.8
Gilt overfund from 1997-98	-5.1	-8.2
Financing requirement	**15.2**	**12.1**
Less NS financing	1.0	0.5
Gross gilt sales required	**14.2**	**11.6**

The original 1998-99 Remit continued the broad themes of the Remit for the previous year. The main changes in the March 1998 Remit were:

- The target for index-linked issuance was increased from 20% to 25% of total issuance with a minimum gross supply of £2.5 billion cash over the year. This reflects the continuing belief that index-linked gilts have intrinsic cost and risk advantages for the Government as issuer and a minimum level of supply was needed to make the introduction of IG auctions viable.
- Following market consultation in January 1998, which was strongly supportive of the concept, index-linked auctions are scheduled to begin in October 1998 with a second auction planned for January 1999. This allows time for a separate list in index-linked market makers to develop. Auctions are scheduled to be for some £0.5-1.0 billion (cash) of one stock on a uniform price basis. In advance of the auctions it was intended that the DMO would issue a maximum of £1.5 billion (cash) of index-linked gilts via taps.
- As a result of the declining gilt funding requirement only four single auctions of conventional gilts were scheduled in the original Remit (compared with seven single and four double auctions in the 1997-98 Remit). The first conventional auction for £3 billion of the 6% Treasury Stock 2028 took place on 20 May 1998 taking the amount of 6% 2028 in issue to £5 billion - permitting strippability. Others were originally scheduled for 29 July, late November-December and 24 March 1999.
- The maturity structure of planned conventional gilts sales in the original Remit was significantly longer than the previous year, with long issuance of 50 per cent and both short and medium issuance at 25 per cent. The Remit states specifically, however, that the Government does not necessarily intend to maintain these issuance proportions in future years.

The revised Remit

Following the publication of the EFSR on 11 June, and the £2.6 billion reduction in the gilt funding requirement, the Treasury's Remit to the DMO was amended with respect to the maturity structure of gilt sales. The long conventional gilt auction for November-December 1998 was cancelled, but issuance amounts of short and medium conventional gilts and index-linked gilts remained much as originally planned. The loss of one conventional gilt auction had the result, however, of increasing the proportion of planned index-linked issuance to 30%. The intended breakdown between sales of shorts, mediums and long conventionals changed from 25:25:50 to 31:31:38. The Government does not necessarily intend to repeat these issuance pattern in future years.

Three auctions of conventional stock are now planned (including that held on 20 May). The remaining two auctions of conventional gilts will be used to issue short and medium stocks in equal proportions. The two index-linked auctions remain as planned. The revised auction calendar is reproduced in table 9 below:

Table 9

Auction calendar 1998-99

Date	**Type**
Wednesday 20 May 1998	Conventional (6% 2028)
Wednesday 29 July 1998	Conventional (New 2009 stock)
Wednesday 28 October 1998	Index-linked
Wednesday 27 January 1999	Index-linked
Wednesday 24 March 1999*	Conventional

*subject to the Chancellor's decision on the Budgetary timetable

INDEX-LINKED GILT AUCTIONS.

The Debt Management Report 1997-98 stated that the UK authorities saw positive merit in moving to an index linked gilts auction programme as soon as was feasible. As a result of this HM Treasury, in conjunction with the Debt Management Office and the Bank of England, conducted a consultation process in January 1998 to seek the views of a range of market participants on a number of issues concerning index-linked auctions. These views were considered by H M Treasury and the DMO and helped formulate the chosen format of the index-linked gilts auction process and separate market-making structure.

Firm proposals on the format of index-linked auctions and index-linked gilt-edged market makers (IG GEMMs) were published on 10 June 1998. Submissions for IG GEMM status are invited before 24 July 1998 and an IG GEMM list will be published in the week beginning 7 September 1998. An IG GEMM will be recognised as such by the DMO in much the same way as a current GEMM. IG GEMM status will provide exclusive access to competitive bidding at IG auctions, access to 10% of IG auction stock reserved for IG GEMM non-competitive bids and sole access to IG stocks that may be sold or switched through the DMO's secondary market dealing desk. In addition, IG GEMMs will be able to advise the DMO over IG stocks to be scheduled for auction.

In return, IG GEMMs must participate actively at IG auctions, quote two way prices in all IG stocks at all times to all customers, seek to maintain at least a 3% share of the IG market and IG auctions, provide the DMO with 'relevant information' and be a member of the London Stock Exchange.

The index-linked proposals document announced the auction process for index-linked gilts to take place in 1998-99. This took account of the preferred formats as detailed in the market's consultation responses and the Government's objectives for debt management, namely long run cost minimisation subject to risk and consistency with monetary policy objectives.

Taking account of the feedback from the consultation exercise, the Debt Management Report 1998-99 envisaged the following format for the index-linked gilts auction programme.

- The programme will begin in October 1998. The first half of financial year 1998-99 will see continued tap issuance of index-linked gilts. The DMO will issue a maximum of £1.5 billion cash index-linked gilts in this period.
- The DMO will then conduct two auctions in the second half of 1998-99, on 28 October 1998 and 27 January 1999.
- The auctions will be of £0.5-1.0 billion (cash) in size and will be of one stock at a time. Over time, the DMO will aim to issue index-linked gilts to maintain liquidity in most maturity areas across the curve.
- The index-linked auctions will initially use a uniform price format. The DMO believes that such a format reduces the risk of the "Winner's Curse" faced by bidders and encourages wider participation by investors. However, a competitive bid price format will be retained as a possibility if the market becomes more liquid and hedging capability improves. The DMO reserves the right not to allot competitive bids if the price is substantially below the market price at close of bidding. This right will only be exercised in extreme circumstances where it would otherwise result in an unacceptable loss of revenue to the UK taxpayer.

- The DMO will also be prepared to issue index-linked gilts through taps in the second half of 1998-99 up to a maximum of £0.5 billion cash, for market management purposes, if necessary.
- The DMO is also committed to a minimum gross supply of £2.5 billion cash of index-linked gilts in 1998-99 and the foreseeable future. This will ensure the medium-term viability of the index-linked auction programme.
- In the longer term, the DMO intends to issue index-linked gilts primarily through the auction process.

The document, published on 10 June, contains further detail on the format of the auction process and was compiled from the market's preferred structures as detailed in the responses to the consultation. The index-linked proposals document explains the following format:

- The timing of announcements for index-linked auctions will be similar to that of conventionals and will include a quarterly consultation with IG GEMMs.
- The DMO will initiate a quarterly funding programme for 1998/9 and are committed to the issuance of £2.5 billion (cash) index-linked gilts for the foreseeable future. The auctions should not clash with US TIPS auctions and will seek to avoid dates of sensitive data release, policy speeches, including the Budget, and MPC meetings. These prescriptions were followed in the auction timetable for 1998-99 and shall continue to be observed in the future.
- The DMO will take over and continue the Bank of England's role of supporting secondary market liquidity by responding to a request for sub-market price bids to the market, except in periods of sensitivity around auctions.
- Index-linked auctions will include an allocation of 10% of the total stock through non-competitive bids to IG GEMMs. The non-competitive allotment will be allocated on the basis of the share of stock allocated to competitive bids at the three previous IG auctions. In the first auction however the non-competitive facility will be alloted equally amongst IG GEMMs. In the second and third auctions this facility will be alloted in *pro-rata* in relation to the relative shares of the competitive allocation in the previous one and two auctions respectively. Investors may also submit non-competitive bids to a limit of £¼ million by post.
- The DMO will allow an IG GEMM to bid for a maximum of 40% of any one auction for its own book. Other than the level of this limit, this will follow the same procedure as conventional auctions.
- The DMO will observe a three week moratorium on tap issuance of index-linked gilts before and after an index-linked auction.

Why do real yields for index-linked gilts depend on an inflation assumption?

Index-linked gilts (IGs) are designed to give the investor a known real return independent of the rate of inflation. This is achieved by adjusting both the coupon and redemption payments to keep pace with the Retail Prices Index (RPI). However, IGs do not offer complete real value certainty due to an eight-month lag in the indexation. This lag arises as a combination of two factors:

- the RPI statistic is collected and published with a delay. Combined with the fact that coupon payments on different stocks are made at different times of the month, this accounts for two months of the eight month lag;
- the UK trading convention is such that the nominal value of the next dividend must be known at all times for the calculation of accrued interest. Since coupon payments are made semi-annually on all IGs, this adds six months to the indexation lag.

The effect of this indexation lag is to complicate the calculation of a real gross redemption yield for an indexed gilt. The equations below illustrate how the complication arises and why an assumption regarding the future outlook for inflation is necessary for an accurate real yield calculation.

Equation 1 shows in general terms how each dividend payment and the final redemption payment might theoretically be discounted and summed to give the gilt's present value[1]. Figure 1 shows a diagrammatic representation of the units of time used in the formula.

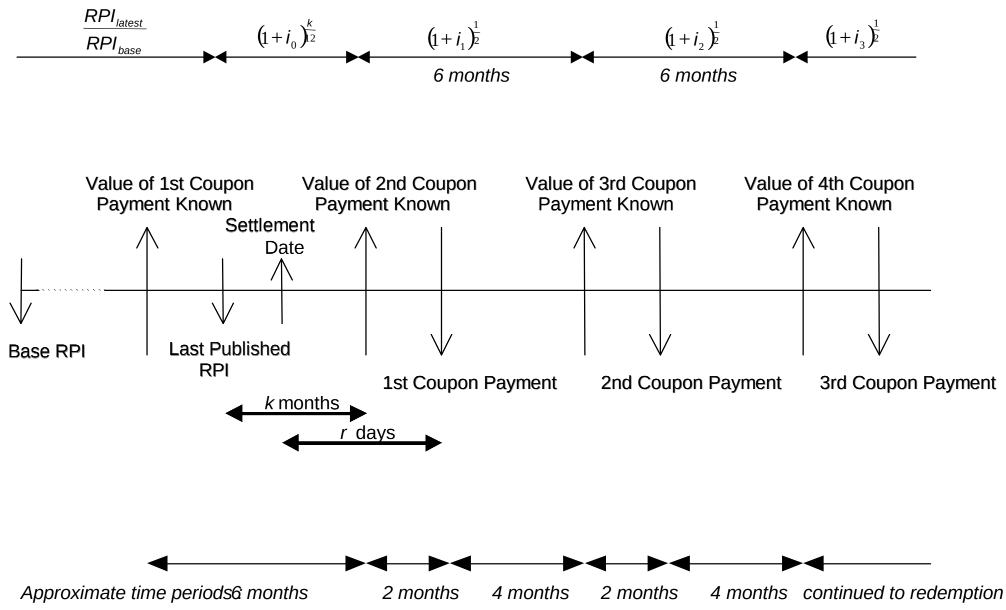
Equation 1: Valuing an index-linked gilt by discounting future cash flows:

$$P = \frac{d_1}{\left(1+\frac{r}{2}\right)^{\frac{r}{s}}(1+i_0)^{\frac{r}{2s}-\frac{1}{6}}(1+i_1)^{\frac{1}{6}}} + \frac{\frac{c}{2}\cdot\frac{RPI_{latest}}{RPI_{base}}(1+i_0)^{\frac{k}{12}}}{\left(1+\frac{r}{2}\right)^{\frac{r}{s}+1}(1+i_0)^{\frac{r}{2s}-\frac{1}{6}}(1+i_1)^{\frac{1}{2}}(1+i_2)^{\frac{1}{6}}} + \frac{\frac{c}{2}\cdot\frac{RPI_{latest}}{RPI_{base}}(1+i_0)^{\frac{k}{12}}(1+i_1)^{\frac{1}{2}}}{\left(1+\frac{r}{2}\right)^{\frac{r}{s}+2}(1+i_0)^{\frac{r}{2s}-\frac{1}{6}}(1+i_1)^{\frac{1}{2}}(1+i_2)^{\frac{1}{2}}(1+i_3)^{\frac{1}{6}}} + \ldots$$

where:	P	= Dirty price per £100 nominal
	c	= Real coupon
	r	= Gross real redemption yield expressed as a decimal
	i_j	= Future annual inflation rate for period j (see Figure 1)
	RPI_{latest}	= Last published RPI
	RPI_{base}	= RPI relating to eight months prior to the issue date
	d_1	= Next dividend payment
	r	= Number of calendar days from the settlement date to the next dividend date
	s	= Number of calendar days in the full coupon period in which the settlement date occurs
	k	= Number of months between the month of the latest published RPI at the time of settlement and the month of the RPI that defines the next but one dividend payment

[1] It is assumed that the settlement date does not fall in the gilt's ex-dividend period.

Figure 1: Timeline for the index-linked gilt price/yield formula



Simplifying Equation 1 gives the following equation:

$$P = \frac{d_1}{\left(1+\frac{r}{2}\right)^{\frac{r}{s}}(1+i_0)^{\frac{r}{2s}-\frac{1}{6}}(1+i_1)^{\frac{1}{6}}} + \frac{\frac{c}{2}\cdot\frac{RPI_{latest}}{RPI_{base}}}{\left(1+\frac{r}{2}\right)^{\frac{r}{s}+1}(1+i_0)^{\frac{r}{2s}-\frac{1}{6}-\frac{k}{12}}(1+i_1)^{\frac{1}{2}}(1+i_2)^{\frac{1}{6}}} + \frac{\frac{c}{2}\cdot\frac{RPI_{latest}}{RPI_{base}}}{\left(1+\frac{r}{2}\right)^{\frac{r}{s}+2}(1+i_0)^{\frac{r}{2s}-\frac{1}{6}-\frac{k}{12}}(1+i_2)^{\frac{1}{2}}(1+i_3)^{\frac{1}{6}}} + \ldots$$

It can be seen from this equation that due to the indexation lag the terms involving future inflation rates in the numerators and the denominators of Equation 1 have not all cancelled out. Hence it becomes necessary to make an assumption about the future forward inflation rates $i_0, i_1, .. = ... i_n$ in order to derive the real yield.

The equation below shows the price/yield formula for an index-linked gilt using a constant assumption for future inflation rates π^e (ie assuming $i_0 = i_1 = i_2 = ... = \pi^e$)[2].

$$P = \frac{d_1}{\left(1+\frac{r}{2}\right)^{\frac{r}{s}}\left(1+p^e\right)^{\frac{r}{2s}}} + \frac{\frac{c}{2}\cdot\frac{RPI_{latest}}{RPI_{base}}}{\left(1+\frac{r}{2}\right)^{\frac{r}{s}+1}\left(1+p^e\right)^{\frac{r}{2s}-\frac{k}{12}+\frac{1}{2}}} + \frac{\frac{c}{2}\cdot\frac{RPI_{latest}}{RPI_{base}}}{\left(1+\frac{r}{2}\right)^{\frac{r}{s}+2}\left(1+p^e\right)^{\frac{r}{2s}-\frac{k}{12}+\frac{1}{2}}} + \ldots$$

[2] This is not the only method used for specifying the values for the future forward inflation rates. An alternative more complicated method employed by some analysts is to use the forward inflation rates implied by the difference between the nominal and real yield curves.

The standard inflation assumption that is currently used by market practitioners in the UK is 3% per annum. The higher the assumed inflation rate used, the lower the computed real yields. In addition, the shorter the residual maturity of the gilt, the greater the impact of using different inflation assumptions. Table 10 below shows the real yields for two index-linked gilts with very different residual maturities under different inflation assumptions as at 31 March 1998:

Table 10

Gilt	Real yield assuming 3% inflation	Real yield assuming 5% inflation	Difference in real yield (basis points)
2 1/2 % ILC 1999	3.225%	2.553%	67.2
4 1/8 % IL 2030	2.876%	2.821%	5.5

Source: UK Debt Management Office

Many other countries which issue indexed bonds avoid the problem of inflation lags by making the simplifying assumption that the future inflation terms in the numerator and the denominator <u>do</u> all cancel out (ie assuming that $\pi^e = 0$). This is how real yields are calculated for settlement purposes on indexed bonds in the US. Whilst the calculations are approximations and so are not strictly comparable with the UK, the shorter indexation lag of US inflation-indexed bonds (3 months) makes the approximation less erroneous than would be the case if the inflation lag was ignored in UK real yield calculations. It is likely that sophisticated market players derive their own more accurate formulae for US real yields along the lines outlined above for analytical purposes.

Information on Government borrowing and gilt financing

The Government's Debt Management Report (DMR) is published in March and contains information on:

The government's forecast of its financing needs and the planned amount of gilt issuance;
The planned split of gilt sales between conventional and index-linked debt;
The planned broad maturity pattern of conventional issuance;
The planned number and dates and approximate size of auctions.

In recent years, the Government's forecast of its financing needs for the year has been updated twice during the financial year: at the time of the Summer Economic Forecast and the November-December budget. In 1997-98 this pattern was repeated with the original remit being revised in the July 1997 Budget and the November Pre-Budget report. The authorities aim, where possible, to stick closely to the annual programme laid out in the DMR. But if external factors change, the gilt issuance programme might also need to change. The DMR outlines the factors which could trigger a change.

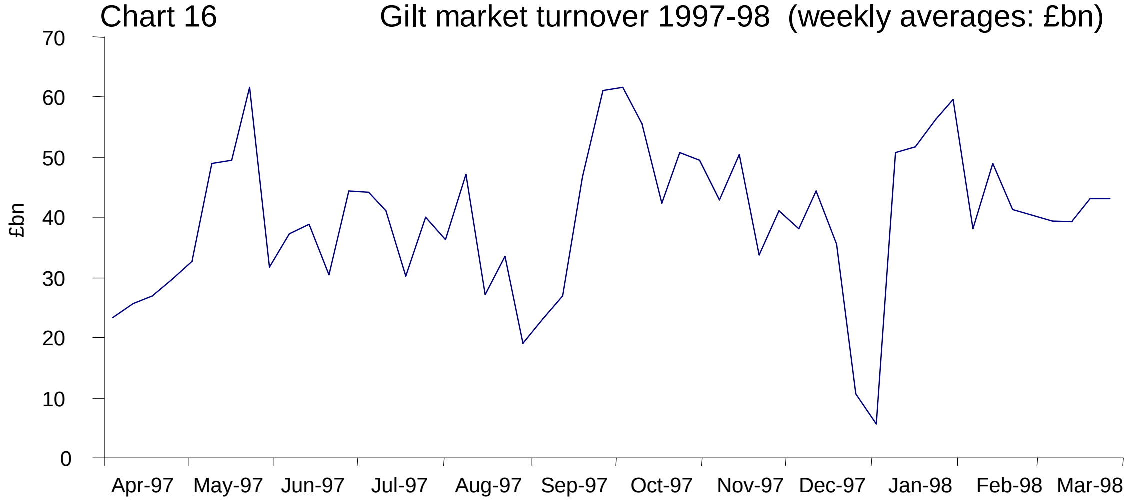
At the end of each quarter the DMO announces the plans for the next quarter's auctions, including the stock(s) to be auctioned. At the same time the DMO published details of progress in the financial year to date with gilt issuance and any changes to the financing requirement and the auction programme. Eight days prior to the gilt auction the DMO announces the amount to be auctioned.

Chapter 3

Market Developments

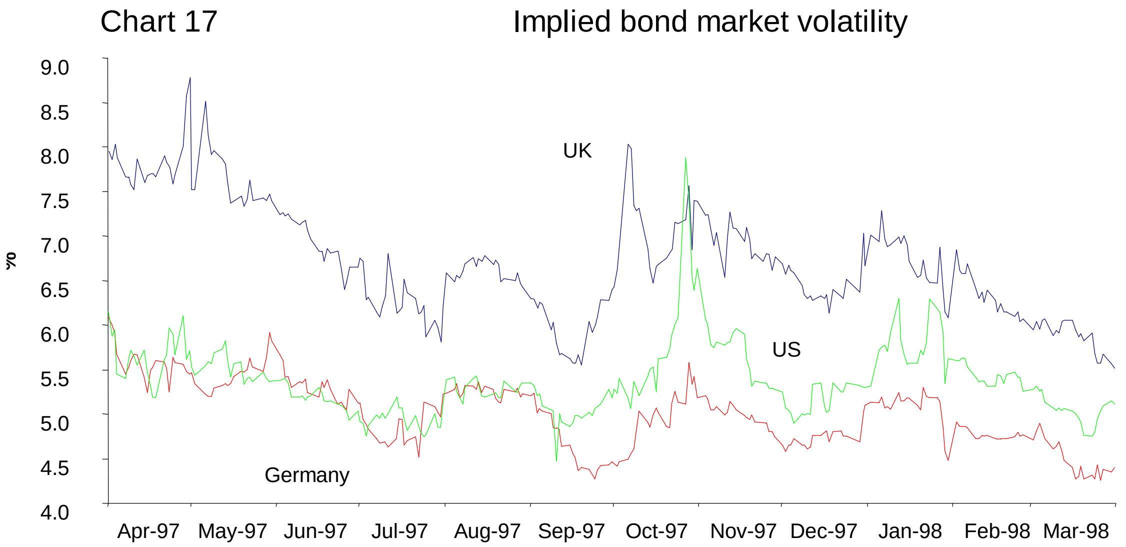
TURNOVER

Market turnover of gilts in 1997-98 was £2,106.6 billion or £8.1 billion a day (up from £7.8 billion in 1996-97); the weekly average turnover figures are shown in the table below (data from the Bank of England).



VOLATILITY

Chart 17 below compares bond market implied volatility (at around 10 years maturity) in the UK,



USA and Germany. The volatility of bond prices can be used as an indicator of prospective returns - with implied volatility reflecting an average view of future price volatility. Chart 17 therefore shows that over the past year future bond yields in the UK have continued to be seen as more uncertain than in the USA or Germany, although the differential has narrowed.

THE GILT REPO MARKET

The repo market continued to grow during its second year of operation, particularly during the final quarter. Amounts outstanding on both repo and reverse repo have moved as follows:

Table 11: Amount outstanding at month end (£bn)

		Repo	Reverse Repo
1996	Feb	37	34
	May	35	34
	Aug	56	54
	Nov	68	60
1997	Feb	71	67
	May	79	71
	Aug	67	63
	Nov	72	71
1998	Feb	83	91

Source: Bank of England

After its early rapid growth, gilt repo has now developed into an important form of secured money at the short end of the sterling markets. Further growth toward the end of the year can in part be accounted for by the high stock of money market refinancing held by the Bank of England (which reached a peak of over £15 billion at the end of February). This level was necessary to meet gilt maturity and government spending commitments which were bunched toward the end of the year. The high stock of refinancing led to high daily money market shortages (an average of £1.6 billion in the last quarter of the year); this in turn resulted in a shortage of collateral which mean that participants in the money market needed to reverse in greater amounts of collateral in the form of gilts than would otherwise have been the case.

9% TREASURY 2008 – SPECIAL REPO OPERATIONS

Another factor supporting the expansion of repo towards the year end was the delivery status of the 9% 2008 stock into the March 1998 long gilt futures contract and provision by the Bank of England of a special repo facility for that stock.

On 16 February 1998 the Bank announced that it was prepared to repo 9% Treasury 2008 between 23 February and 13 March at zero% overnight to GEMMs who had been, or whose clients had been, subject to failed deliveries of the stock. This was prompted by concern that holders of the stock under repo agreements over the delivery dates into the March long gilt future might deliberately fail to return the stock. The next cheapest-to-deliver stocks were considerably more expensive than 9% 2008, so resulting in a significant penalty if these gilts had to be delivered into the March 1998 futures contact. The possibility of deliberate failed deliveries was disrupting the behaviour of the futures contract and reducing its use as a hedging instrument. There was also potential damage to the liquidity of the stock in the cash and repo markets.

The Bank had previously reserved the right to repo gilt-edged stock to facilitate orderly market trading. However, this was the first occasion on which the authorities announced that they were prepared to make stock available in this way.

In the event, the Bank was not called upon to make this facility available and the delivery process into the March 1998 contract was smooth.

Whilst not wishing to have to intervene in normal repo market conditions, the DMO reserves a similar right of action in extreme circumstances.

GILT REPO CODE OF BEST PRACTICE

The Stock Lending and Repo Committee, chaired by the Bank of England, continued its work updating the Gilt Repo Code of Best Practice. This document sets out guidelines on best market practice for the gilt repo market and has been written with the benefit of practitioner input.

GILT STRIPS

The official gilt strips facility was launched on 8 December 1997. Stripping is the process of separating a coupon-bearing bond into its individual coupon and principal payments, which can then be separately held and traded in their own right as (zero-coupon) bonds. The settlement of strips is available as part of the upgraded CGO system. The facility to strip or re-constitute eligible gilts is a privilege available only to Gilt-Edged Market Makers (GEMMs).

In advance of the launch of the official strips facility, conventional issuance had been concentrated largely on strippable benchmark issues. Consequently, the nominal amount of strippable stock in issue at the end of March was £84 billion, when there were eight strippable gilts in issue (see table 13 below). Following the 20 May 1998 auction of 6% 2028, there are currently nine strippable gilts, and strippable stock totals £89 billion (nominal). The decision not to allow 6% 2028 to become strippable until £5 billion was in issue reflected the concern that because this was the only gilt providing strips between 2021 and 2028 the bond and the strips could be squeezed because they were unavailable anywhere else. The DMO remain committed to all new issues of conventional benchmark stocks being strippable for the foreseeable future. Strips are available through GEMMs.

Table 12: List of Strippable Stocks and Amount stripped (£m) (31 March 1998)

Date Redemption	Stock Name	Amount of issue	Amount stripped
07-Dec-00	8% Treasury Stock 2000	9,800	314
07-Jun-02	7% Treasury Stock 2002	9,000	198
07-Dec-03	6 1/2 % Treasury Stock 2003	2,000	27
07-Dec-05	8 1/2% Treasury Stock 2005	10,373	304
07-Dec-06	7 1/2% Treasury Stock 2006	11,700	40
07-Dec-07	7 1/4% Treasury Stock 2007	11,000	163
07-Dec-15	8% Treasury Stock 2015	13,787	237
07-Jun-21	8% Treasury Stock 2021	16,500	600
(07-Dec-28	6% Treasury Stock 2028*	2,000)	

* the 6% 2028 stock only became strippable following the 20 May auction which took the amount in issue to £5 billion.

The experience of strips markets in other countries shows that an important factor in the efficiency of strips pricing and the liquidity of strips trading is the liquidity in the underlying bond issues and the co-ordination of coupon payment dates across a number of bonds. In order to build up liquidity in strippable stocks, the UK authorities have concentrated issuance in a limited number of large strippable issues with a common set of coupon dates (7 June and 7 December). Whilst the cashflow management needs of some investors may be most conveniently met by an additional set of coupon dates, the authorities have sought to build up liquidity in the current set of coupon dates before considering whether to introduce a second set. This accords with market feedback.

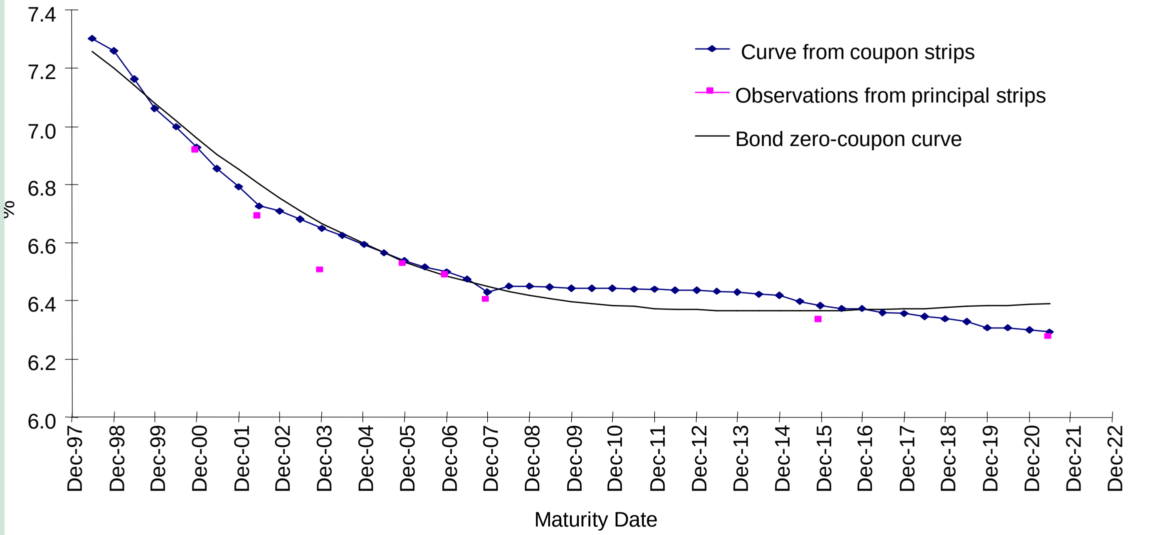
Activity in the strips market to date has been quiet. By the end of March 1998, less than 3 per cent of the nominal amount of strippable stock in issue was held in stripped form. This is mainly due to the current inverted shape of the yield curve, which tends to make strips look more expensive relative to conventionals and so deterred activity in the strips market.

On 22 April 1998 the Bank of England announced that, as from 27 April 1998, gilt strips would be eligible in Delivery by Value (DBV) collateral in its daily money market operations. The Bank also announced that strips would be accepted as eligible securities in intra-day repos for liquidity in the Real Time Gross Settlement (RTGS) programme. These developments were foreshadowed in the Bank's paper "The Official Gilt Strips Facility", issued in October 1997 and it is hoped that they may encourage the repo market in short strips to develop.

STRIP CURVES

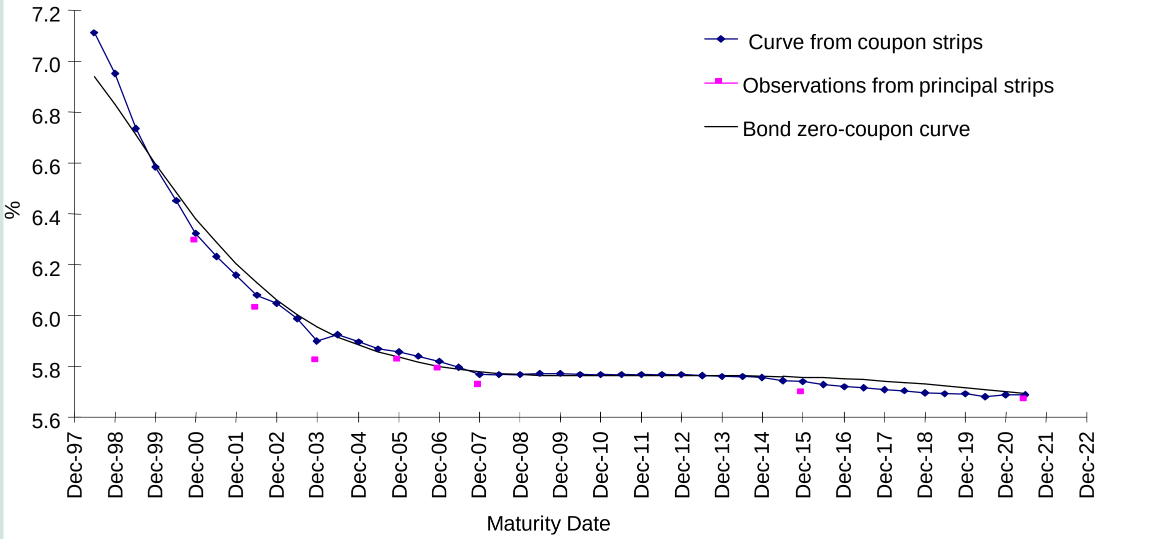
Up until recently it has only been possible to obtain a *theoretical* zero-coupon yield curve for the gilt market using the prices of coupon-bearing gilts. However, the launch of gilt strips on 8 December 1997 means that it is now possible to observe *traded* zero-coupon rates in the form of strip yields. Figure 1 compares the theoretical bond zero-coupon curve with the corresponding strips zero-coupon curve at the launch of the market on 8 December 1997 and figure 2 shows the position on 5 May 1998[1]. The strips curve is not perfectly smooth, reflecting the fact that coupon payments on all strippable gilts are made on just two dates each year, 7 June and 7 December. The theoretical rates are derived from the DMO's yield curve model which produces a smooth set of rates. Comparing the two yield curves should provide an indication of which strips are trading cheap or dear in the market.

Figure 1
UK nominal interest rate zero curves (using strip and bond prices) on 8 Dec 1997



Comparing figures 1 and 2 shows how the spread between the bond curve and the strips curve has reduced since the start of the strips market. However, although this convergence could be attributed to increased liquidity in strips a more likely explanation is that a greater number of firms are now trading strips on the basis of rates derived directly from their theoretical model than was previously the case. The DMO routinely monitors the relationship between the strip and bond curves as part of its regular analysis of the gilt market.

Figure 2
UK nominal interest rate zero curves (using strip and bond prices) on 5 May 1998



[1] This chart uses the average of the reference prices quoted by the market makers, as calculated by the UK Debt Management Office.

PRICE/ YIELD FORMULAE

Following the adoption of the "actual/actual" basis for computing settlement prices from gross redemption yields to allow strips to trade on a yield basis from 8 December 1997, a more general gilt price/yield formulae paper was published by the Bank of England later that month bringing the Stock Exchange formulae for all gilts into line with the strips methodology[5]. This paper provides default settlement formulae for trades conducted on a yield basis.

The key features of the new UK method are that it uses compound interest for the nearest coupon period as well as all other periods, and that it discounts from the nearest coupon or quasi-coupon date on an *actual/actual* basis.

LIFFE: CONTRACT CHANGES

LIFFE announced in November 1997 the introduction of a new five-year gilt futures contract, the details of which were announced on 28 January 1998. The contract was first listed and traded from 26 February 1998 and the first month for delivery of the new contract was June 1998. The contract has a nominal value of £100,000 of a notional gilt with a 7 per cent coupon. Gilts deliverable into the contract have between four and seven years remaining to maturity on the first business day of the delivery month. The new contract was quoted in decimals from its inception.

To bring the new short and existing long gilt future into line, LIFFE listed the June 1998 long gilt contract on 1 December 1997 with a reduced notional coupon of 7 per cent (down from 9 per cent). On 17 December 1997, LIFFE announced that the June 1998 long gilt contract would switch from trading in thirty-seconds to decimals with effect from 11 May 1998 until the contract expiry (the nominal value of the long gilt contract, however, remained unchanged at £50,000). The September 1998 long gilt contract has a nominal value of £100,000.

In March LIFFE launched a review of the specification of the delivery basket for the long gilt future, prompted by concern that, in the current low-issuance environment, it could arise that in some contract months no benchmark gilt would be available for delivery. On 19 May 1998 LIFFE announced a new specification for the basket of bonds eligible for delivery into the future (from the December 1998 contract). The basket will be reduced from the current 10-15 years maturity bracket to 8¾-13 years. Trading in the December contract commenced on 26 May.

At the same time, LIFFE also announced minor changes in the price factor and accrued interest calculations to take into account changes in gilts' daycount conventions. (See 'Market Conventions' section below). These changes affect both the Long Gilt and the Five Year Gilt contracts and came into effect for December 1998 delivery months onwards.

MARKET CONVENTIONS

On 3 February 1997, the Bank of England launched a consultation exercise on gilt-market conventions. The consultation sought views on daycounts, decimalisation and the ex-dividend period. The results were announced on 30 May 1997.

[5] Copies of the paper, entitled "Bank of England Formulae for Calculating Gilt Prices from Yields" are available from the UK Debt Management Office. A revised version of the paper, taking into account the changes to gilt market trading conventions, has now been issued.

The majority of respondents favoured switching from the “actual/365” to the “actual/actual” day count convention for calculating accrued interest. A large majority also favoured changing the quotation of gilt prices from fractions (£1/32nds per £100) to decimals. The Bank announced on 9 March that these changes will be implemented on 1 November 1998.

The majority of respondents favoured using compound interest for all strips, including the shortest, on an “actual/actual” basis for computing market prices from gross redemption yields to allow gilt strips to trade on a yield basis. This pricing method was adopted for strips from the start of the strips market on 8 December 1997. The Stock Exchange price/yield formulae for conventional bonds was brought into line with this method from 1 April 1998.

The conventions proposed for the number of decimal places in strip yields and settlement prices were, respectively, three and six. These were also implemented from the start of the strips market on 8 December 1997.

A large majority of respondents favoured the proposal to abolish the ex-dividend period for gilts held in the Central Gilts Office. No decision has yet been made on whether to proceed with this change; the required technical and operational changes for the Bank of England’s Registrar’s Department as well as for market participants are under consideration.

A large majority of respondents also favoured the abolition of the special ex-dividend arrangements. This will take effect from 31 July 1998. Any stock entering its special ex-dividend period before then will continue the special ex-dividend period to its normal conclusion; any stock that would have entered its special ex-dividend period on or after 31 July 1998 will not do so and will instead trade cum-dividend until it enters its ex-dividend period.

NSSR/REGISTRAR’S

National Savings currently offers a postal purchase and sales service in gilts to small investors. Holdings of gilts acquired through this service are registered on the National Savings Stock Register (NSSR). This registration facility is additional to that provided by the Bank of England’s Registrar’s Department. In effect, the Government is funding two separate gilt-registration facilities. A Treasury review of gilt registration in 1996 concluded that the costs of gilt registration could be reduced by merging the NSSR with the Registrar’s Department to create a single gilts-registration facility. The transfer should also greatly facilitate proposed improvements to the gilt market. The merger will take place with effect from 20 July 1998.

THE UPGRADE OF THE CENTRAL GILTS OFFICE

The upgrade of the Central Gilts Office (CGO), using CREST software, was deferred from 26 August 1997 after trialling revealed the need to make certain adjustments to the system in key areas. After a period of further testing and trialling, including a further dress rehearsal held at the end of September, a committee of market participants concluded that the conditions for a successful implementation of the upgraded system had been met. Inauguration subsequently took place on 10 November 1997. The upgrade itself has made available new features for the continued efficient and safe settlement of trades in the gilt market and provided for the introduction of the gilt stripping facility from 8 December 1998.

THE FUTURE OF GILT AND MONEY MARKET SETTLEMENT SYSTEMS

The Treasury's consultation document, "The Future of Government Debt and Cash Management" (29 July 1997), set out the background to the upgrade of the Central Gilts Office settlement system and the links that have been maintained between the Bank and CREST over possible merger of the two systems. The document stated that:

> "The authorities see positive merit in the proposal to merge CREST and CGO to form a single integrated UK securities settlement system"

Given the number of other pressing IT projects that the UK financial markets face, however, a commitment was made that the Bank would consult on the optimal sequencing of projects.

Almost every respondent to the consultation that mentioned CGO-CREST merger was strongly supportive of the idea. Respondents felt that user costs would be reduced and systems requirements simplified through only having to deal with one settlement system for bonds and equities.

In March 1998, the Bank of England issued a consultation document ('Securities Settlement Priorities Review') which sought views on the relative priority of various possible enhancements to the current securities settlement infrastructure in the UK. These developments include the merger of settlement systems for gilts, equities, bonds and money market instruments; the introduction of full-scale Delivery-versus-Payment (DvP); enhancement of settlement services and compatibility with customer automation; possible linkages between cash and derivatives clearing and settlement; and the creation of settlement links to systems in other countries. The paper focuses on the options for CREST-CGO merger and the implications for the Central Money Office (CMO) and on DvP, as the components of the longer-term vision most likely to be achievable in the coming few years. The Bank received many responses during the consultation period and hopes to publish its conclusions shortly.

TAXATION

In November 1996, the Inland Revenue proposed further to simplify and extend the arrangement for paying gilt interest gross. Measures extending the option of gross interest payment were included in the Finance (No. 2) Act 1997. Since 6 April 1998, all holders of registered gilts have been able to receive the interest gross rather than after deduction of tax if they wish. This major simplification will make the gilt market more accessible to investors and substantially reduce custodians' tax-compliance obligations. In so doing, it will contribute to the Government's objective of reducing the cost of public borrowing.

The change affects the time when tax is paid; it does not alter the extent to which gilt interest is taxable.

A consequence of this reform was that the distinction between gilts issued with FOTRA (Free Of Tax to Residents Abroad) terms - guaranteeing an exemption from UK tax - and non-FOTRA gilts ceased to be of major significance. But since the distinction could, technically, still be important, all existing non FOTRA gilts are to be made FOTRA under the 1998 Finance Bill. The change will take effect from 6 April 1998 once the Bill receives Royal Assent. It is hoped that this simplification will encourage interest in the gilt market from the international investment community.

Gilt market preparations for EMU

The UK will not join Stage 3 of Economic and Monetary Union in January 1999. However, the Government's policy is one of supporting UK entry in principle and to prepare actively for entry if and when it judges that the economic tests for successful UK membership have been passed. Against this background, the UK authorities have been preparing the gilt market and its infrastructure to cater for the various contingencies.

Settlement infrastructure and conventions

Clearly, a precondition of gilt market conversion to operating in euros is that the settlement and registration systems are capable of operating in euros as well as sterling. To that end, the Bank of England has announced that the Central Gilts Office (CGO) and Registrars Department will have dual currency capability from 1 January 1999*. This means that transactions in gilts will be able to be settled against either sterling or euro consideration (with a linked debit cap facility between currencies) and that CGO will be able to handle trades involving securities denominated in either sterling or euro. Essentially, the development of this capability will mean that the UK Government could issue a 'gilt' denominated in euro using CGO as the settlement system. Interest payments could be made in either euro or sterling.

In addition, following consultation with the market, the UK authorities have announced various changes in gilt market conventions (see page 40). From 31st July 1998, the special ex-dividend period will cease to apply and from 1st November 1998, the cash gilt market will move to decimal pricing and 'actual/actual' daycount yield calculation conventions. The two gilt futures contracts traded on LIFFE moved to decimal pricing in 1998. Whilst these convention changes have merit in themselves and constitute a move to bond market 'best practice', they are consistent with the intentions of other European government markets whose conventions are also moving to an 'actual/actual' pricing formula.

However, the UK does not have any plans to move to issuing bonds with annual coupons (even though this is the standard in other EU bond markets except Italy). This is because semi-annual coupons are usual in other large bond markets (such as the US and Japan) so there is no clear global standard; there are credit risk benefits to derivatives and repo markets in having smaller, more frequent coupon payments; and the market disruption and administrative costs of moving the periodicity of coupons are too great relative to any gains from standardisation on a euro-bloc standard.

Redenomination of gilts

The UK authorities have also been involved in discussions over the appropriate method of redenomination if and when the UK enters Stage 3 of EMU. The issue was first considered by the Working Group on the Gilt Market after EMU in 1996 (see report published in Practical Issues Arising From the Introduction of the Euro, No.3, Bank of England, December 1996). It has subsequently been discussed at an expert working party into Government bond market preparations for EMU convened by the EU Monetary Committee.

Final decisions will not be taken until the timetable for UK entry is known with greater certainty. However, the UK authorities have indicated that they are likely to take a 'big bang' approach by redenominating all gilts into euros at, or very soon after, UK entry into Stage 3; that redenomination would be at the level of individual gilt holdings; and that redenomination would be effected by rounding to the nearest euro cent. This last feature ensures that the economic value of individual gilt holdings would be unchanged on redenomination and that individual gilt ISINs can be retained.

The aim of the UK Government is to ensure that whether the UK joins EMU or not, the gilt market remains attractive to domestic and overseas investors.

* See *'CGO and the Euro'*, Bank of England, January 1998.

Gilt market participants

GEMMs

During 1997-98, 15 GEMMs continued in business throughout the period. Of the 18 GEMMs operating at the start of the period, one GEMM withdrew due to a proposed merger between its parent company and the parent company of another GEMM, and two GEMMs withdrew from gilt-edged market making. One new company, Morgan Stanley & Co International Ltd was appointed as a GEMM in May 1998. There are currently 16 GEMMs. Most GEMMs are now no longer separately capitalised.

A list of the Gilt-Edged Market Makers currently recognised by the DMO can be found in Annex B.

Gilt inter dealer brokers

Prudential supervision of gilt inter-dealer brokers (IDBs) transferred from the Bank of England to the Securities and Futures Authority (SFA) from 1 April 1998.

In the light of this transfer and of developments in the equity markets - in particular, the introduction of SETS - the DMO and the London Stock Exchange undertook to review the regulations governing the structure and practices of the Inter-Dealer Broker market in gilt-edged securities and in the equity market. A joint consultation paper was published on 25 June with a response period running to 31 July. If appropriate, proposals for amendments to the relevant regulations will follow over the autumn.

A list of current IDBs is also in Annex B.

Chapter 4

Overseas Debt Management

The UK institutional arrangements for debt and cash management reflect the need for a clear separation between bodies responsible for issuing and managing debt and for setting interest rates. This separation is important both to avoid any possible perception of a conflict of interest or concern about inside information, and to improve transparency. Similarly the DMO's agency status allows the DMO to concentrate on its tasks within broad guidelines set by Ministers but without their day-to-day involvement.

The institutional arrangements in other countries vary greatly. Those in a number of countries are summarised in table 13 below. There is a broad split between:

a) debt policy, including portfolio composition, where national treasuries or finance ministries are heavily involved;

b) market operations, which fall to either the finance ministry or the central bank with the former sometimes involved only in primary issuance;

c) back office functions which typically lie with central banks or a dedicated agency;

d) responsibility for cash management which varies between finance ministries and central banks, although local institutional arrangements makes comparisons difficult.

The UK arrangements are perhaps most closely paralleled by the Irish system. The Irish National Treasury Management Agency's responsibilities cover the same ground as the DMO's although also extend to retail savings and foreign exchange management. The NTMA also operates very differently in that its performance is assessed against a benchmark. For the reasons set out in the box on page 21-22, this was not thought to be appropriate for the DMO.

Sweden and New Zealand also have separate debt offices, although in both cases the central bank is responsible for cash management. The Swedish National Debt Office has primary issuance responsibilities, although the New Zealand Debt Management Office confines its activities to policy and portfolio composition issues. In this respect the New Zealand framework is similar to that of Australia, where policy and portfolio work is undertaken by a branch of the Treasury which enjoys a high degree of independence.

In both Germany and Canada the central bank has a leading role, including a close relationship with the finance ministry on policy matters. The UK Government's decision to separate debt and cash management from monetary policy responsibilities drew on the experience of the US; the US is notable in that the full range of debt (and cash) management functions are controlled by the Department of the Treasury. However, in the US, as in New Zealand and Canada, the authorities have no secondary market presence, even for limited market management purposes of the kind allowed by the UK arrangements.

Table 13: International Comparison of Institutional Responsibilities of Debt Management

Country	Debt policy and portfolio composition	Primary Issuance	Secondary market presence	Cash Management	Settlement of Primary Issuance	Registration
Australia	DM branch of Australian Treasury	Reserve Bank of Australia	Reserve Bank of Australia	DM branch of Australian Treasury	Reserve Bank of Australia	Reserve Bank of Australia
Canada	Department of Finance/Bank of Canada	Bank of Canada	No secondary market presence	Bank of Canada/Dept of Finance	Bank of Canada	Bank of Canada
France	Ministry of the Economy and Finance	Bank of France/ Ministry of the Economy and Finance[1]	Ministry of the Economy and Finance	Ministry of the Economy and Finance	SICOVAM	SICOVAM
Germany	Ministry of Finance/ Bundesbank	Bundesbank	Bundesbank	Ministry of Finance	Federal Debt Administration	Federal Debt Administration
Ireland	National Treasury Management Agency	National Treasury Management Agency	National Treasury Management Agency	National Treasury Management Agency	Central Bank of Ireland	Central Bank of Ireland
Italy	Treasury	Bank of Italy	Bank of Italy	Treasury/Bank of Italy	Bank of Italy	Bank of Italy
Japan	Ministry of Finance	Bank of Japan	Bank of Japan	Bank of Japan	Bank of Japan	Bank of Japan
New Zealand	Debt Management Office	Reserve Bank of New Zealand	No secondary market presence	Reserve Bank of New Zealand	Reserve Bank of New Zealand	Reserve Bank of New Zealand
Sweden	National Debt Office	National Debt Office	Riksbank and National Debt Office	Riksbank	National Debt Office	National Debt Office
UK	HM Treasury/ DMO	DMO	DMO	DMO[2]	Bank of England	Bank of England
US	Department of the Treasury	Department of the Treasury	No secondary[3] market presence	Department of the Treasury	Department of the Treasury	Department of the Treasury

[1] The Bank of France co-ordinate the auction bids and pass them, in real time, to the Treasury who decide volume.

[2] Currently with the Bank of England; the DMO will not take over responsibility for cash management before October 1998.

[3] The FRBNY do carry out secondary market transactions on their own account, but not for US Debt Management purposes.

ANNEXES

A) THE DEBT MANAGEMENT OFFICE REMIT FOR 1998-99 (as amended by the EFSR on 11 June 1998)

Objectives

The Debt Management Office (DMO), an Executive Agency of the Chancellor of the Exchequer, has amongst its declared objectives:

- To meet the annual remit set by Treasury Ministers for the sale of gilts, with high regard to long-term cost minimisation;

- To promote a liquid market for gilts and conduct operations in a predictable, transparent way with a view to reducing the overall cost of financing.

Quantity of gilt sales

The Debt Management Office, on behalf of the Government, will aim for gilt sales of approximately £11.6 billion in 1998-99.

Pace of gilt sales

The DMO will aim to sell gilts at a broadly even pace through the year. Within-year seasonal fluctuations in the pattern of Central Government expenditure and revenue will be met by other financing means, including changes to the weekly Treasury bill tender and the Ways & Means advances.

Maturity structure of gilt issues

Over the year as a whole, the Debt Management Office will aim to make 30 percent of gilt sales in index-linked stocks with the remainder in conventional stocks spread across the maturity ranges. On current forecasts this implies index-linked gilt sales of £3.5 billion cash and conventional gilt sales of £8.1 billion. Three auctions of conventional stocks are planned in 1998-99; one in the long maturity area and one each in the short and medium areas. This implies remit proportions in 1998-99 amongst conventional gilts of approximately 31 per cent of issues in both the short (3-7 years) and medium-dated (7-15 years) bands and 38 per cent in the long (15 years and over) band. The Government does not intend to maintain these issuance proportions in future years. For 1998-99, there are no plans to meet the financing requirement with marketable instruments with a maturity of less than 3 years, but the authorities reserve the right to tap sub-3-year gilts for market management purposes and to review the issuance of short-term debt after the handing over of Exchequer cash management responsibilities to the Debt Management Office.

Auctions of conventional gilts

Auctions will constitute the primary means of conventional gilt sales. The calendar for the three conventional auctions is set out below. All auctions will be single auctions held on the day indicated. The authorities do not intend holding any dual auctions of conventional gilts in 1998-99.

Each single auction is planned to be for between £2 billion and £3 billion nominal of stock.

Auctions of index-linked gilts

Following consultation on this issue the Government intends that the DMO should initiate index-linked auctions in 1998-99. But to allow for sufficient time to establish a separate list in index-linked market makers, index-linked auctions will not start until October 1998.

In the first half of 1998-99, in the period before auctions can start, the DMO may issue up to a maximum of £1.5 billion cash of index-linked gilts via taps.

With the delayed start to the index-linked auction programme, the authorities plan to hold two index-linked auctions in the second half of 1998-99, on the calendar set out below. Auctions will be for between £0.5 billion and £1.0 billion cash of one stock on a uniform price basis.

In the second half of the financial year, but as a transitional measure to support market makers in maintaining liquidity whilst auctions are introduced, the DMO will be prepared to issue up to a further £0.5 billion cash of index-linked gilts through taps between auctions, for market management purposes, to relieve any overall market shortages.

Over the medium term, the authorities would aim to issue index-linked gilts in such a way as to maintain liquidity in most maturity areas across the curve. However given that auctions will only cover a single stock, it may not be possible to reopen every stock in each year.

To ensure the medium-term viability of the index-linked auction programme, the authorities remain committed to a minimum supply of £2.5 billion cash of index-linked stocks in 1998-99 and for the foreseeable future.

In the longer term, the authorities intend that auctions will constitute the primary means of issuance of index-linked gilts.

The auction calendar

The calendar for auctions in 1998-99, covering auctions of conventional and index-linked stocks, is as shown.

Auction Calendar 1998-99

Wednesday 20 May 1998	(Conventional) - Long (2028)
Wednesday 29 July 1998	(Conventional) - Medium (2009)
Wednesday 28 October 1998	(Index-linked)
Wednesday 27 January 1999	(Index-linked)
Wednesday 24 March 1999	(Conventional)

* *Subject to Chancellor's decision on the Budgetary timetable*

Announcements on details of each auction

At the end of each calendar quarter, following consultation with Gilt-Edged Market-Makers and end-investors, the Debt Management Office will announce plans for the auctions scheduled for the coming quarter. From September, this announcement will also cover auctions of index-linked gilts. For each auction, this will indicate either the stock (where relevant indicating a new stock) or, where further feedback on the choice of stocks would be valuable, the intended maturity range of stock. Towards the end of each quarter, the DMO will publish details of progress to date with the gilt issuance programme, any changes to the Government's financing requirement and any changes to the gilts auction programme.

The auction plan for the first quarter of 1998-99 was announced at 3.30pm on Tuesday 31 March 1998, that for the second quarter on 30 June 1998.

Full details of these, and subsequent auctions will be announced at 3.30pm on the Tuesday of the week preceding the auction.

Tap sales and repo operations

The programme of conventional gilt auctions may be supplemented by official sales of stock by the DMO "on tap". Taps of conventional stocks will be used only as a market management instrument in conditions of temporary excess demand in a particular stock or sector or when there is an exceptionally sharp general rise in the market. In 1998-99, it is envisaged that conventional tap issuance will not constitute more than about 5 per cent of expected total issuance.

In 1998-99, it is envisaged that taps of index-linked gilts will constitute a maximum of £2 billion cash of total index-linked gilt sales, although most of this will be expected to take place during the first half of the financial year.

After an auction, the DMO will generally refrain from issuing stocks of a similar type or maturity to the auction stock for a reasonable period. Such stock will only be issued if there is a clear market management case.

For the purposes of market management, the Debt Management Office may repo out stock.

Coupons

As far as possible, coupons on new issues of gilts will be around gross redemption yields at the relevant maturity, at the time of issue.

Conversions

In order to build up the pool of strippable benchmark stocks further, the authorities envisage the Debt Management Office making offers for the conversion of unstrippable stocks into strippable benchmarks of similar maturity during 1998-99. Details of any such offers will be announced in due course, in the light of market conditions.

Reviews to the remit

This remit, and in particular the timing of auctions and the allocation between maturity bands and index-linked, may be varied during the year in the light of substantial changes in the following:

- the Government's forecast of the gilt sales requirement;
- the level and shape of the gilt yield curve;
- market expectations of future interest and inflation rates; and
- market volatility.

This remit may also need to be extended or revised to take account of the cash management operations of the DMO when details are announced.

Any revisions to this remit will be announced.

B) GILT EDGED MARKET MAKERS (GEMMs) CURRENTLY RECOGNISED BY THE DMO AND LIST OF GILT IDBs

ABN Amro Bank NV
Head of Trading – Kim Rosenkilde (0171-236 0204)
Head of Sales – David Thompson (0171-374 4104)

Barclays Capital BZW
Head of Trading – Stephen Tucker (0171-773 9364)
Head of Sales – Tim Peat (0171-773 9555)

CS First Boston Gilts Limited
Head of Trading – Michael Amori (0171-888 8888)
Head of Sales – Julia Bond (0171-888 1976)

Deutsche Bank AG (London Branch)
Head of Trading – Jan Samols (0171-545 4456)
Head of Sales – Kieron Lynch (0171-545 4456)

Dresdner Bank AG (London Branch)
Head of Trading – Andy Hattam (0171-475 7040)
Head of Sales – Peter Clarke – (0171- 475 6686)

Goldman Sachs International Limited
Head of Trading – Michael Rantz (0171-774 1106)
Head of Sales – David Bennett (0171-774 2601)

HSBC Greenwell
Head of Trading – James Geers (0171-929 4791)
Head of Sales – Tony Bucknall (0171-929 3481)

JP Morgan Securities Limited
Head of Trading – Rupert Edwards (0171-779 3100)
Head of Sales – David Boal (0171-779 3099)

Lehman Brothers International (Europe)
Head of Trading – Colin Sarre (0171-601 0011 x5235)
Head of Sales – Jeremy Corn (0171-601 0011 x5350)

Merrill Lynch International
Head of Trading – Tony Gray (0171-867 3186)
Head of Sales – Jamie Warman (0171-867 3187)

Morgan Stanley & Co. International Limited
Head of Trading – Tom Juterbock (0171-425 3045)
Head of Sales – Robert Whitehand (0171-425 7041)

Greenwich NatWest
Head of Trading – Chris Dovell (0171-389 3891)
Head of Sales – Iain Wright (0171-393 0393)

Salomon Brothers UK Limited
Head of trading – Richard Noble (0171-721 3345)
Head of Sales – Robert Pearce (0171-721 3365)

Sociétè Generale (London Branch)
Head of Trading – Alex Krickic (0171-638 4559)
Head of Sales – Paul Hills (0171-762 5021)

Warburg Dillon Read
Head of Trading – Steven Ashley (0171-711 4438)
Head of Sales – Chris Fleming (0171-567 8000)

Winterflood Gilts Limited
Head of Trading – Adrian Ireland / Anthony Di Lorenzo (0171-283 0233)

Recognised Inter-Dealer Brokers

Cantor Fitzgerald Gilts
Exco WCLK Limited
Garban Gilts Limited

In the past year the Japanese houses Daiwa (Europe) Limited and Nikko Europe PLC have resigned as Gilt-Edged Market Makers. UBS withdrew in anticipation of their proposed merger with Swiss Bank Corporation, now trading as Warburg Dillon Read.

Morgan Stanley & Co. International Limited were appointed as a GEMM in May 1998.

C) INFORMATION MEMORANDUM FOR ISSUES OF BRITISH GOVERNMENT STOCK

INTRODUCTION

This memorandum relates to British Government Stock issued on behalf of HM Treasury by the United Kingdom Debt Management Office ("DMO") on or after 12 May 1998, including further amounts of Stock first issued before that date (a list of Stocks and the amounts outstanding is available on request at the addresses at the end of this memorandum). It sets out some of the important terms of such Stock and information relating to it, including information about public auctions of Stock conducted by the DMO. For further information on the DMO's operations in the market see the Bank of England's Operational Notice dated July 1997[1] which is available on request.

This memorandum also sets out the arrangements under which Stock, whenever issued, may be stripped and strips may be reconstituted into holdings of Stock and the terms on which strips and Stock will be issued and exchanged under those arrangements.

This memorandum supplements, and is subject to, the specific terms and information set out in the prospectus or notice relating to each particular issue of Stock. Where a further amount is issued of an existing Stock, this memorandum is subject also to the provisions of the prospectus or notice under which the Stock was first issued. This memorandum is issued in substitution for the Information Memorandum for Issues of British Government Stock dated 27 March 1997 and the Memorandum relating to Arrangements for the Stripping and Reconstitution of United Kingdom Government Stock dated October 1997.

GENERAL

1. The principal of and interest on Stock and sums payable in respect of strips will be a charge on the National Loans Fund, with recourse to the Consolidated Fund of the United Kingdom.

2. The arrangements for the maintenance of registers of stockholders and holders of strips, for transfer of Stock and strips and for payment of interest on Stock will be governed by the applicable legislation. The current position is as follows-

(i) Stock will be registered at the Bank of England or at the Bank of Ireland, Belfast.

(ii) Stock may be held on the National Savings Stock Register if the prospectus or notice under which the Stock was first issued provides for this.[2]

(iii) Stock registered at the Bank of England held for members of the Central Gilts Office ("CGO") Service will be transferable by exempt transfer in accordance with the Stock Transfer Act 1982 and the relevant subordinate legislation. Stock will also be transferable by instrument in writing in accordance with the Stock Transfer Act 1963.

(iv) The arrangements for the registration and transfer of strips are described in paragraphs 7 to 30 below. The arrangements for the registration and transfer of Floating Rate Treasury Stock 2001 are as set out in the prospectus.

3. Stock and strips are transferable in multiples of one penny.

4. Interest payments on Stock will be made by credit to a bank or building society account in accordance with the holder's instructions or, if no such instructions have been received, by interest warrant sent by post. Interest payments on Stock and payments in respect of strips will be paid to Cash Memorandum Accounts in the case of members of the CGO Service.

5. If the due date for any amount of principal or interest in respect of Stock or any amount payable in respect of a strip is not a business day then payment may not be made until the next succeeding business day and in such cases the holder of the Stock or strip will not be entitled to any further interest or other payment in respect of such delay. For these purposes, "business day" means any day which is not a Saturday or Sunday, Good Friday, Christmas Day, nor a day which is a bank holiday in England and Wales under the Banking and Financial Dealings Act 1971.

[1] The Operational Notice describes the operations previously conducted by the Bank of England, which the DMO will conduct as successor to the Bank of England as the government's agent for debt management; a revised version will be issued in due course.

[2] It is intended that holdings of Stock on the National Savings Stock Register will be transferred to the register maintained by the Bank of England; the date of transfer will be announced in due course. Following such transfer it will no longer be possible to hold Stock on the National Savings Stock Register.

INDEX-LINKED STOCKS

6. Both the principal of and the interest on index-linked Stock are indexed to the General Index of Retail Prices. The Index figure relevant to the month of issue of any Stock will be stated in the prospectus or notice relating to the issue. The Index figure relevant to any month is that published seven months previously and relating to the month before the month of publication. For index-linked Stock first issued before January 1987, the calculations of interest and principal will take account of the revision of the Index to a new base of January 1987=100 (on the old base the Index for January 1987 was 394.5).

STRIPS

Stock which may be stripped and reconstituted

7. Subject to paragraph 9 below, the Stocks which may be stripped under the arrangements described in this memorandum are -

(i) any Stocks issued on terms that they may be stripped, and that holdings of them may be reconstituted; and

(ii) any other Stocks specified as Stocks which may be stripped, and of which holdings may be reconstituted, in notices issued by, or on behalf of, HM Treasury or the DMO, whether before or after the date of this memorandum.

8. The Stocks which at the date of this memorandum[3] may be stripped are -

8% Treasury Stock 2000
7% Treasury Stock 2002
6^1/2% Treasury Stock 2003
8^1/2% Treasury Stock 2005
7^1/2% Treasury Stock 2006
7^1/4% Treasury Stock 2007
8% Treasury Stock 2015
8% Treasury Stock 2021

9. Stock which is held on the Belfast or Dublin registers or on the National Savings Stock Register may not be stripped. Accordingly the expression "eligible Stock" is used in this memorandum to refer to Stock falling within paragraph 7 above which is held on the register maintained by the Bank of England under regulation 1 of the Government Stock Regulations 1965.

Who may hold strips; who may strip and reconstitute Stock

10. Strips may be held only by a member of the CGO Service (subject to the rules of that Service), HM Treasury or the Bank of England. Like any other government securities, strips may be held by one person on behalf of another. Any person may therefore own strips beneficially by making arrangements to hold them through a member of the CGO Service.

11. Only a gilt-edged market maker, HM Treasury or the Bank of England may strip and reconstitute Stock.

Stripping of Stock

12. Subject to the terms of this memorandum, an amount of eligible Stock of any description may be exchanged for -

(i) an individual security or individual securities consisting of one such security for each outstanding interest payment[4] in respect of that amount of Stock, each such security conferring the right to receive on the due date of the relevant interest payment a sum equal to that of the relevant interest payment; and

(ii) a security conferring the right to receive, on the due date for the repayment of that Stock, a sum equal to the sum payable in respect of principal on the repayment of that amount of Stock.

[3] It is intended that 6% Treasury Stock 2028 will become strippable following the issue of a further £3,000 million of this Stock on 21 May 1998.

[4] For this purpose an 'outstanding' interest payment means an interest payment for which the record date (that is, the date on which a balance is struck for payment of that interest payment under section 2 of the National Debt (Stockholders Relief) Act 1892) has not passed at the time the right to strip is exercised.

13. In this memorandum -

(i) the process of exchange described in paragraph 12 above is referred to as the "stripping" of the relevant amount of Stock;

(ii) securities of the kinds described in paragraph 12 (i) and (ii) above are referred to as "strips";

(iii) a security of the kind described in paragraph 12 (i) above is referred to as a "coupon strip"; and

(iv) a security of the kind described in paragraph 12 (ii) above is referred to as a "principal strip".

Any reference in this memorandum (in whatever terms) to strips of any description held by a person is a reference to the balance of such strips held by that person at the relevant time, taking account of all exchanges made under paragraph 12 above or paragraphs 22 to 29 below and all transfers made as described in paragraph 19 below.

14. The procedure for stripping is set out in the rules of the CGO Service, as amended from time to time.

15. Upon the issue of the appropriate strips in exchange for Stock stripped in accordance with this memorandum, the Stock stripped will be cancelled and the register will be amended accordingly.

16. Where eligible Stock is stripped during the period between the record date for an interest payment and the date of payment, the holder will not be entitled to receive a strip in respect of that interest payment, which will be paid to the person registered as the holder of the Stock on the record date.

17. Eligible Stock may not be stripped after the shutting date. For the purposes of this memorandum the "shutting date" of Stock of any description means the last day on which transfers of the Stock may be submitted for registration before the redemption date of the Stock.

Strips

18. Each strip will confer on the holder the right to payment, on the due date for payment of the strip, of a sum equal to the nominal amount of the strip. The due date for payment of a strip will be specified in the title of the strip designated on the register.

19. The current regulations[5] provide that strips may be transferred only through the CGO Service. The regulations provide for the arrangements for registration to reflect the terms relating to fungibility referred to in paragraphs 20 and 21 below.

20. Subject to paragraph 21 below, strips will be issued on the following terms relating to fungibility -

(i) coupon strips payable on the same day will not be distinguished one from another by reference to the Stock from which they are derived or in any other manner[6];

(ii) principal strips will be distinguished from coupon strips;

(iii) principal strips derived from Stock of a particular description will not be distinguished one from another but will be distinguished from principal strips derived from Stock of any other description, even where the other principal strips are payable on the same date.[7]

21. Strips of any description may be issued on terms that, in respects or in circumstances or to an extent different from those provided by paragraph 20 (ii) and (iii) above, they will be distinguished from, and will accordingly not be fungible with, other strips or other strips of a particular description or descriptions. Such terms may also preclude or restrict the use of the strips in question for the reconstitution of Stock in accordance with paragraphs 22 to 29 below. Any such terms will be set out in a notice given in accordance with paragraph 48 below at or before the time of issue of the relevant strips.

Reconstitution of Stock from strips

22. Subject to the provisions of this memorandum, strips such as are specified in paragraph 23 below may be exchanged for an amount of eligible Stock of any specified description the shutting date of which has not then passed. Such an exchange is in this memorandum referred to as the "reconstitution" of such Stock.

5 The Government Stock Regulations 1965 (S.I. 1965 No 1420, as amended).

6 This includes coupon strips derived from an “A” tranche of Stock, which will not be distinguished from coupon strips of the parent Stock even during the period when the “A” Stock continues to be distinguished from the parent Stock. “A” tranches are not, however, currently strippable.

7 For the purposes of stripping an “A” Stock will be treated as Stock of the same description as the parent Stock. Principal strips of the “A” Stock will not therefore be distinguished from principal strips of the parent Stock, even during the period when the “A” Stockis distinguished from the Stock. As noted above, “A” tranches are not currently strippable.

23. The strips referred to in paragraph 22 above are -

(i) principal strips derived from eligible Stock of the description in question conferring the right to receive a sum equal to the principal sum payable on the repayment of the amount of Stock to be reconstituted; and

(ii) in respect of each interest payment date in respect of such Stock for which the record date has not then passed, coupon strips conferring the right to payment on that date of a sum equal to the interest payable on that date on the amount of Stock to be reconstituted;

other than any strips which may not be used for the proposed reconstitution because of a restriction of the kind described in paragraph 21 above.

24. Stock may be reconstituted regardless of whether any or all the coupon strips for which it is exchanged are derived from Stock of the relevant description and regardless of whether the Stock from which those coupon strips are derived can be identified.

25. The procedure for reconstitution of Stock is set out in the rules of the CGO Service, as amended from time to time.

26. Reconstituted Stock will carry the same rights as, and will not be distinguished from, the existing Stock of the relevant description.[8] Stock issued on reconstitution will be amalgamated on the register with any other Stock of the relevant description then held by the person to whom it is issued.

27. Principal and coupon strips exchanged under paragraph 22 above for reconstituted Stock will be cancelled upon the issue of the reconstituted Stock.

28. Where eligible Stock is reconstituted during the period between the record date for an interest payment and the date of payment, the Stock will be reconstituted on an ex-dividend basis and accordingly the strips exchanged for the reconstituted Stock will not include strips corresponding to that interest payment.

29. Stock may not be reconstituted after its shutting date.

Amendments relating to stripping and reconstitution

30. Any amendments or supplements made pursuant to paragraph 48 below may -

(a) extend the scope of the securities which may be stripped and reconstituted;

(b) extend, limit or redefine who may hold strips and who may strip and reconstitute Stock, either generally or in relation to particular cases or categories;

(c) modify the terms relating to fungibility in paragraphs 20 and 21 (including a modification to provide that strips of specified descriptions will no longer be distinguished one from another);

(d) modify the arrangements for reconstitution in paragraphs 22 to 29.

Any such amendments relating to the matters referred to in this paragraph 30 may affect Stock and strips already in issue.

METHODS OF APPLICATION FOR STOCK

Auctions

31. Most auctions of Stock make provision for bids to be made on a competitive or non-competitive basis, as set out below. Any differences applicable to a particular auction will be as set out in the relevant prospectus.

32. Bids must be submitted to the Bank of England's Registrar's Department, who are acting on behalf of the DMO, or the DMO on the application form published with the prospectus; gilt-edged market makers may bid by telephone to the DMO. Only one bid may be submitted on any one application form.

33. Application forms should arrive at the Bank of England's Registrar's Department or the DMO by the date and time specified in the prospectus for their receipt (the "latest specified time"). However the DMO reserves the right (but is not obliged) to accept applications which are received through the post later than this provided that the cover bears a legible postmark not later than the latest specified time. The DMO will not usually exercise its power to accept an application received late unless it was posted early enough for it to have been reasonable to expect it to arrive before the latest specified time.

[8] It will not be possible to reconstitute into an "A" tranche, even though it will, in due course, be possible to strip an "A" tranche.

34. *Competitive bids*

(i) Each competitive bid must be for one amount and at one price expressed as a multiple of 1/32nd of £1 per £100 nominal of Stock[9] and must be for a minimum of £500,000 nominal of Stock and for a multiple of Stock as follows -

Amount of Stock applied for	Multiple
£500,000 - £1,000,000	*£100,000*
£1,000,000 or greater	*£1,000,000*

(ii) Payment in full at the price bid (plus accrued interest or less rebate interest, if applicable[10]) must be made by a CHAPS payment (except for applicants who have requested that any Stock sold to them be credited direct to an account in the CGO Service - see paragraph 36 below). Each CHAPS payment must be sent to the Sterling Banking Office, Bank of England (Sort Code 10-00-00) for the credit of "New Issues" (Account Number 58560009) quoting the reference "AUCTION" to arrive not later than the date and time specified for such payments in the prospectus. CHAPS payments must be debited to an account in the name of the applicant (or an account in the joint names of the applicant and one or more others) held with a bank or building society in the United Kingdom.

(iii) The DMO reserves the right to reject any competitive bid or any part of any competitive bid. Subject to this, competitive bids will be ranked in descending order of price and Stock will be sold to applicants whose competitive bids are at or above the lowest price at which the DMO decides that any competitive bid should be accepted (the "lowest accepted price"). Applicants whose competitive bids are accepted will purchase Stock at the prices at which they bid (plus accrued interest or less rebate interest, if applicable[10]). Competitive bids which are accepted and which are made at prices above the lowest accepted price will be satisfied in full. Competitive bids which are accepted and which are made at the lowest accepted price may be satisfied in part only. No sale will be made of an amount less than £1,000 nominal of Stock.

35. *Non-competitive bids*

(i) A non-competitive bid must be for not less than £1,000 nominal and (except in the case of a bid made by a gilt-edged market maker) for not more than £500,000 nominal of Stock, and must be for a multiple of £1,000 nominal of Stock.

(ii) Only one non-competitive bid may be submitted for the benefit of any one person. Multiple applications or suspected multiple applications are liable to be rejected. Only one non-competitive bid may be submitted on any one application form.

(iii) A separate cheque representing payment at the rate specified in the prospectus must accompany each non-competitive bid (except for applicants who have requested that any Stock sold to them be credited direct to an account in the CGO Service - see paragraph 36 below); cheques must be drawn on a bank in, and payable in, the United Kingdom, the Channel Islands or the Isle of Man.

(iv) The DMO reserves the right to reject any non-competitive bid. Non-competitive bids which are accepted will be accepted in full at the non-competitive sale price (plus accrued interest or less rebate interest, if applicable[10]). The non-competitive sale price will be equal to the average of the prices at which competitive bids have been accepted, the average being weighted by reference to the amount accepted at each price and rounded down to the nearest multiple of 1/32nd of £1.[9]

(v) If the non-competitive sale price (plus accrued interest or less rebate interest, if applicable[10]) is less than the amount paid by cheque on application, the excess amount paid will be refunded by cheque sent by post at the risk of the applicant.

(vi) If the non-competitive sale price (plus accrued interest or less rebate interest, if applicable[10]) is greater than the amount specified in the prospectus as being payable on application, applicants whose non-competitive bids are accepted may be required to make a further payment equal to the excess. The Bank of England's Registrar's Department on behalf of the DMO will notify applicants from whom a further payment is required by letter of the amount of Stock allocated to them and of the further payment due (except for applicants who have requested that any Stock sold to them be credited direct to a CGO account). Such a notification will not entitle an applicant to transfer the amount of Stock so allocated. The despatch of certificates to such applicants will be delayed until the further payment has been made.

[9] It is intended that, from 1 November 1998, gilt prices will switch from being quoted in 1/32 of £1 per £100 nominal of Stock to being quoted in decimal places. Appropriate amendments will be made to the provisions relating to methods of application for Stock by a notice given pursuant to paragraph 48 below.

[10] It is intended that, from 1 November 1998, the daycount convention, which is part of the formula used to calculate accrued and rebate interest, will change from "actual/365" to "actual/actual".

(vii) Each gilt-edged market maker may bid non-competitively for up to 0.5% of the Stock on offer at an auction.

36. *Applications for Stock to be credited to a CGO account*

Members of the CGO Service may, by completing the appropriate section of the application form, request that any Stock sold to them be credited direct to their account in the CGO. Stock sold to gilt-edged market makers as a result of telephone bids will be credited to their CGO account. Deliveries will be made on the date specified in the prospectus, by means of a member-to-member delivery from an account in the name of the Governor and Company of the Bank of England, Number 9 Account. Applicants who are not members of the CGO Service may similarly request that any Stock sold to them be credited direct to a CGO account in the name of a CGO member, provided they have made any necessary arrangements to ensure that the CGO member will be willing to receive the Stock. The consideration to be input in respect of the delivery will be the amount payable by the applicant on the sale of the Stock at the price bid in the case of a competitive bid, or at the non-competitive sale price in the case of a non-competitive bid (in either case plus accrued interest or less rebate interest, if applicable[10]).

37. *Other applications*

Stock sold to applicants who have not requested that Stock sold to them be credited direct to a CGO account will be registered in accordance with the instructions given in the application form. A certificate in respect of the Stock sold and (where applicable) a cheque for any excess amount paid will be sent by post at the applicant's risk. The DMO may at its discretion withhold despatch of a cheque or certificate until the applicant's cheque has been paid, or CHAPS payment received, and any verification of identity has been completed. In such cases the Bank of England's Registrar's Department on behalf of the DMO will notify the applicant by letter of the acceptance of the application and of the amount of Stock allocated subject to receipt of payment or verification of identity. This notification will not entitle the applicant to transfer the Stock so allocated. If an application is rejected a cheque for any amount paid on application will be returned to the applicant by post at the applicant's risk.

38. *Default in payment*

The DMO may at its discretion cancel any sale of Stock if the applicant defaults in making due payment. Where the applicant has requested that Stock be credited direct to a CGO account there will be a default in making due payment if the relevant CGO member fails to accept the delivery by the deadline for member-to-member deliveries on the due date for such deliveries specified in the prospectus. In any other case there will be default in making due payment if the applicant's cheque is not paid on first presentation (in the case of a non-competitive bid) or if the applicant's CHAPS payment is not received by the relevant time on the due date for such payments specified in the prospectus (in the case of a competitive bid). If the DMO accepts payment after the due date it may charge interest on the amount payable, in respect of the period from the due date to the date of payment, at a rate equal to the London Inter-Bank Offered Rate for one week deposits in sterling (LIBOR) plus 1% per annum. The DMO will determine this rate by reference to market quotations for LIBOR on the due date for payment, obtained from such source or sources as it may consider appropriate.

39. *General*

(i) The Bank of England's Registrar's Department, on behalf of the DMO, and the DMO reserve the right to require evidence of the identity of any applicant for Stock or of any person for whom an applicant is acting as agent. Failure to provide satisfactory evidence of identity may result in delays in delivery to CGO accounts and in registration and despatch of certificates. In addition if, for whatever reason, such evidence of identity is not provided as soon as is reasonably practicable (in the DMO's determination) and in any event within 21 days after the auction, the DMO may reject the application or cancel the sale of any Stock, and take any other action it may think fit.

(ii) Cancellation of a sale of Stock for any reason will not affect the non-competitive sale price or any other sale of Stock.

(iii) The DMO may sell less than the full amount of the Stock on offer at the auction and may decide not to sell any of the Stock.

"Tap" Sales

40. The DMO from time to time conducts sales of Stock by "tap" to gilt-edged market makers. These sales are not available for purchase direct from the DMO other than by gilt-edged market makers. Bids may be made by gilt-edged market makers in accordance with the Bank of England's Operational Notice dated July 1997.[1]

TAXATION

41. The general taxation position for Stock and strips, under current legislation, is broadly as follows-

(i) With effect from 6 April 1998, interest payments on Stock will be paid without deduction of income tax unless the stockholder has elected to receive interest payments net of income tax or where the Stock is held in bearer form. No deduction of income tax will be made on the payment of the nominal amount of a strip. However, as income arising on Stock and strips has a United Kingdom source, it may in certain circumstances be chargeable to United Kingdom income tax.

(ii) Both Stock and strips are or will be gilt-edged securities for the purposes of Schedule 9 to the Taxation of Chargeable Gains Act 1992. Accordingly, a disposal of Stock or of a strip will not give rise to a chargeable gain or allowable loss for the purposes of capital gains tax.

(iii) Stock will not be a "relevant discounted security" for income tax purposes. Thus, for a holder of Stock who is neither trading in the Stock nor within the charge to corporation tax in respect of it, United Kingdom income tax arising in relation to holdings of the Stock will generally be limited to income tax on interest received or, in certain circumstances, accrued.

(v) Strips are “relevant discounted securities” for income tax purposes. Thus any profit realised on the transfer or redemption of a strip (including any profit deemed to be realised where the strip is held at the end of 5 April in any year of assessment) will be chargeable to income tax in accordance with the provisions of Schedule 13 to the Finance Act 1996.

(vi) For a holder within the charge to corporation tax, a holding of Stock or of a strip will be a "loan relationship" to which the provisions of Chapter II of Part IV of the Finance Act 1996 will apply.

(v) Transfers of Stock or strips are free of stamp duty and stamp duty reserve tax.

Residents abroad: freedom from tax

42. Except in the case of 3½% War Loan where the provisions are as set out in the prospectus, the provisions set out in paragraph 43 and 44 apply for the purpose of conferring exemptions in certain cases from United Kingdom taxation on non-resident holders of Stock.

43. The provisions are as follows in the case of further issues of a Stock first issued prior to 29 April 1996 (including any Stock which is reconstituted from strips) if reference is made in the prospectus or notice to provision for exemption from United Kingdom taxation in favour of non-resident holders of the Stock -

(i) The Stock and the interest payable thereon will be exempt from all United Kingdom taxation, present or future, so long as it is shown that the Stock is in the beneficial ownership of persons who are neither domiciled nor ordinarily resident in the United Kingdom.

(ii) Further, the interest payable on the Stock will be exempt from United Kingdom income tax, present or future, so long as it is shown that the Stock is in the beneficial ownership of persons who are not ordinarily resident in the United Kingdom.

(iii) These exemptions will not apply so as to exclude the interest from any computation for taxation purposes of the profits of any trade or business carried on in the United Kingdom.

(iv) These exemptions are also subject to paragraph 46 below.

44. The provisions are as follows in the case of Stock issued after 29 April 1996 where the prospectus or notice provides for exemption from United Kingdom taxation to apply in favour of non-resident holders of the Stock, except where the prospectus or notice provides for paragraph 43 to apply. Under legislation to take effect from 6 April 1998 which is proposed to be contained in the Finance Act 1998, the same exemption would be applicable in the case of Stocks issued before 6 April 1998 where the prospectus or notice did not provide for the exemption to apply. References below to “Stock” are to the Stock and interest payable thereon.

(i) The Stock will be exempt from all United Kingdom taxation, present or future, so long as it is shown that the Stock is in the beneficial ownership of persons who are not ordinarily resident in the United Kingdom.

(ii) This exemption will not apply so as to exclude the Stock from any computation for taxation purposes of any income, profits or gains derived from any trade or business carried on in the United Kingdom.

(iii) This exemption is also subject to paragraph 46 below.

Strips

45. For strips (including strips derived from a Stock first issued prior to 29 April 1996) the following provisions apply -

(i) Strips will be exempt from all United Kingdom taxation, present or future, so long as it is shown that they are in the beneficial ownership of persons who are not ordinarily resident in the United Kingdom.

(ii) This exemption will not apply so as to exclude strips or amounts payable in respect of strips from any computation for taxation purposes of any income, profits or gains derived from any trade or business carried on in the United Kingdom.

(iii) This exemption is also subject to paragraph 46 below.

46. *General*

(i) For the purposes of paragraphs 43 to 45 above, persons are not ordinarily resident in the United Kingdom if they are regarded as not ordinarily resident for the purposes of United Kingdom income tax.

(ii) The exemptions set out in paragraphs 43 to 45 above are subject to the following limitations-

(a) the exemptions are subject to the provisions of any law, present or future, of the United Kingdom directed to preventing avoidance of taxation by persons resident or ordinarily resident in the United Kingdom. In particular, no amount in respect of Stock or the interest payable thereon will be exempt from income tax where, under any such provision, it falls to be treated for the purpose of the Income Tax Acts as income of any person resident or ordinarily resident in the United Kingdom;

(b) the exemptions will not entitle a person to claim any repayment of tax unless the claim is made within the time limit provided for under applicable legislation. In general, such a claim will be within the time limit if it is made within five years from the 31 January following the year of assessment to which it relates.

(iii) Where relevant, applications for exemption from United Kingdom income tax should be made in such form as may be required by the Commissioners of Inland Revenue. The appropriate forms may be obtained from the Inland Revenue, Financial Intermediaries and Claims Office, Fitz Roy House, PO Box 46, Nottingham, NG2 1BD.

GOVERNMENT STATEMENT

47. As explained in the statement issued by HM Treasury on 29 May 1985, in the interest of the orderly conduct of fiscal policy, neither Her Majesty's Government nor its servants or agents undertake to disclose tax changes decided on but not yet announced, even where they may specifically affect the terms on which, or the conditions under which, Stock is issued or sold by or on behalf of the Government. No responsibility can therefore be accepted for any omission to make such disclosure and any such omission shall neither render any transaction liable to be set aside nor give rise to any claim for compensation.

REVISION

48. The right is reserved to amend or supplement this memorandum by further notices given from time to time. Any notice given under this paragraph will be published by HM Treasury in such manner as HM Treasury considers appropriate.

12 May 1998

Copies of this Information Memorandum are available from the DMO, Cheapside House, 138 Cheapside, London EC2V 6BB (telephone 0171-862 6500; fax 0171-862 6509) or from the Bank of England, Registrar's Department, Southgate House, Southgate Street, Gloucester GL1 1UW (telephone 01452 398123; fax 01452 398449).