UARTERLY

United Kingdom **Debt** Management Office

2nd Quarter 1999 April - June

International benchmark bond yields increased during the second guarter. Chart 1 illustrates this increase. Yields increased as impressions of the global economy. and expectations of future growth improved. The economy of the United States continued to grow at rates that surprised commentators. The UK economy began to show signs that a soft landing had been achieved; survey data illustrated increasing business and consumer confidence. These factors affected market expectations of future interest rate levels and major government bond yields rose steadily.

Forecasts of growth in the global economy improved, with many of the economies in South East Asia showing signs of recovery. Evidence of this was seen in the recovery of many East Asian exchanges: the Hang-Seng recovered to the levels of October 1997, the KOSPI 200 to those of June 1996 and Thailand's SET index to levels of March 1998. Similarly the Japanese economy showed the first signs of improvement, although market growth forecasts for the Japanese economy remained negative for the immediate future. The Nikkei 225 saw a recovery to levels not seen since October 1997. Chart 2 shows four of the major equity indices all of which rose over the quarter. The Nikkei and the Dax closed the quarter 12% higher than at the start.



Source: DMO

Source: Reuters. 1 January 1999 = 100.

Chart 2 shows the continued appreciation of the Dow Jones Industrial Index, which closed the quarter 9% higher. The US economy had shown signs of continuing growth before this quarter. The Federal Reserve's FOMC had indicated that it may need to increase the Federal funds rate to pre-crisis levels. As the quarter progressed the Federal Reserve continued to indicate that an increase was likely. On 14 May US CPI data suggested that the strength of the US economy and asset prices had finally fed through into consumer prices. The US CPI showed a month-on-month increase of 0.7%, against forecasts of around 0.4%, the fastest rate of consumer price growth since October 1991. The FOMC announced after the 18 May meeting that it had a tightening bias. This position firmed over the following weeks. The market anticipated the 25 basis point increase that the FOMC instigated on 29 June, increasing the Fed funds rate to 5.00%.

Comments would be welcome to the editor David Page, (0171) 862 6524.



The United Kingdom **Debt Management Office** is an Executive Agency of **HM** Treasury





% T Chart 5: UK Interest Rates



1-Apr-99 15-Apr-99 29-Apr-99 13-May-99 27-May-99 10-Jun-99 24-Jun-99 Source: Bank of England. The 1 week to 3 month rates refer to the interbank mid-rates.

The movements in US Treasuries associated with upward expectations of US interest rates affected gilts. However, gilts increased the spread that they traded through Treasuries over the period. The spread of gilts over bunds fell marginally over the quarter. The fall in the bund spread was attributed largely to the fall in the euro relative to sterling.

The UK economy also showed signs of improvement. The market believed that UK growth had reached its lowest point of the current cycle in the previous quarter. It began looking for signs of a gradual upturn, although growth forecasts for the year remained below trend. Survey data from CIPS and the CBI illustrated increasing confidence from the service and manufacturing sectors, compared to the start of the year. The housing market, as reported by the Halifax and Nationwide, showed further signs of rising activity with significant increases in mortgage lending and house prices in certain areas of the country. ILO unemployment continued to fall over the quarter.

The economy's improving data reduced the market's expectation of further interest rate cuts. The MPC cut the repo rate by 25 basis points on 8 April to 5.25%. Short sterling contracts began to imply an increase in rates towards the end of the year. However, the MPC cut the repo rate by a further 25 basis points on 10 June. This cut to 5.00% was not widely expected by the market. The market viewed it as the last cut before a significant pause, and possibly as the last in the current cycle.

UK benchmark gilts followed the international trend and yields rose over the quarter. The shorter end of the curve saw the greatest rises, reflecting the changing interest rate sentiment. The yield on the 63/4% Treasury 2004 increased by 81 basis points over the quarter. This was the first time that the yield on a five-year bond had been at this level since mid-September 1998, before the October crisis. By comparison the yields on the 53/4% Treasury 2009 rose by 58 basis points and the 6% Treasury 2028 by only 18 basis points. The yield curve increased its inversion from five years out. Chart 7 shows how the UK zero-coupon yield curve changed over the guarter. The most obvious change was in its shape, which showed a pronounced "hump" around the five-year sector. This was the product of anticipation of future increases in the repo rate combined with the falling current repo rate.

Index-linked gilts also saw increases in yields over the quarter. The real yields of both the 2¹/₂% IL Treasury 2009 and the 4 1/8% IL Treasury 2030 increased by 18 basis points. As chart 8 shows, the increase in real yields did not follow the gradual appreciation of nominal yields. Index-linked gilt yields continued the previous financial year's fall at the beginning of the quarter, reaching yield lows of the quarter of 1.60% in the over thirty-year bond. This fall halted and reversed with the prospect of increased supply. The auction of 4 1/8% IL Treasury 2030 on 28 April brought an end to the increase in yields. The 2030 closed on the 28 April with a real yield of 1.89%. The rest of the quarter saw index-linked yields fluctuate around this level, despite the continued rise in conventional yields.



The DMO held three auctions over the guarter as required under the remit for 1999-2000 set by HM Treasury. The first conventional auction was held on 26 May, auctioning a nominal £2.5bn of 6% Treasury 2028. This was the first conventional auction for ten months, since July 1998. It was well covered at 2.24 times, with a yield tail of 2 basis points. A second conventional auction was held on 22 June. This auction launched £2.5bn nominal of a new fiveyear bond: 5% Treasury 2004. This auction was also well covered at 2.01 times, with a tail of 2 basis points. The DMO held an index-linked auction at the start of the quarter. This auction, however, was uncovered and only 86% of the stock was allocated (the auction was 0.94 times covered but was scaled back because of unacceptably low bids). The clearing price of the auction was lower than the 'when-issued' and the subsequent secondary market price of the stock. This implies that the price clearing mechanism failed in this auction. The DMO will, in due course, review the experience of the transition to index-linked auctions.



Source: DMO. 3% inflation assumption.

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1999-2000	Financind	Requirement	(+ nn)
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1353-2000 I mancing Require				
	DMR (1) March 1999	Update 20 April 1999	Sales to end of June	Remaining
CGNCR Forecast	6.2	6.2	-	-
Net Financing for Official Reserves	2.4	2.3	-	-
Gilt Redemptions	14.8	14.9	-	-
Gilt Sales Residual from 1998-99	-2.3	-4.1	-	-
Financing Requirement Less net financing from:	21.0	19.3	-	-
National Savings	0.1	0.1	-	-
Treasury Bill and other short-term debt (2)	3.6	1.9	-	-
Gross Gilt Sales Required of which	17.3	17.3	-	-
Ultra-short conventionals (1-3 years)	0	0	0.00	0.00
Short conventionals (3-7 years)	5.0	5.0	2.39	2.61
Medium conventionals (7-15 years)	3.0	3.0	-0.04	3.04
Long conventionals (>15 years)	5.8	5.8	2.96	2.84
Index-linked gilts	3.5	3.5	0.87	2.63
Total			6.18	11.12

Note: figures may not sum due to rounding

(1) Debt Management Report 1999-2000

4.6

4.4

4.2

Source: DMO

(2) Stock of Treasury bills and other short-term debt will need to increase during 1999-2000 to accomodate the DMO's cash management operations

Auction Results 1999-2000							
Auction Date	Issue Amount (nominal)	Stock	Cover	Tail (bp)	Lowest Accepted Price	Yield at Lowest Accepted Price (%)	
28 April 1999	£0.5bn	4 1/8% IL 2030	0.94	_*	£179.34	1.97	
26 May 1999	£2.5bn	6% 2028	2.24	2	£120.20	4.72	
22 June 1999	£2.5bn	5% 2004	2.01	2	£98.70	5.30	
* Index-linked gilts are issued through a uniform price auction format.							

Details of GEMM Market Turnover (2nd Quarter 1999)







Herfindeni Indec 1050 Ciert **Andaeniny** al 1000 10 350 900 862 800 790 u 700 15 ARC 1-401-39 15-Apr-35 30-Apr-89 14489-39 25.May-35 11-Jan-98 25-Jan-99

Environment Stated Firms Explanatory Notes:

4

A Herfindahl Index (HI) is a statistical measure of concentration. The HI is calculated as the sum of firms' squared market share. It is compared against numbers of equal sized firms' market shares e.g. five equal sized firms have a Herfindahl number of 2,000, sixteen have 625.

Professional trades are defined as GEMM trades with IDBs, other GEMMs, the DMO and the Bank of England.

Charts are based on data reported to the DMO by GEMMs for the period starting 1 April 1999 and ending 25 June 1999.

GEMMA REFERENCE PRICES

Each evening the DMO publishes reference prices and the associated gross redemption yields for each gilt on its wire services pages, based on prices provided by members of the Gilt-Edged Market Makers Association (GEMMA). This box briefly explains how the prices and yields are derived.

Members of GEMMA provide clean, mid-market prices for all conventional gilts (except those with less than £250 million nominal outstanding and When-Issued gilts prior to auctions) and mid-market yields for strips (which are then converted into prices by the DMO). Prices for index-linked gilts (IGs) are provided by the IG GEMMs. Prices for gilts with less than £250 million nominal outstanding are derived by the DMO from the prices of other gilts with similar characteristics. The median value of the prices contributed for each gilt is first derived; any outlying prices are then excluded, and the arithmetic mean of the remaining prices calculated. For conventionals (including double-dated and undated gilts), the margin for outliers is 15p, for floating rate gilts 3p, for IGs 20p and for strips 30p. The averaged clean prices for conventionals and IGs are first rounded to 2 decimal places (consistent with the normal trading convention) and then adjusted to provide dirty prices for settlement the following business day. Dirty prices and strips prices are rounded to 6 decimal places. All prices are quoted per £100 nominal.

All yields are calculated from prices (and prices calculated from yields for the strips²) using the DMO yield formulae, which are set out in "Formulae for Calculating Gilt Prices from Yields", published in June 1998 (available on the DMO's website). This includes the use of a 3% inflation assumption for the calculation of IG yields. Yields are calculated from the rounded averaged prices for each gilt, and the yields are rounded to 3 decimal places.

The prices are published on the DMO's wire service pages shortly after 5pm each evening³. A table setting out the page layouts can be found on the DMO's website. This is directed mainly towards those end-investors who have or wish to set up automatic field captures linked to live market data services.

Although the DMO monitors the quality of the prices provided by the GEMMs and IG GEMMs, no guarantee is given of their accuracy. In addition, the prices are for reference only and do not constitute an offer to buy or sell securities.

Example (assuming 7 contributors, for simplicity)

Gilt: 6% Treasury Stock 2028
Settlement date: 16 June 1999
Clean prices contributed (arranged in increasing order of magnitude): 117.32, 117.45, 117.76, 117.82, 117.86, 117.98, 117.99
Median clean price = 117.82
Outlier exclusion: reject clean prices which are more than 15p lower or higher than 117.82. Remaining clean prices: 117.76, 117.82, 117.86
Averaged clean price = arithmetic mean of the remaining clean prices = (117.76 + 117.82 + 117.86)/3 = 117.813333333...
Rounded averaged clean price = 117.81
Rounded accrued interest = 0.147541
Rounded dirty price = 117.81 + 0.147541 = 117.957541
Rounded DMO yield (calculated from the rounded dirty price) = 4.857

The figures in bold are published alongside the gilt's name on the wire services. For further information please contact Gurminder Bhachu on (0171) 862 6512.

¹ ie excluding accrued or rebate interest.

² For strips, the process is slightly different. For each strip, the raw yield data provided by the GEMMs are first converted into prices. The outlier exclusion process is then applied to these prices, and the remaining prices are then averaged and the result is rounded to 6 decimal places. The rounded price is then converted back into a yield, which is rounded to 3 decimal places. These intermediate roundings will mean that the price to yield and yield to price calculations on the published prices and yields will not agree precisely. This is an interim solution and is necessary due to the setup of the DMO's system.

³ These pages can be found from GEMMA01 (and from GEMMA13 for strips). Details on page 8.

Details of the Gilts Portfolio as of 30 June 1999

The following charts are based on nominal values. Index-linked gilts are uplifted to account for accrued inflation.

Composition of Gilts Stock



Portfolio Summary Statistics

Portfolio Average Maturity: **9.8 years** Portfolio Average Modified Duration: **7.3 years** Portfolio Average Convexity: **101.5** Average Amount Issued of Largest 20 Gilts: **£9.3 bn**

Gilt Portfolio's Maturity Split



Size of Issues in £ bn as Percentage of the Portfolio



Gilt Redemptions (by Financial Year)



1999-2000 2003-04 2007-08 2011-12 2015-16 2019-20 2023-24 2027-28 Double-dated issues currently above par are assumed to be called at first maturity. Index-linked gilts are not uplifted for inflation. Inflation uplift is scored in the CGNCR on maturity.

Distributions of Holdings of Gilts in Market Hands Q4 1998



Source: ONS. Holdings of gilts in market values. Note: ONS will publish updated data on 29 July 1999.

Stock in Issue at 30 June 1999* (£mn nominal)

Conventional Gilts

Stock	Redemption Date	Amount in Issue	Amount Held in Cer Stripped Form	ntral Government Holdings (end-March 1999)+
6% Treasury 1999	10-Aug-99	6,950	-	476
10 1/4% Conversion 1999	22-Nov-99	1,798	-	17
9% Conversion 2000	03-Mar-00	5,358	-	42
13% Treasury 2000	14-Jul-00	3,171	-	96
8% Treasury 2000	07-Dec-00	9,800	162	219
10% Treasury 2001	26-Feb-01	4,406	-	15
11 1/2% Treasury 2001-04	19-Mar-01	1.620	-	142
Floating Rate 2001	10-Jul-01	3,000	-	16
7% Treasury 2001	06-Nov-01	12.750	-	692
7% Treasury 2002	07-Jun-02	9,000	390	76
9 3/4% Treasury 2002	27-Aug-02	6.527	-	12
8% Treasury 2002-06	05-Oct-02	2.050	-	65
8% Treasury 2003	10-Jun-03	8.600	-	418
10% Treasury 2003	08-Sep-03	2.506	-	-
6 1/2% Treasury 2003	07-Dec-03	7,987	116	32
5% Treasury 2004	07-Jun-04	2.500	0	-
3 1/2% Funding 1999-2004	14-Jul-04	543	-	32
9 1/2% Conversion 2004	25-Oct-04	3.412	-	-
6 3/4% Treasury 2004	26-Nov-04	6.500	-	363
9 1/2% Conversion 2005	18-Apr-05	4.842	-	-
8 1/2% Treasury 2005	07-Dec-05	10.373	408	188
7 3/4% Treasury 2006	08-Sep-06	4 000	-	261
7 1/2% Treasury 2006	07-Dec-06	11,700	197	132
8 1/2% Treasury 2007	16-Jul-07	7 397	-	216
7 1/4% Treasury 2007	07-Dec-07	11 000	152	91
5 1/2% Treasury 2008-12	10-Sep-08	1 000	-	56
9% Treasury 2008	13-Oct-08	5 621	_	-
8% Treasury 2009	25-Sep-09	560	-	55
5 3/4% Treasury 2009	07-Dec-09	6 277	84	546
6 1/4% Treasury 2000	25-Nov-10	4 750	-	249
9% Conversion 2011	12-Jul-11	5 273	<u>_</u>	110
7 3/4% Treasury 2012-15	26- Jan-12	800	_	148
9% Treasury 2012	06-Aug-12	5 361	_	-
8% Treasury 2013	27-Sen-13	6 100	_	330
8% Treasury 2015	07-Dec-15	13 787	186	86
8 3/4% Treasury 2017	25-Aug-17	7 550	-	179
8% Treasury 2021	07- Jun-21	16 500	567	127
6% Treasury 2028	07-Dec-28	7 500	201	43
2 1/2% Treasury	Undated	474	-	-
3 1/2% War	Lindated	1 909	_	_
2 1/2% Consolidated	Undated	275	<u>_</u>	_
4% Consolidated	Undated	358	_	_
	Undated	000		
Index-linked Gilts	Redemption Date	Amount in Issue	Nominal Including Inflation Uplift	
2 1/2% I-L Treasury 2001	24-Sep-01	2.150	4,518	23
2 1/2% I-L Treasury 2003	20-May-03	2,700	5,639	12
4 3/8% I-L Treasury 2004	21-Oct-04	1.300	1,577	-
2% I-L Treasury 2006	19-Jul-06	2.500	5.919	-
2 1/2% I-L Treasury 2009	20-May-09	2.625	5,483	26
2 1/2% I-L Treasury 2011	23-Aug-11	3,100	6,840	3
2 1/2% I-L Treasury 2013	16-Aug-13	4,200	7,745	7
2 1/2% LL Treasury 2016	26- Jul-16	1 125	8 212	25
$2 \frac{1}{2} $	20-Jul-10	2 900	0,010	20
2 1/2% 11 Trocourt 2024	17 Jul 24	3,000	7,004	10
4 4/00/ 11 Trees 2022	17-Jul-24	4,430	7,490	10
4 1/8% I-L Treasury 2030	22-JUI-30	2,150	2,618	-

* Stock of liquid issues. "Rump" stocks are excluded; a full list is obtainable from the DMO website. Double-dated issues currently above par are assumed to be called at first maturity.

+ Includes holdings by National Investments and Loans Office (NILO) and DMO. Excludes local authority, public corporation and Bank of England holdings. Figures no longer contain Bank of England holdings because of ESA 95 reclassifications.

Announcements, Events and Contacts

Date	Notice	Title
16 April	Press Notice	Transfer of UK Government's Cash Management - Progress and Timing
20 April	Press Notice	Index-linked Gilt Auction: 4 1/8% Index-linked Treasury Stock 2030: Initial Announcement
20 April	Screen Announcement	Revised Gilt Financing Arithmetic
28 April	Press Notice	Sale by Auction of 4 1/8% Index-linked Treasury Stock 2030: Final Results
18 May	Press Notice	Gilt Auction: 6% Treasury Stock 2028: Initial Announcement
26 May	Press Notice	Sale by Auction of £2,500 million of 6% Treasury Stock 2028: Final Results
9 June	Publication	DMO Corporate Overview and Business Plan 1999-2000
15 June	Press Notice	Details of the June Gilt Auction and a Future Conversion Offer: Initial Announcement
22 June	Press Notice	Sale by Auction of £2,500 million of 5% Treasury Stock 2004: Final Results
30 June	Press Notice	Gilt-Edged Auctions: July to September 1999
1 July	Press Notice	Gilt-Edged Conversion Offer: 9 1/2% Conversion Stock 2004 into 5% Treasury Stock 2004

Date	Event	Name	Position	Tele	phone No.
22 July	Conversion Offer Closes				-
23 July	DMO intends to announce provisional	Mike Willia	ms Chief Exe	cutive 01	71 862 6533
	results of conversion offer	Paul Mills	Head of F	Policy 01	71 862 6521
26 July	Final Results Announced	Hamish W	atson Chief Dea	aler 01	71 862 6530
28 July	Auction of 2 1/2% IL Treasury 2011	Jo Whelar	Head of N	larkets 01	71 862 6531
end-July	Publication of the Annual Gilts Review	Jim Juffs	Press Off	icer 01	71 862 6520
mid-August	Publication of the Investor's Guide	Jason Phil	lips Assistant	Press Officer 01	71 862 6527
end-August	Publication of the DMO Annual Report	David Pag	e Economic	Analyst 01	71 862 6524
	and Accounts	Steve Whi	ting Financing	Remit Officer 01	71 862 6532
20 September	Quarterly consultation with GEMMs	Martin Duf	fell Market Lia	aison Officer 01	71 862 6517
21 September	Quarterly consultation with end-	Mark Dead	con Quantitati	ve Analyst 01	71 862 6516
	investors	Gurminder	Bhachu Quantitati	ive Analyst 01	71 862 6512
28 September	Auction of 5 3/4% Treasury 2009	Switchboa	rd no.	01	71 862 6500
30 September	Auctions schedule announcement:	Fax no.		01	71 862 6509
	October to December 1999				

Information	Reuters/Bridge/ADP	Telerate	Bloomberg	Topic3/ASCII Bro	adcast
Index	DMO/INDEX		DMO <go></go>		
Announcements	DMO/GILTS1 to 7	22550 to 2256		44715	
Shop window general info	DMOGILTS8	6615		44715	
Shop window 1	DMO/GILTS9	6516		44716	
Shop window 2	DMO/GILTS10	6517		44717	
Shop window 3	DMO/GILTS11	6518		44718	
				Stock ID	ISIN code
GEMMA ref prices (Conventionals)	GEMMA01 to 06	47216 to 47221		44800 to 44894	44806 to 44809
GEMMA ref prices (Index-linked)	GEMMA08	47223		44805	44811
GEMMA ref prices (STRIPS)	GEMMA13 to 19	21291 to 21297		44850 to 44856	44850 to 44854
DMO website: www.dmo.g	jov.uk	Address: DMO, Cheapside House, 138 Cheapside, London EC2V 6BB.			

If readers have any comments on this review, please contact David Page on 0171 862 6524 or e-mail at david.page@dmo.gov.uk

8

