United Kingdom
Debt Management
Office

DMO Annual Review

2016-17

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

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Foreword by the DMO Chief Executive

The DMO again successfully delivered the government's gilt financing remit in 2016-17 against the backdrop of challenging financial market conditions. The EU referendum result on 23 June 2016 exerted a significant downward pressure on gilt and other government bond yields, which fell to record lows in August 2016. In addition there was a sharp rise in the financing requirement at Autumn Statement 2016. Despite these challenges the remit was delivered smoothly, perhaps in part reflecting the impact of a package of operational measures introduced in the 2016-17 remit, which included significantly reduced auction sizes for short and medium conventional gilts. 2016-17 also saw the resumption of secondary market gilt purchases through the Bank of England's Asset Purchase Facility.

The DMO raised £147.6 billion of gilt financing in 2016-17, a rise of £19.9 billion compared to 2015-16, and this was the ninth consecutive year that annual gross gilt sales had exceeded £100 billion. At the end of 2007-08, as the financial crisis began, the size of the gilt portfolio was £479 billion. At the end of 2016-17, it was over three times larger at £1,522 billion. Over the same period, the gilt market has developed significantly with a greater diversity of investors.

Auctions remain the government's primary and most important means of distributing gilts and accounted for £112.0 billion in 2016-17, 76% of the overall gilt sales programme. I was pleased to see an increase in the average cover ratio at gilt auctions in 2016-17, which rose to 1.98, up from 1.64 in 2015-16.

The use of supplementary distribution methods, principally syndicated gilt offerings, again allowed the DMO to target its core domestic investor base directly as part of a large programme of long-dated conventional and index-linked gilts. Seven syndicated gilt offerings were held in 2016-17, raising £33.0 billion. Such were the size and source of demand that five of these operations were increased in size above initial planning assumptions.

Over the financial year £3.2 billion of an initial £8.0 billion unallocated portion of financing was moved into the syndication programme, with £2.6 billion allocated to gilt tenders and £2.2 billion to the gilt auction programme. In all, the DMO held 58 gilt financing operations (including 48 auctions), 11 more than in the previous financial year.

I continue to be impressed by the efficiency with which the gilt market absorbed the level of gilt supply in 2016-17. Planned gilt sales rose by £15.0 billion at Autumn Statement 2016, which led to a total gilt sales requirement of £40 billion in the final quarter of 2016-17. The presence of a deep and well-functioning gilt market is critical to the DMO's ability to carry out its mandate successfully.

The DMO continued to perform strongly in carrying out its cash management function in 2016-17, with all related objectives achieved, despite ongoing challenges in the money market, in particular reduced liquidity in the repo market. Treasury bills continued to attract significant overseas investor interest, with around 48% of the market being held by such investors at the end of March 2017.

The DMO again successfully provided a cost-effective service to its clients through the fund management operations of the Commissioners for the Reduction of the National Debt. The market value of these funds was £29.4 billion at 31 March 2017.

Looking ahead, the DMO's remit for 2017-18 was published on 8 March 2017, setting out a significant reduction in planned gilt sales to £115.1 billion[1] and a remit structure broadly the same as in 2016-17. A reduction in debt financing from Treasury bills of £9.5 billion is planned for 2017-18.

Overall, the DMO has again performed strongly across its range of activities and operations. I want again to express my sincere appreciation to DMO staff, to colleagues at HM Treasury and at the Bank of England for their hard work and commitment in helping us to deliver our objectives. I am also grateful to our market counterparties for their professionalism and continued support throughout the year. The success of the DMO would not have been possible without them.

Sir Robert Stheeman

[1] The planned gilt sales total for 2017-18 was subsequently reduced to £114.2 billion with the publication of the outturn Central Government Net Cash Requirement (CGNCR) for 2016-17 on 25 April 2017.

Chapter 1: The Economy and Financial Markets

Macroeconomic developments

Growth in advanced economies was generally robust during the financial year as accommodative monetary policies continued and many of the main equity indices were at, or close to, record high levels at the end of the period. Following robust domestic GDP growth and rising inflationary pressures, policymakers in the US increased the upper band of the Federal Funds Target Rate by 0.50% to 0.75% in December 2016 and by a further 0.25% to 1.00% in March 2017. In the euro area, economic growth was modest and, while inflation picked up from a low of -0.2% at the start of the financial year, pressures remained subdued and the European Central Bank Governing Council kept its main interest rate at a record low of 0.0% and continued to purchase assets at €80 billion per month throughout the period. Growth in many emerging economies generally stabilised or improved modestly, with net commodity exporters benefitting from rising commodity prices.

In the UK, real Gross Domestic Product (GDP) was reasonably robust on a quarter-on-quarter (q-o-q) basis in the first three quarters of the financial year averaging 0.6%, but the rate slowed markedly to 0.2% in Q4. The services sector was the main driver of growth throughout the period and confidence remained relatively robust despite the uncertainties associated with the June 2016 European Union (EU) referendum and subsequent vote in favour of leaving the EU.

Consumer Price Index (CPI) inflation was below 1.0% year-on-year (y-o-y) for the first six months of the financial year as transport costs and food and drink prices depressed overall price growth. From October, when the rate was 0.9%, there was a rapid acceleration as oil prices rose[2] and weaker sterling put upward pressure on a wide range of import prices including food and clothing. In February 2017 the CPI rate rose above the Bank of England's target growth rate of 2.0% to a financial year peak of 2.3% and remained at that level in March.

The Retail Prices Index (RPI) measure of inflation, which is used to set the cash flows on index-linked gilts, started the financial year at 1.3% y-o-y, rising steadily for much of the financial year, reaching an in-year peak of 3.2% in February 2017 before slowing to 3.1% in March.

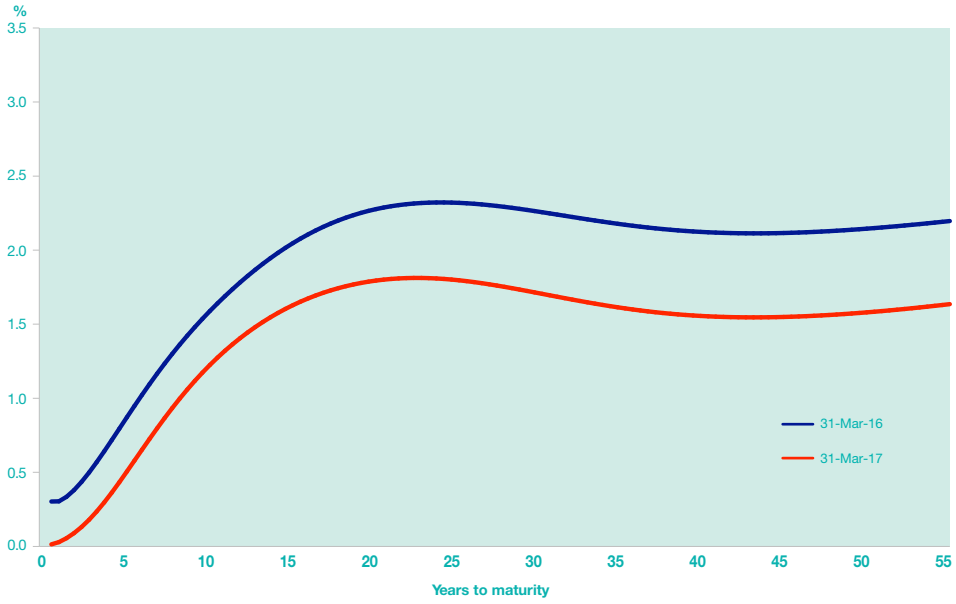
[2] Brent crude was around $40 per barrel at the start of the period and trended steadily higher to finish the year above the $50 level.

Gilt market developments

Par gilt yields

Nominal gilt yields fell across all maturities in 2016-17; this trend was, however, most noticeable at the long end of the curve. Over the course of the financial year, 2-year yields fell by 29bps to 0.10%, 5-year yields by 36bps to 0.44%, 10-year yields by 36bps to 1.11%, 30-year yields by 0.53bps to 1.75% and 50-year yields by 56bps to 1.55% (see Chart 1).

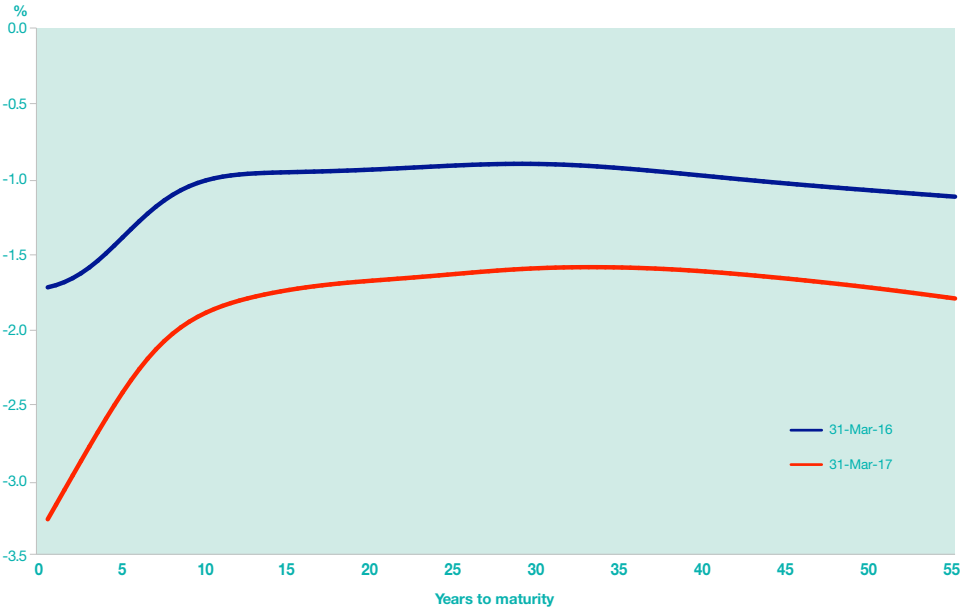
Chart 1: Nominal par yields



Source: DMO

Similarly, real yields also fell along the curve and moved further into negative territory. The most significant fall was at the short end, as the curve steepened. 5-year real par yields fell by 103bps to -2.43%, 10-year real par yields by 88bps to -1.90%, 30-year yields by 69bps to -1.60% and 50-year real par yields by 65bps to -1.73% (see Chart 2).

Chart 2: Real par yields curves



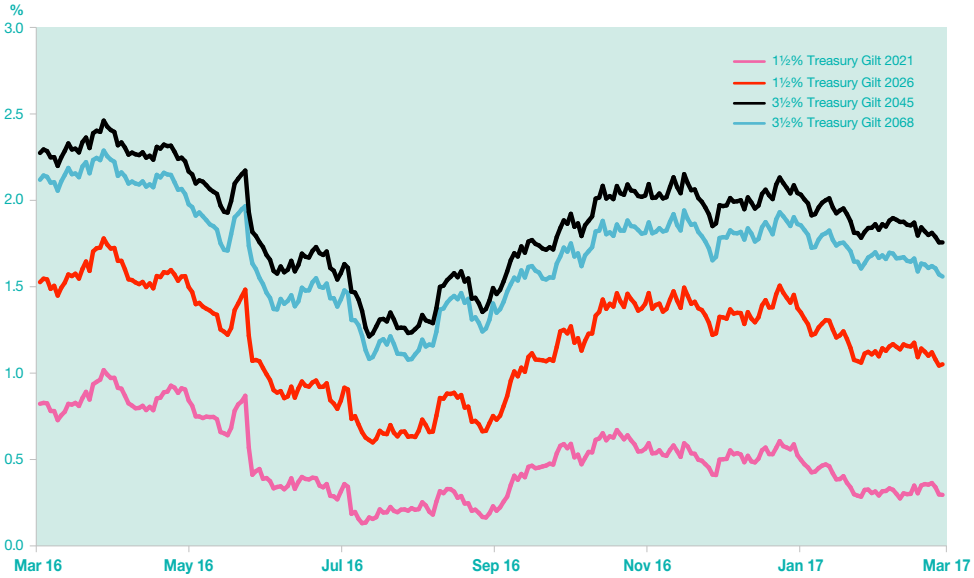
Source: DMO

Nominal yields

The gilt market benefited from increased flight to quality flows at the start of the financial year as the focus of attention turned to the EU referendum vote on 23 June 2016. Gilt yields rallied across the curve going into the result and, by the eve of the referendum, markets had priced in a 'Remain' vote as the most likely outcome, with the market selling off in a risk-off response. Global financial markets were, therefore, tested by the UK's unexpected decision to leave the EU; sterling suffered a sharp depreciation and fell to a 30-year low against the US dollar. In the resultant risk-on move, gilt yields fell to new lows over the course of the summer, with the 10-year gilt[3] yield initially falling by 41 bps (34%) to 1.08% in the two business days after the result was announced and reaching a low of 0.61% on 12 August 2016.

Against a more stable market backdrop in Q3 and following the introduction of a series of monetary easing measures by the Bank of England to mitigate any potential economic slowdown, gilt yields moved higher towards calendar year-end and, more generally, there was a return in risk appetite. Going into the final quarter of 2016-17, flight to quality flows resumed and gilt yields moved lower again on the back of global political factors, including the US Presidential election, upcoming elections in Europe and uncertainty surrounding the UK's negotiations to withdraw from the EU (see Chart 3).

Chart 3: Nominal yields



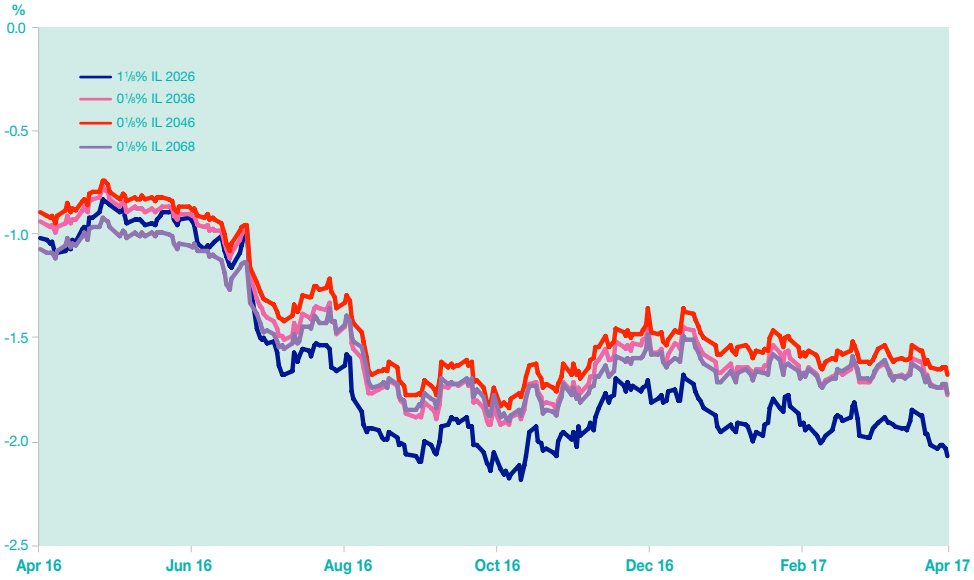
Source: DMO

[3] 1½% Treasury Gilt 2026.

Real yields

Chart 4 shows the real yields on selected index-linked gilts in 2016-17, all of which fell over the course of the financial year. The real yield on 0⅛% Index-linked Treasury Gilt 2026 fell by 103bps to -2.04%, and that on 0⅛% Index-linked Treasury Gilt 2036 fell by 82bps to -1.75%. Among longer maturities the real yield on 0⅛% Index-linked 2046 fell by 76bps to -1.66% and that on 0⅛% Index-linked Treasury Gilt 2068 by 67bps to -1.74%.

Chart 4: Real yields



Source: DMO

Break-even inflation rates

For the majority of the financial year, index-linked gilts, as measured by break-even inflation rates (BEIRs), outperformed relative to their conventional gilt counterparts, reflecting a rise in inflation expectations due to the depreciation in sterling. Inflationary concerns persisted over the period on the back of higher import prices and rising global commodity and energy prices. Over the course of 2016-17, 10-year BEIRs rose by 59bps (to 3.15%), while 30-year and 50-year BEIRs rose by 26bps (to 3.48%) and 12bps (to 3.36%) respectively (see Chart 5).

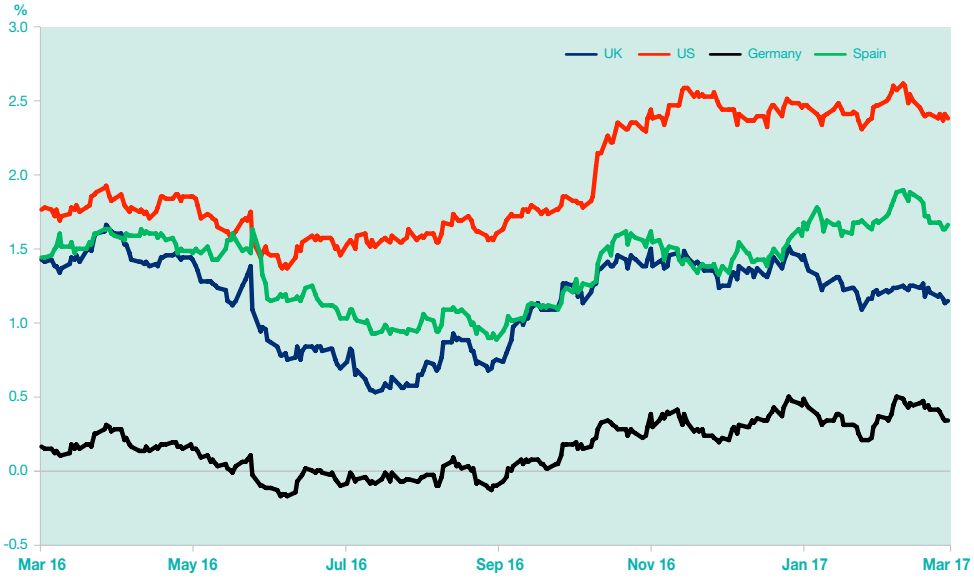
Chart 5: 10-, 30- and 50-year break-even inflation rates

Source: DMO

International comparisons

Yields on 10-year US, German and Spanish government bonds all ended the financial year higher: the US by 62bps, Germany by 18bps and Spain by 22bps. In contrast, 10-year UK yields in the UK fell by 28bps (see Chart 6).

Chart 6: Selected international 10-year benchmark yields

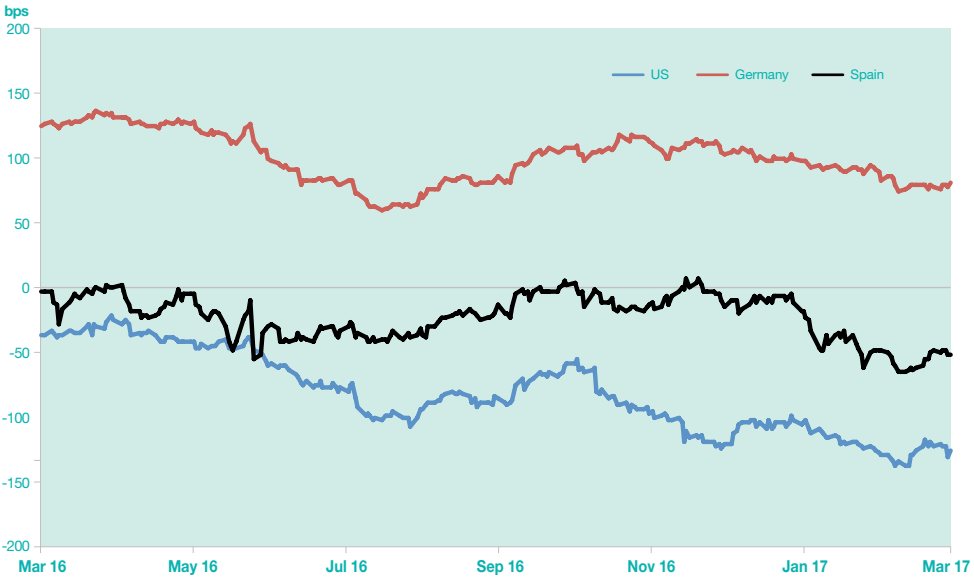


Source: DMO

The spread between 10-year gilt and both US Treasury yields and Spanish government bonds ("obligaciones") widened over the course of the financial year, noticeably in the former, with the spread to US Treasury yields beginning the financial year at -36bps and ending at -125bps. By comparison, the spread to obligaciones started the year at -3bps and ended the year at -51bps.

By contrast, the spread between 10-year gilts and German government bond (Bund) yields narrowed from +128bps to +81bps (see Chart 7).

Chart 7: Selected international 10-year benchmark bond spreads to gilts



Source: DMO

Gilt market turnover

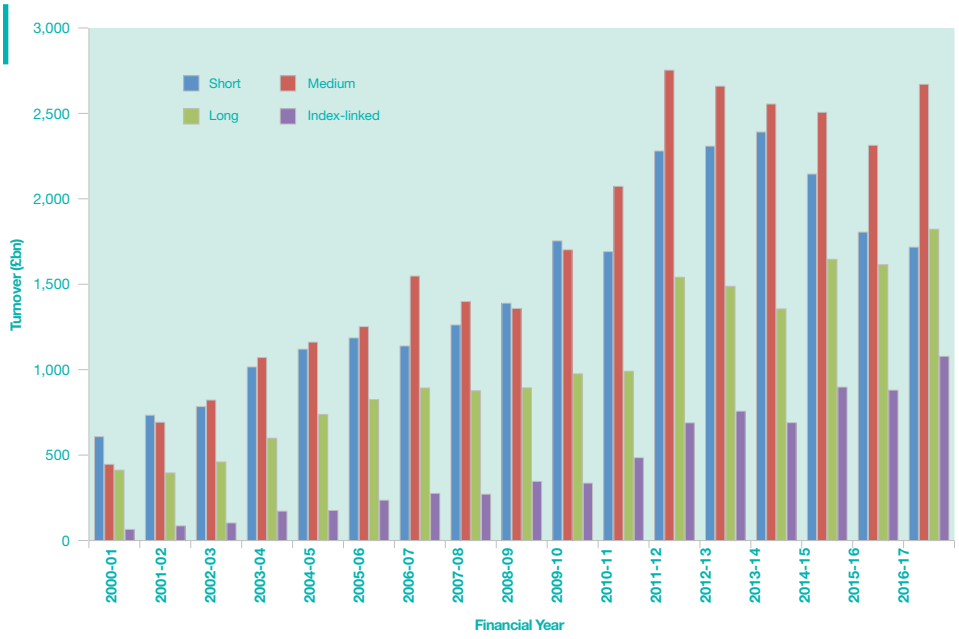
Aggregate gilt market turnover in 2016-17 rose by £674 billion (10%) compared with the previous financial year (from £6.61 trillion to a record high of £7.29 trillion). Turnover in short conventional gilts fell by 5% to £1.72 trillion, however, turnover in medium and long conventional gilts and index-linked gilts rose, by 15%, 13% and 22% respectively (see Table 1 and Chart 8).

Table 1: Aggregate gilt market turnover

£bn	Short	Medium	Long	Index-linked	Total
2000-01	608	446	412	65	**1,531**
2001-02	733	692	396	86	**1,907**
2002-03	784	822	460	103	**2,168**
2003-04	1,016	1,071	599	172	**2,858**
2004-05	1,120	1,161	738	176	**3,195**
2005-06	1,186	1,252	825	236	**3,500**
2006-07	1,139	1,548	893	276	**3,856**
2007-08	1,262	1,399	877	271	**3,808**
2008-09	1,389	1,358	894	346	**3,988**
2009-10	1,754	1,702	976	336	**4,769**
2010-11	1,691	2,073	991	485	**5,240**
2011-12	2,280	2,753	1,541	689	**7,263**
2012-13	2,308	2,659	1,488	757	**7,213**
2013-14	2,391	2,555	1,356	690	**6,992**
2014-15	2,145	2,506	1,646	898	**7,196**
2015-16	1,805	2,313	1,615	880	**6,613**
2016-17	1,717	2,670	1,822	1,078	**7,288**

Source: Gilt-edged Market Makers (GEMMs)

Chart 8: Gilt market turnover



Source: Gilt-eged Market Makers (GEMMS)

Money market developments

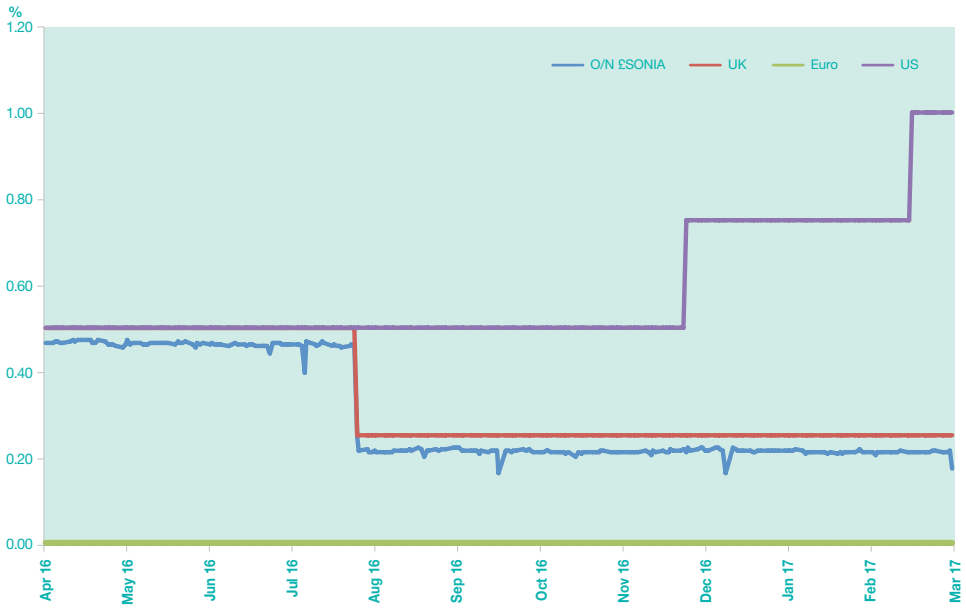
In the UK, in August 2017 the Monetary Policy Committee (MPC) voted to reduce the official Bank Rate from 0.50% to a new historic low level of 0.25%. This level was maintained for the remainder of the financial year. The MPC also voted to increase the stock of asset purchases (primarily gilts), financed by the creation of central bank reserves (known as "quantitative easing"), from £375 billion to £435 billion, where it remained for the rest of the period.

CPI inflation rose from below 1% in the first half of the financial year to a financial year peak of 2.3%. Rising inflation was exacerbated by the depreciation of sterling. Despite the above-target level of CPI inflation at the end of the financial year, Bank of England projections showed that the majority of policymakers expected upward inflationary pressures to be temporary and, therefore, near-term Bank Rate increases were unwarranted. At the end of the financial year sterling market rates implied that the level of Bank Rate was very unlikely to be changed throughout 2017.

The ECB maintained an accommodative monetary policy stance during 2016-17 keeping its main refinancing rate at a historic low of 0%. It also maintained a -0.40% rate on the deposit facility, the rate at which banks may use to make overnight deposits with the Eurosystem. In addition, the ECB proceeded with its policy of asset purchases, continuing an €80 billion per month operation throughout the financial year. These and other measures were intended in an effort to stimulate economic activity and incentivise bank lending. The Bank of Japan decided to leave its monetary policy unchanged, maintaining a negative official interest rate of -0.01%.

By contrast, the Federal Reserve increased the upper band of the US policy rate twice, both by 25bps, from 0.50% to 0.75% in December 2016 and from 0.75% to 1.00% in March 2017. The Federal Reserve judged that signs of recovery in the US economy were sufficient to justify an increase. The Board also signalled that there may be further increases in the policy rate over 2017, but that any path to higher rates will be gradual and dependent on economic conditions (see Chart 9).

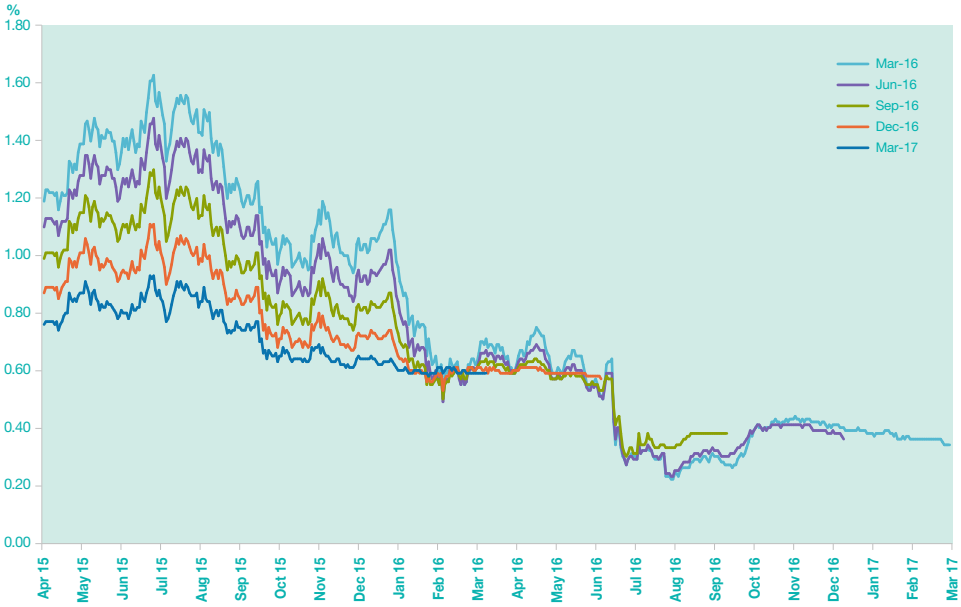
Chart 9: Official interest rates



Source: Bloomberg

The changing path of future interest rate expectations over the financial year can be seen in the implied yields of short Sterling contracts shown in Chart 10. All the curves ahead of the March 2017 contract show that a fall in market interest rate expectations was expected in the next financial year.

Chart 10:
Implied interest rate expectations from short Sterling contracts



Source: Bloomberg

Chapter 2: Government Debt Management

Debt management responsibilities and objectives

Objectives of debt management

The UK Government's debt management policy objective is:

"to minimise, over the long term, the costs of meeting the government's financing needs, taking into account risk, while ensuring that debt management policy is consistent with the aims of monetary policy."

The objective is achieved by:

- meeting the principles of openness, transparency and predictability;
- encouraging the development of a liquid and efficient gilt market;
- issuing gilts that achieve a benchmark premium;
- adjusting the maturity and nature of the government's debt portfolio; and
- offering cost-effective savings instruments to the retail sector through National Savings & Investments (NS&I).

Maturity and composition of debt issuance

In order to determine the maturity and composition of debt issuance, the government needs to take account of a number of factors including:

- the government's own appetite for risk, both nominal and real;
- the shape of both the nominal and real yield curves;
- investors' demand for gilts; and
- changes to the stock of Treasury bills and other short-term debt instruments.

The DMO's financing remit for 2016-17

Budget March 2016

The DMO's financing remit for 2 016-17 was published alongside Budget 2016 on 16 March 2016. The DMO's Net Financing Requirement (NFR) was forecast to be £129.4 billion (cash)[4]; this was planned to be financed exclusively by outright gilt sales.

The gilt financing remit structure

The remit provided that gilt sales were to be split as follows:

- £95.9 billion via 44 auctions;
- A minimum of £25.5 billion via six syndications; and
- £8.0 billion of additional supplementary gilt issuance which could be used to issue any type or maturity gilt via any issuance method.

A breakdown of the initially planned split of gilt issuance in 2016-17, as announced at the Spring Budget 2016 compared with the plans for 2015-16 announced at Budget 2015, are shown in Table 1 below. The initially unallocated portion of supplementary gilt sales was set aside to be used either to increase the size of the syndication programme and/or for sale via gilt tenders (subject to demand).

The overall planned split of issuance for 2016-17 was very similar to that originally planned for 2015-16, albeit with a slightly larger share of unallocated issuance (see Table 2).

Table 2: The structure of gilt financing remits in 2015-16 and 2016-17 (as initially announced)

	2015-16		2016-17	
	£bn	%	£bn	%
Total	**133.4**		**129.4**	
Short	33.9	25.4%	30.4	23.5%
Medium	26.7	20.0%	24.8	19.2%
Long	37.4	28.0%	36.2	28.0%
Index-linked	31.4	23.5%	30.0	23.2%
Unallocated	4.0	3.0%	8.0	6.2%
Auctions	**105.2**	**78.9%**	**95.9**	**74.1%**
of which				
Short	33.9		30.4	
Medium	26.7		24.8	
Long	28.1		26.7	
Index-linked	16.5		14.0	
Syndications*	**24.2**	**18.1%**	**25.5**	**19.7%**
Long	9.3		9.5	
Index-linked	14.9		16.0	
**Minimum*				
Figures may not sum due to rounding				

Source: DMO

[4] All reported values are in cash terms unless specified otherwise.

A key difference between the remits in the two financial years was the reduction in the average sizes of short and medium conventional auctions, which fell by around 30% and 20% respectively (see Table 16). This change was part of a wider package of measures designed to facilitate remit delivery (see the box on pages 23-26).

Other operations

There were no plans to hold any switch auctions, reverse auctions or conversion offers in 2016-17 and none were held.

The 2016-17 remit also included a modification of the Post Auction Option Facility (PAOF). The size of the option available to successful bidders (GEMMs and investors) at each auction to purchase additional stock increased from 10% to 15% of the amount allocated to them at the auction. The option remained exercisable in a two hour window from noon to 2.00pm on the day of the auction.

Outturn of the 2015-16 CGNCR[5]: 21 April 2016

Planned gilt sales were increased by £2.1 billion to £131.5 billion following the publication of the outturn of the 2015-16 CGNCR on 21 April 2016. The increases were entirely in planned sales at auctions as shown in Table 3. There was no change to the planned contribution of Treasury bills to financing, which remained at zero. The increase in planned gilt sales was accommodated entirely via the auction programme, resulting in slightly higher average (cash) auction sizes (see Table 3).

Table 3: Increases in gilt auction sales announced at the 2015-16 CGNCR outturn

Gilt auctions (£mn)	New totals	Increases
Short	31,000	600
Medium	25,200	400
Long	27,300	600
Index-linked	41,500	500
	98,000	**2,100**

Source: DMO

The impact on the average (cash) sizes of auctions is shown in Table 4.

Table 4: Increase in average auction sizes announced at the 2015-16 CGNCR outturn

Average size of gilt auctions (£bn)	Budget 2016	April outturn
Short	2.76	2.77
Medium	2.48	2.48
Long	2.23	2.26
Index-linked	1.27	1.29

Source: DMO

Autumn Statement (AS) 2016

At AS 2016 on 23 November 2016, the NFR for the DMO rose by £20.6 billion, with planned gilt sales rising by £15.0 billion to £146.5 billion. Additional net Treasury bill sales of £5.6 billion were also announced.

The split of the £15.0 billion increase in planned gilt sales and the associated additional operations announced at AS 2016 is shown in Table 5.

[5] All references to the Central Government Net Cash Requirement (CGNCR) in this document refer to the CGNCR excluding Northern Rock (Asset Management) (NRAM), Bradford & Bingley (B&B) and Network Rail (NR).

Table 5: Additional gilt sales and operations

Additional gilt sales (3bn)		Additional operations
Short	6.0	2 auctions
Medium	3.0	1 auction
Long	4.3	1 syndication
Index-linked	1.7	1 auction
	15.0	

Source: DMO

The resultant change in issuance splits is shown in Table 6.

Table 6: Planned gilt sales splits pre- and post-AS 2016

Splits (£bn)	April revision	Pre-AS position	Post-AS
Short	31.0	31.8	37.8
Medium	25.2	25.7	28.7
Long	36.8	38.7	43.0
Index-linked	30.5	33.7	35.4
Unallocated	8.0	1.6	1.6
	131.5	**131.5**	**146.5**

Source: DMO

£10.7 billion was added to the auction programme and four additional auctions added – the impact on average auction sizes is shown in Table 7.

Table 7: Planned gilt sales splits pre- and post-AS 2016

(£bn)	Increases to auction target	New targets	Average auction sizes pre-AS	Average auction sixes post-AS
Short	6.0	37.8	2.60	2.76
Medium	3.0	28.7	2.17	2.33
Long	0.3	27.8	2.06	2.13
Index-linked	1.4	15.9	1.24	1.28
	10.7	**110.2**		

Source: DMO

£4.3 billion was added to the syndication programme split as follows:

- Long conventional: £4.0 billion (new minimum plan £14.3 billion) implying an additional transaction; and
- Index-linked: £0.3 billion (new minimum plan £17.8 billion).

Spring Budget March 2017

The DMO's NFR for 2016-17 fell by £16.4 billion to £135.7 billion at the Spring Budget 2017 compared with AS 2016, reflecting a reduction of £13.2 billion in the forecast CGNCR for 2016-17 and a £3.2 billion higher forecast net contribution to financing by NS&I. No change was announced to planned gilt sales, which remained at £146.5 billion, but planned net sales of Treasury bills for debt financing purposes were reduced by £2.0 billion to £3.5 billion[6].

As a result, the forecast size of the DMO's net cash position at end-March 2017 rose to £14.8 billion. It was assumed that this will be unwound by £14.3 billion in 2017-18, correspondingly reducing the NFR in that financial year.

[6] While planned additional net sales of Treasury bills of £5.6 billion had initially been announced at AS 2016, this was subsequently adjusted to £5.5 billion to reflect the operational size of Treasury bill tenders.

Outturn CGNCR for 2016-17 and the impact on 2017-18

The DMO's net cash position at the end of 2016-17 rose by £0.9 billion to £15.7 billion compared to the Spring Budget 2017 primarily reflecting changes to the CGNCR, gilt sales and the contribution to financing from other items. The impacts are shown in Table 8.

Table 8: Impact of 2016-17 outturns on financing in 2017-18

(£bn)	Forecast for 2016-17 at Spring Budget 2017	Outturn 2016-17	Impact on DMO NFR in 2017-18
CGNCR*	72.5	71.1	-1.4
NS&I net contributions	12.2	11.7	0.5
Other financing items**	0.2	-0.8	1.0
Gilt sales	146.5	147.6	-1.1
Total net change to NFR			**-0.9**
*CGNCR (ex NRAM plc, B&B and NR). Outturn based on ONS Public Sector Finances.			
** At the April 2017 outturn "Other Financing Items" include revenue from coinage, and additional financing through certificates of tax deposit and foreign exchange transactions, less any changes in the non-government balances in the previous financial year.			

Source: DMO

The DMO's end-March 2017 cash position will be reduced by £15.2 billion in 2017-18 to its planned level of £0.5 billion, reducing the NFR for 2017-18 accordingly. The in-year changes to the 2016-17 financing arithmetic are shown in Table 9.

Table 9: The 2016-17 financing arithmetic

£bn	Budget 2016	April 2016 outturn	Autumn Statement 2016	Spring Budget 2017	April 2017 outturn
CGNCR (ex NRAM, B&B and NR)[1]	62.1	62.1	85.7	72.5	71.1
Gilt redemptions	69.9	69.9	69.9	69.9	69.9
Planned financing for the reserves	6.0	6.0	6.0	6.0	6.0
Financing adjustments carried forward from previous financial years	-2.5	-0.4	-0.4	-0.4	-0.4
Gross Financing requirement	**135.6**	**137.7**	**161.3**	**148.1**	**146.7**
Less:					
NS&I net financing	6.0	6.0	9.0	12.2	11.7
Other financing[2]	0.2	0.2	0.2	0.2	-0.8
Net Financing Requirement (NFR) for the DMO	**129.4**	**131.5**	**152.1**	**135.7**	**135.9**
The DMO's NFR will be financed through:					
a) Gilt sales	**129.4**	**131.5**	**146.5**	**146.5**	**147.6**
of which:					
– Short conventional gilts	30.4	31.0	37.8	38.0	38.4
– Medium conventional gilts	24.8	25.2	28.7	29.2	29.5
– Long conventional gilts	36.2	36.8	43.0	43.3	43.6
– Index-linked gilts	30.0	30.5	35.4	36.0	36.2
– Unallocated amount of gilts	8.0	8.0	1.6	0.0	0.0
b) Planned net contribution to financing from Treasury bills	0.0	0.0	5.6	3.5	3.5
Total financing	**129.4**	**131.5**	**146.5**	**150.0**	**151.1**
DMO net cash position	0.5	0.5	0.5	14.8	15.7
Figures may not sum due to rounding.					
[1]Central Government Net Cash Requirement (excluding NRAM plc, Bradford and Bingley and Network Rail).					
[2]Prior to publication of the end-year outturn in April each year, this financing item will mainly comprise estimated revenue from coinage.					

Source: DMO

The DMO's gilt financing operations in 2016-17

Implementing the 2016-17 remit

a) Auctions

Auctions continued to be the core of the DMO's gilt sales programme in 2016-17 and, together with associated proceeds from the PAOF, raised £112.0 billion, accounting for 75.9% of overall gilt sales. The auction calendar for the financial year as a whole is usually announced before the start of each financial year, but the choice of gilts to be sold on each date is made quarter-by-quarter following the regular quarterly cycle of separate consultation meetings with representatives of the GEMMs and end-investors. In 2016-17 these meetings again also considered the interaction between choices over gilts to be issued via auctions and those at syndicated offerings.

The consultation meetings were held in March 2016 (to discuss issuance in April-June), May 2016 (to discuss issuance in July-September), August 2016 (to discuss issuance in October-December) and December 2016 (to discuss issuance in January-March 2017).

Ahead of the meetings the DMO published, on its wire service screens and website, an agenda to steer the discussion. The morning after each meeting, summary minutes were published recording the main areas of discussion. The quarterly operations calendars, which specify the particular bonds to be sold at each auction together with advance notice of some of the details of forthcoming syndicated offerings, were published on 31 March, 31 May, 31 August and on 2 December 2016 respectively.

On 31 August 2016, as part of the October-December 2016 gilt operations calendar announcement, the DMO reported that £1.5 billion (cash) was being transferred from the unallocated portion of issuance into the conventional gilt auction programme to maintain relative stability in average auction sizes, which had fallen as a result of the previous take-up of the PAOF. The cash transfers were:

- £800 million to the short conventional auction programme;
- £500 million to the medium conventional auction programme; and
- £200 million to the long conventional auction programme.

48 gilt auctions were held: 13 of short, 11 of medium and 12 of long conventional gilts, and 12 of index-linked gilts. The results of gilt auctions and other operations are available on the DMO's website at:

http://www.dmo.gov.uk/index.aspx?page=Gilts/Operations_Results

The average cover ratio at gilt auctions in 2016-17 was 1.98x, 22% higher than the average of 1.63x in 2015-16 (although it should be noted that the average sizes of short and medium conventional auctions in 2016-17 were lower than in 2015-16). See also the commentary on pages 23-26 reviewing the impact of a package of operational measures introduced for the 2016-17 remit.

The average concentration of bidding at conventional gilt auctions, as measured by the tail[7], remained high, at an average of 0.5bps, the same as the previous financial year. Details are shown in Table 10.

Table 10: Auction cover and tail 2015-16 and 2016-17

Gilt auctions	Cover ratio		Tail (bps)	
	2016-17	2015-16	**2016-17**	2015-16
Short conventional	**2.13**	1.42	**0.4**	1.0
Medium conventional	**2.10**	1.47	**0.3**	0.3
Long conventional	**1.75**	1.62	**0.8**	0.4
Index-linked	**1.95**	1.92	**na**	na
All	**1.98**	1.63	**0.5**	0.5

Source: DMO

b) Syndicated offerings

The DMO again used syndications as an integral part of the remit in 2016-17 to supplement auctions and facilitate the primary gilt distribution process to end-investors. Continued usage of syndications reflected the ongoing historically high level of the financing requirement. In particular, syndications enable the DMO to issue more long conventional and index-linked gilts than it judges would be practicable via auctions alone.

The DMO stated in its remit announcement alongside Budget 2016 that it again planned to use the syndication programme to launch new gilts and for re-openings of high duration gilts, with an upfront planning assumption that it would raise a minimum of £25.5 billion via syndication (£9.5 billion of long conventional and £16.0 billion of index-linked gilts).

Subject to market feedback the DMO said that it envisaged holding approximately six syndications (four index-linked and two long conventional), with at least one per quarter. The remit allowed the DMO to vary the size of each syndicated sale having regard to the size and quality of end-investor demand in the order book.

An outline pattern for the approximate timing of syndications and the scheduling of gilt sales by type in the quarter ahead was discussed at the quarterly consultation meetings in 2016-17 and planning assumptions about the syndication programme were published in the quarterly operations calendar announcements. A greater level of precision is typically given in the announcement about the type and maturity of those sales by syndication planned closest to the date of the calendar announcement. Around two weeks in advance of the anticipated operation, a series of further DMO announcements begin, including the announcement of the appointment of the Lead Managers and the specific maturity of the bond to be sold.

£33.0 billion was raised through seven syndications in 2016-17 (£14.6 billion of long conventional and of £18.4 billion of index-linked gilts). The total raised by the programme was £7.5 billion more than the original plan, reflecting the scheduling of an additional long conventional syndication at AS 2016 and re-allocations of £3.2 billion into the syndication programme from the unallocated supplementary amount. Five of the seven transactions were increased above initial planning (even-flow sized) assumptions to take account of the size and quality of demand received at those transactions.

[7] The tail is the difference in basis points between the yield at the average and lowest accepted prices at multiple price auctions (conventional gilts only).

The results of the syndication programme in 2016-17 are summarised in Table 11.

Table 11: Syndications in 2016-17

Date	Gilt	Size (£mn nom)	Issue Price (£)	Issue Yield %	Proceeds (£mn cash)
26-April-16	2½% Treasury Gilt 2065	4,750	106.164	2.291	5,033
24-May-16	0⅛% Index-linked Treasury gilt 2046	3,500	131.617	-0.810	4,655
26-Jul-16	0⅛% Index-linked Treasury Gilt 2065	2,500	201.335	-1.325	5,058
25-Oct-16	2½% Treasury Gilt 2065	4,000	130.500	1.597	5,212
29-Nov-16	0⅛% Index-linked Treasury Gilt 2065	2,250	186.909	-1.466	4,200
24-Jan-17	1¾% Treasury Gilt 2057	4,500	96.666	1.867	4,341
21-Feb-17	0⅛% Index-linked Treasury Gilt 2065	2,000	219.833	-1.524	4,498
Figures may not sum due to rounding					**32,998**

Source: DMO

As in the previous financial years, strong domestic order books were a feature throughout the 2016-17 syndication programme, with the domestic investor base taking an average of 92% of each sale (close to the 93% figure for 2015-16). Domestic investor orders were largely from asset managers, pension funds and insurance companies, reflecting their structural demand for liability-matching long-dated fixed income assets.

c) Gilt tenders

Gilt tenders were introduced in 2016-17 to replace both mini-tenders as a financing instrument and gilt taps as a market management tool. All types and maturities of gilt were eligible for sale via gilt tenders in 2016-17. Gilt tenders were designed to bring a degree of responsiveness at the margins to the delivery of the financing programme to respond to evolving market and demand conditions during the year. Any financing via tenders represents a use of the unallocated supplementary portion of gilt issuance.

Three gilt tenders were held in 2016-17 raising £2.6 billion (cash). The results of the transactions are summarised in Table 12 below.

Table 12: Gilt tenders in 2016-17

Date	Gilt	Size (£mn nom)	Cover	Price (£)	Yield (%)	Proceeds (£mn)
21-Jul-16	4% Treasury Gilt 2060	500	2.30	182.50	1.442	912
27-Sep-16	0¼% Index-linked Treasury Gilt 2052	400	3.12	200.35	-1.770	872
02-Nov-16	0⅝ % Index-linked Treasury Gilt 2040	400	2.24	168.65	-1.741	824
						2,608

Source: DMO

New gilts issued

The DMO issued six new gilts in 2016-17, five conventional and one index-linked. Two of these (the index-linked 2056 maturity and the conventional 2057 maturity) were launched via syndication, and the four shorter maturities via auction. The maturities and the first issue dates of the new gilts issued in 2016-17 are shown in Table 13.

Table 13: New gilts issued in 2016-17[8]

Gilt	First Issue Date
0½% Treasury Gilt 2022	03-Aug-16
1½% Treasury Gilt 2047	21-Sep-16
1¾% Treasury Gilt 2037	09-Nov-16
0⅛% Index-linked Treasury Gilt 2056	30-Nov-16
1¾% Treasury Gilt 2057	25-Jan-16
1¼% Treasury Gilt 2027	15-Mar-17

Source: DMO

Gilt sales outturn for 2016-17

The outturn for gilt sales in 2016-17 is shown in Table 14. Total gilt sales were £147.6 billion relative to the plan announced at AS 2016 of £146.5 billion.

The outturns for gilt sales by maturities, type and issuance method against the various remit targets are also shown in Table 14.

Table 14: Gilt sales outturns by maturity, type and issuance method

(£mn)	Target	Outturn	Relative to plan (£mn)	Relative to plan (%)
Total gilt sales	**146,000**	**147,605**	**1,105**	**0.8%**
Auctions*	**110,942**	**111,998**	**1,056**	**1.0%**
Short	38,042	38,376	334	0.9%
Medium	29,200	29,498	298	1.0%
Long	27,800	28,082	282	1.0%
Index-linked	15,900	16,042	142	0.9%
Syndications**	**32,950**	**32,998**	**48**	**0.1%**
Long	14,550	14,586	36	0.2%
Index-linked	18,400	18,412	12	0.1%
Gilt tenders***	**na**	**2,608**	**na**	**na**
Figures may not sum due to rounding				
**Sales include PAOF proceeds and targets transfers from the unallocated pot*				
***Syndication targets are final totals as revised in-year*				
****No ex-ante targets were set for gilt tenders*				

Source: DMO

Proceeds from the PAOF in 2016-17

In 2016-17 the PAOF was triggered (either in full or part) at 32 out 48 auctions held. The total amount raised was £8.1 billion and increased the overall proceeds from auctions by an additional 7.8%. The additional sums raised ranged from 3.7% of auction proceeds at index-linked auctions to 10.7% at medium conventional auctions (see Table 15).

[8] These are the dates on which the relevant operations settled and the initial tranche of stock was created (i.e. the day after the operations themselves).

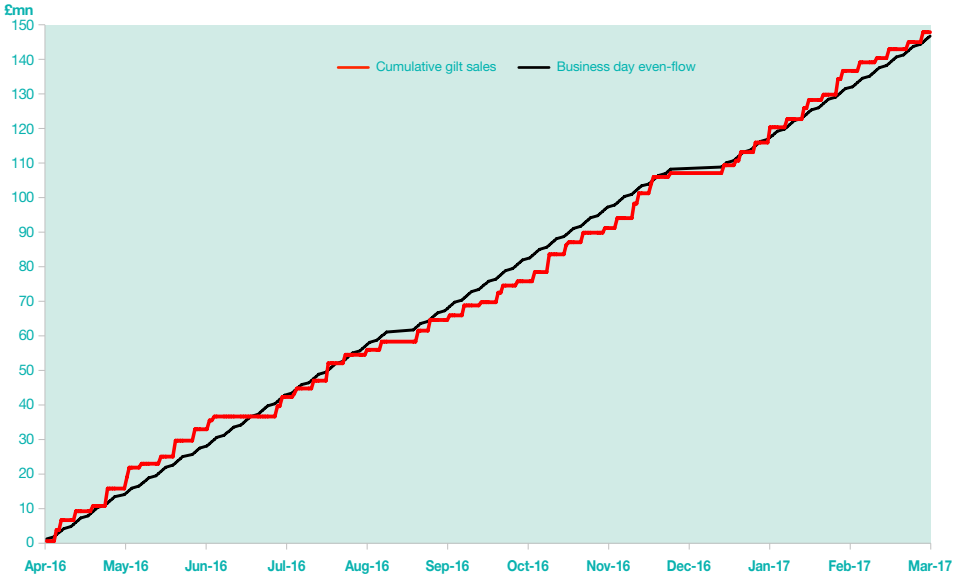
Table 15: Auction and PAOF proceeds 2016-17

2016-17	Conventional Gilts			Index-linked gilts	Total
	Short	Medium	Long		
Auction proceeds	35,362	26,632	26,397	15,467	103,864
PAOF proceeds	3,014	2,860	1,685	575	8,134
Total auction and PAOF proceeds	38,376	29,498	28,082	16,042	111,998
PAOF as % of auction proceeds	*8.5%*	*10.7%*	*6.4%*	*3.7%*	*7.8%*

Source: DMO

Gilt sales proceeds were received on a broadly even-flow basis throughout the year as illustrated in Chart 11, which shows cumulative proceeds from all operations including proceeds from the PAOF in 2016-17.

Chart 11: Cumulative gilt sales proceeds and business day even-flow 2016-17



Source: DMO

The package of operational measures introduced in the 2016-17 remit

The 2016-17 remit included a number of operational measures, listed below, to be introduced from April 2016. The package of measures was intended to support a smooth delivery of the remit in changing market conditions. Individually the changes were relatively minor, with the possible exception of smaller auction sizes and the increase in the size of the PAOF proportion, but taken together, the package was designed to have an important positive effect on the primary dealer system whilst adhering to the principles of predictability and transparency. This section reviews the impact of the package of measures on the delivery of the 2016-17 remit.

The measures introduced were:

1. Smaller auctions: The DMO held smaller auctions in 2016-17 compared with 2015-16, particularly in short and medium conventional gilts, which were initially approximately 30% and 20% smaller respectively compared with the sizes established at the start of 2015-16. The objective was to reduce the amount of gilts to be absorbed at each individual auction in order to ease the pressure on intermediation.

2. A larger unallocated portion of issuance: The remit set out an initially unallocated portion of issuance of £8.0 billion – twice the size of the previous financial year. This portion could be allocated during the year to any maturity or type of gilt and sold via any issuance method in a way intended to permit more responsiveness to changing market and demand conditions during the year.

3. The introduction of gilt tenders: Gilt tenders replaced mini-tenders and also encompassed the role of the tap facility for market management purposes.

4. A more flexible syndication programme: The planning assumption for the 2016-17 syndication programme was that it would be used to issue long conventional and index-linked gilts. However, syndications of short and/or medium conventional gilts could be scheduled if it were judged that market and demand conditions warranted it.

5. A more responsive auction calendar: The planned gilt auction calendar may also be changed on a quarterly basis, if deemed necessary, following consultation with the market.

6. The Post Auction Option Facility (PAOF) proportion increased from 10% to 15%.

7. Gilt-edged Market Maker (GEMM) auction non-competitive bid allowance increased from 10% to 15%.

As noted above, the highest profile individual measure was the reduction in the sizes of short and medium conventional gilt auctions. Index-linked auction sizes fell by a much smaller amount, 6%. The average nominal size of long auctions rose by over 17%; however, this reflected the sale of current coupon (priced close to par) long conventional gilts in 2016-17 compared to higher coupon gilts in the previous year. This development required additional nominal amounts to be sold to raise a given amount of cash. In cash terms, the average size of long auctions was little changed between the two financial years. The changes are summarised in Table 16.

Table 16: Average nominal and cash sizes of gilt auctions in 2015-16 and 2016-17 (excludes PAOF)

Average cash sizes of gilt auctions (£mn)			
	2015-16	2016-17	Change
Short	3,887	2,720	-30.0%
Medium	3,077	2,422	-21.3%
Long	2,106	2,200	4.5%
Index-linked	1,319	1,289	-2.3%

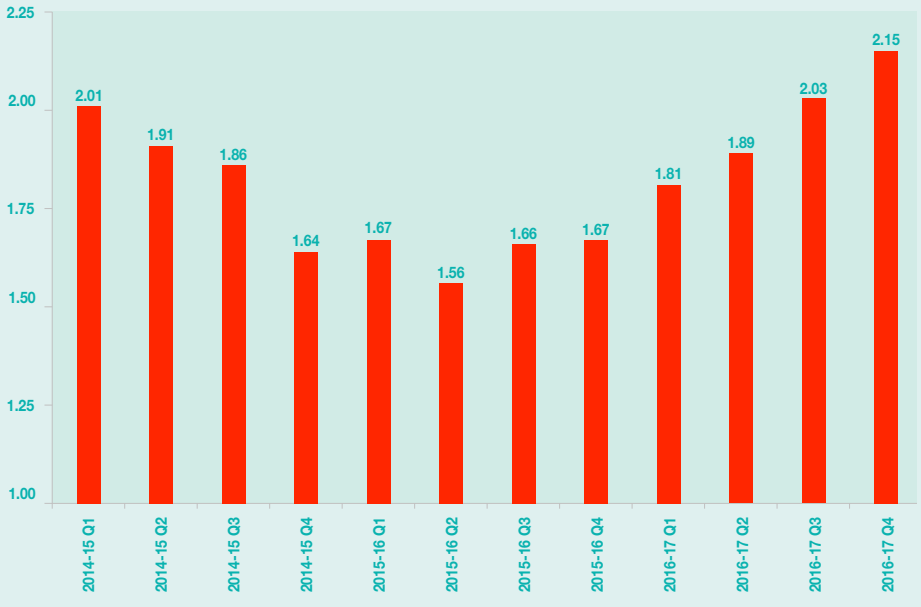
Average nominal sizes of gilt auctions (£mn)			
	2015-16	2016-17	Change
Short	3,813	2,692	-29.4%
Medium	3,063	2,364	-22.8%
Long	1,667	1,958	17.5%
Index-linked	1,009	948	-6.1%

Source: DMO

The most visible impact of the move to smaller short and medium auction sizes has been the impact on cover ratios which, for short and medium conventional gilts, increased by 50% and 43% respectively compared to 2015-16, with the average cover across all auctions rising by 22% (see Table 10).

An encouraging trend was that the quarterly average of cover ratios at gilt auctions rose in each successive quarter of 2016-17. Indeed, quarterly average cover ratios rose for six successive quarters from Q2 2015-16 to Q4 2016-17 (see Chart 12).

Chart 12: Quarterly average auction cover ratios since Q1 2014-15



Source: DMO

However, the higher cover ratio statistics must be seen in context of the generally lower auction sizes and, therefore, to put these changes into context the DMO has looked at a measure of the overall level of demand at gilt auctions over the past two financial years as measured by the nominal amount on offer at an auction[9] multiplied by the cover ratio.

Table 17 compares the changes in average nominal size, cover and total demand across the three conventional maturities and index-linked gilt auctions between 2015-16 (before the package of measures was introduced) and 2016-17. While the average cover ratios for short and medium auctions rose by 50% and 43% respectively, principally reflecting the lower average sizes, overall demand at short and medium auctions (as measured by nominal size multiplied by the cover ratio) was also encouragingly higher at 7% and 10% respectively.

On this basis, however, the most marked improvement came at long auctions where both the average nominal size and cover ratios increased year-on-year, resulting in a measure of total demand increasing by 29%. By contrast, for index-linked gilts, where the average nominal size fell and average cover was almost unchanged, measured total demand on this basis fell by 4%.

Table 17: Auction performance 2016-17 compared with 2015-16

2016-17 comparison with 2015-16			
	Ave nom size	**Ave cover**	**Ave total bids***
Short			
2015-16	3,813	1.42	5,375
2016-17	2,692	2.13	5,725
Change	-1,120	0.71	350
	-29.4%	***50.3%***	***6.5%***
Medium			
2015-16	3,063	1.47	4,488
2016-17	2,364	**2.10**	4,928
Change	-699	0.63	439
	-22.8%	***42.7%***	***9.8%***
Long			
2015-16	1,667	1.62	2,669
2016-17	1,958	1.75	3,448
Change	292	0.13	779
	17.5%	***8.2%***	***29.2%***
Index-linked			
2015-16	1,009	1.92	1,918
2016-17	948	1.95	1,850
Change	-61	0.03	-69
	-6.1%	***1.5%***	***-3.6%***
**Calculated as nominal auction size x cover ratio.*			
Figures may not sum due to rounding			

Source: DMO

One factor which is also likely to have played a part in mobilising additional participation at auctions was the increase in the proportion of the PAOF from 10% to 15% of the amount of successful allocations, thereby increasing the value of the option for bidders.

[9] Recognising that this measure is highly dependent on the gilt chosen and in particular its coupon.

In 2015-16 when the PAOF was 10%, total proceeds from the facility were just under £4 billion equivalent to an additional 4% of the proceeds raised at the auctions themselves; so the effective rate of take-up was 40% of the maximum possible. The rates of take-up varied considerably between different types of gilt from 1.6% in mediums to 5.7% for longs. In 2015-16 PAOF was triggered 21 times in 39 auctions, i.e. at 54% of auctions.

In 2016-17 when the PAOF was 15%, total proceeds from the facility were £8.1 billion equivalent to an additional 7.8% of the proceeds raised at the auctions themselves; so the effective rate of take-up was 52% of the maximum possible. The rates of take-up varied considerably between different types of gilt from 3.7% for index-linked gilts to 10.7% for medium conventional gilts (see Table 18).

Table 18:
Take up of the PAOF 2015-16 and 2016-17

£ million	2015-16			2016-17		
	Auctions	PAOF	PAOF take-up rate	Auctions	PAOF	PAOF take-up rate
Short	31,098	1,512	4.9%	35,362	3,014	8.5%
Medium	24,619	403	1.6%	26,638	2,860	10.7%
Long	25,277	1,428	5.7%	26,397	1,685	6.4%
Index-linked	14,514	605	4.2%	15.467	575	3.7%
Total	**95,508**	**3,957**	**4.1%**	**103,364**	**8,134**	**7.8%**

Source: DMO

DMO remit 2017-18 (Spring Budget 2017)

The DMO's financing remit for 2017-18 was published alongside the Spring Budget on 8 March 2017. The DMO's NFR for 2016-17 was forecast to be £105.6 billion, to be financed by gilt sales of £115.1 billion and a reduction in the net contribution to financing by Treasury bills of £9.5 billion.

The structure of the gilt financing remit

The planned split of gilt issuance was very similar to that in the 2016-17 remit, as announced at Budget 2016. The structure of the remits for 2016-17 and 2017-18, both as regards the split of issuance and by type of operation, is shown in Table 19. Auctions remain the primary means of sale, accounting for 76% of total planned gilt sales in 2017-18.

Table 19: The structure of financing remits in 2016-17 and 2017-18 (as initially announced)

	2016-17		2017-18	
	£bn	%	£bn	%
Total	**129.4**		**115.1**	
Short	30.4	23.5%	27.4	23.7%
Medium	24.8	19.2%	22.2	19.3%
Long	36.2	28.0%	32.3	28.1%
Index-linked	30.0	23.2%	26.6	23.1%
Unallocated	8.0	6.2%	6.6	5.7%
Auctions	**95.9**	**74.1%**	**87.5**	**76.0%**
Of which				
Short	30.4		27.4	
Medium	24.8		22.2	
Long	26.7		23.3	
Index-linked	14.0		14.6	
Syndications*	**25.5**	**19.7%**	**21.0**	**18.2%**
Long	9.5		9.0	
Index-linked	16.0		12.0	
**Minimum.*				
Figures may not sum due to rounding.				

Source: DMO

Post Auction Option Facility (PAOF)

In 2016-17 the remit continued to include the facility whereby successful bidders (both primary dealers and investors) have the option to purchase additional stock via the PAOF. In 2017-18, the option remained at 15%[10] of the nominal amount allocated to bidders at the average accepted price at conventional gilt auctions and at the clearing (or strike) price at index-linked gilt auctions.

The PAOF is available between midday and 2.00pm on the day of an auction and any proceeds raised via the PAOF will count towards remit auction targets and be factored into auction size calculations on an auction-by-auction basis throughout the financial year. All else equal, PAOF proceeds will be used progressively to reduce implied average auction sizes throughout the year. Average auction sizes are re-stated after every auction.

The supplementary distribution programme

- Syndications

The remit specified that five syndications were envisaged for 2017-18, aiming to raise a minimum of £21.0 billion (£9.0 billion via two syndications of long conventional gilts and £12.0 billion via three syndications of index-linked gilts).

- Gilt tenders

Gilt tenders (for any type and maturity of gilt) may be scheduled after consultation with the market in response to evolving market and demand conditions during the financial year. The DMO will aim to announce the date, the choice of gilt to be sold, and the minimum size of the gilt tender at least two[11] business days in advance.

[10] Since the introduction of the facility in June 2010 until the end of 2015-16 the option had been for 10% of the amount allocated; the option was increased to 15% for the 2016-17 remit.
[11] Previously the DMO aimed to give at least seven business days' notice for the addition of a gilt tender to the programme.

Gilt tenders may also be scheduled with shorter notice as required for market management purposes.

- Initially unallocated issuance

A £6.6 billion portion of issuance was initially unallocated regarding type and maturity of gilt and means of sale. It was expected that this portion of issuance would primarily be used to increase the size of syndications (where warranted by the size and quality of demand received) and/or to increase average auction sizes where, for example, they had been reduced by take-up of the PAOF. The unallocated portion can be used to schedule gilt tenders. Any such re-allocations will be announced. At the remit revision published alongside the CGNCR outturn in April 2017 it was announced that the size of the unallocated portion of issuance was being reduced by £100 million to £6.5 billion.

Other operations

The remit specified that the DMO has no current plans for a programme of reverse or switch auctions, or conversion offers in 2017-18.

New gilt instruments

The remit stated that there were no current plans to introduce new types of gilt instruments in 2017-18.

Treasury bill financing

The remit assumes that net Treasury bill sales will make a negative contribution to debt financing in 2017-18 of £9.5 billion, with the implication that the stock of Treasury bills in issue for debt management purposes at end-March 2018 will be £60.0 billion. Any changes to that assumption will be announced as part of any future remit revision. The outturn net contribution of Treasury bills to debt financing in 2017-18 will be reported by the DMO in April 2018.

Future gross financing projections

The Spring Budget 2017 included new projections by the OBR for the CGNCR as a percentage of GDP to 2021-22. Table 20 sets out the resulting CGNCR projections in cash terms together with prevailing redemption totals to produce illustrative gross financing projections.[12] Note that these are not gilt sales forecasts, as they take no account of possible contributions to financing by NS&I or net Treasury bill sales for debt management purposes.

Table 20: Spring Budget 2017: illustrative gross financing requirement projections

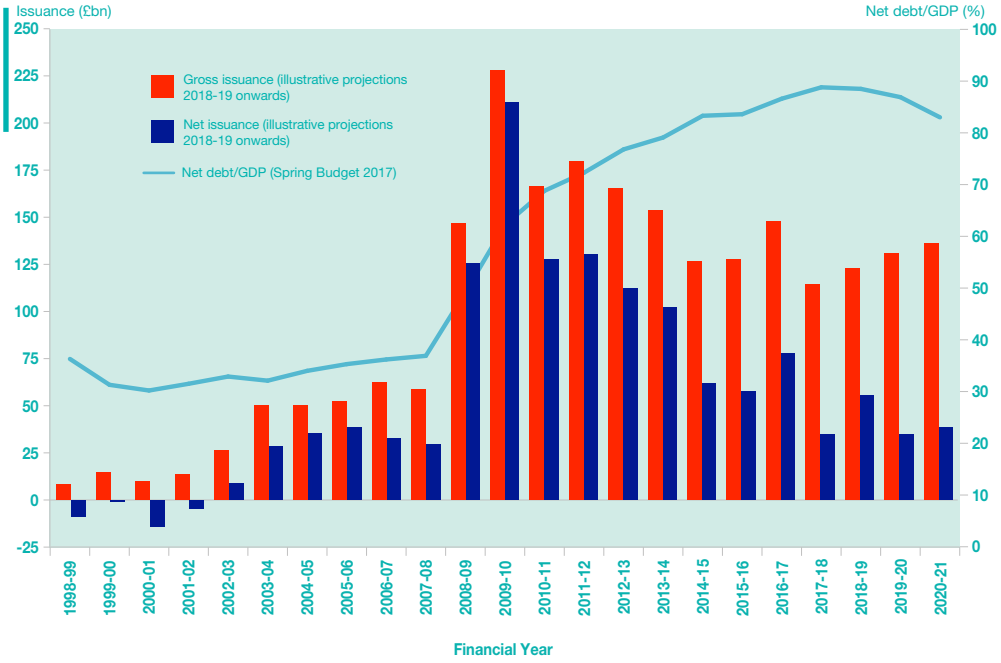
£ billion	2018-19	2019-20	2020-21	2021-22
CGNCR (ex NRAM, B&B and NR)	49.7	28.8	38.6	37.1
Gilt redemptions	67.3	96.2	97.6	79.3
Planned financing for the reserves	6.0	6.0	0.0	0.0
Total illustrative gross financial requirement	**123.0**	**130.9**	**136.3**	**116.4**
Figures may not sum due to rounding				

Sources: Office for Budget Responsibility (OBR)/DMO/HM Treasury

[12] Since Spring Budget 2017 the redemption total for 2019-20, and by extension the illustrative gross financing requirement, has increased by £2.96 billion following a £2.75 billion (nominal) auction of 1¾% 2019 on 18 May 2017 and the subsequent take-up of the PAOF.

Chart 13 shows past and projected gross and net gilt issuance levels (and net debt/GDP ratio) as published at the Spring Budget on 8 March 2017.

Chart 13: Gross and net gilt issuance history and projections



Source: DMO/OBR

In-year revisions to the remit

There are two main events which may routinely be expected to trigger revisions to the remit in any financial year:

- the publication, usually in the third week of April, of an outturn CGNCR for the previous financial year, if the outturn and/or overall NFR differs from the forecast published in the Budget; and/or
- the publication, at the Autumn fiscal event, of a different forecast financing requirement for the prevailing financial year.

2016-17 CGNCR outturn revision to the 2017-18 financing remit

The outturn CGNCR for 2016-17 was published on 25 April 2017 and, in the associated remit revision, the DMO's NFR for 2017-18 fell by £0.9 billion[13] and the reduction was managed entirely by lower planned gilt sales, which fell to £114.2 billion. Planned gilt sales by auction were reduced by £0.8 billion, taking these sales to £86.7 billion, as shown in Table 21 below. The remaining £0.1 billion was taken off the unallocated portion of issuance, which fell to £6.5 billion.

Table 21: Reductions to gilt sales at auctions announced on 25 April 2017

£ billion	Spring budget	April 2017	Reductions
Short conventional	27.4	27.2	-0.2
Medium conventional	22.2	22.0	-0.2
Long conventional	23.3	23.1	-0.2
Index-linked	14.6	14.4	-0.2
Totals	**87.5**	**86.7**	**-0.8**
Figures may not sum due to rounding.			

Source: DMO

[13] See Table 8.

Future provision of gilt and Treasury bill reference prices

On 21 January 2015, the DMO announced its strategic intention to withdraw, in due course, from the provision of gilt and Treasury bill reference prices. Following an initial phase of engagement by the DMO with market participants, an independent review into the future provision of reference prices was established by the government. Professor David Miles CBE was appointed to lead the Independent Reference Prices Review (the Review) on 8 January 2016.

A market-wide consultation was launched by the Review in May 2016 inviting views on the necessary features of any successor arrangements and the approach to transitioning to them. On 5 July 2016, taking into account feedback from the consultation, the Review published a Request for Proposals for successor pricing arrangements by potential providers. As part of its assessment, the Review met with each potential provider and hosted roundtable meetings with the GEMMs and end-investors.

The Review delivered its recommendation to HM Treasury Ministers and published its final report on 11 October 2016. Its conclusion was that FTSE Russell and Tradeweb jointly put forward the strongest proposal for future reference price provision: FTSE Russell would operate as the administrator of the reference prices and would use these prices in the calculation of the FTSE Actuaries UK Gilts Index Series. Tradeweb would calculate the reference prices based on input data from the Tradeweb dealer-to-client UK Gilt trading platform.

Additionally, the Review recommended that the DMO should actively assist with the transition to the new successor arrangement. During the transition period, the DMO worked closely with the successor providers, FTSE Russell and Tradeweb, meeting regularly with them. In February 2017, the DMO announced that it expected to cease publishing end-of-day and intraday reference prices in July 2017.

FTSE Russell and Tradeweb began producing a full set of end-of-day prices for gilts, strips and Treasury bills from late March 2017, commencing in effect a parallel run for reference prices. FTSE Russell and Tradeweb hosted a public “town hall” event on 27 April 2017 to provide information on the successor arrangement and to offer an opportunity for users of reference prices to ask questions regarding future price provision. A webinar explaining the changes to the reference prices methodology was made available to market participants.

On 20 June 2017 the DMO announced that it would cease publishing end-of-day and intraday reference prices with effect from 24 July 2017, completing the transition of end-of-day reference prices to the successor providers. The transition was completed on schedule.

Chapter 3: Exchequer Cash Management

Exchequer cash management remit 2016-17

The DMO's cash management remit for 2016-17, published alongside the Budget on 16 March 2016, specified that the government's cash management objective is:

> "to ensure that sufficient funds are always available to meet any net daily central government cash shortfall and, on any day when there is a net cash surplus, to ensure this is used to best advantage".

HM Treasury and the DMO work together to achieve this, with HM Treasury providing information to the DMO about flows into and out of the National Loans Fund (NLF) and the DMO making arrangements for funding and for placing net cash positions, primarily by carrying out market operations on the basis of HM Treasury forecasts.

The DMO's cash management objective

The remit specifies that the DMO's cash management objective is:

> "to minimise the cost of offsetting the government's net cash flows over time, while operating to a risk appetite approved by ministers. In so doing, the DMO will seek to avoid actions or arrangements that would:
>
> - undermine the efficient functioning of the Sterling money markets; or
> - conflict with the operational requirements of the Bank of England for monetary policy implementation".

Instruments and operations used in Exchequer cash management

In 2016-17 the DMO carried out its cash management objective primarily through a combination of:

- bilateral market operations with DMO counterparties; and
- Treasury bill sales.

The average accepted yields achieved at the weekly Treasury bill tenders are assessed against the SONIA rates for the relevant maturities. These are reported in Annex B.

Variations in the stock of Treasury bills for debt management purposes in market hands can serve as a financing instrument. In 2016-17, net Treasury bill sales contributed £3.5 billion to financing. Table 21 shows the split of issuance of Treasury bills by maturity at tenders over the course of the financial year.

Bilateral Treasury bill facility

Since November 2007, the DMO has had access to a facility which allows it to re-open existing Treasury bills and issue them on a bilateral basis, on request from its cash management counterparties (provided that such issuance is consistent with the DMO's cash management operational requirements). In particular, Treasury bills sold through the bilateral facility can contribute to smoothing cumulative cash positions. Monthly issuance of Treasury bills via the bilateral facility is shown in the "*Other issuance*" category in Table 22.

Table 22: Treasury bill issuance (gross value) in 2016-17

Month	One month (£mn)	Three month (£mn)	Six month (£mn)	Other issuance (£mn)	Total issuance (£mn)	Total stock outstanding (£mn)
Apr-16	2,000	5,500	8,000	5,009	20,509	72,053
May-16	2,500	5,000	12,000	3,070	22,570	71,021
Jun-16	2,000	7,500	9,000	8,916	27,416	81,205
Jul-16	2,000	10,000	11,500	127	23,627	86,874
Aug-16	2,500	12,500	15,000	31	30,031	97,905
Sept-16	5,000	7,000	12,000	1,682	25,682	104,340
Oct-16	2,500	5,500	15,000	473	23,473	98,237
Nov-16	2,000	5,000	9,000	3,484	19,484	94,802
Dec-16	3,500	5,500	8,000	1,747	18,747	95,368
Jan-17	2,500	7,500	9,000	733	19,733	85,514
Feb-17	2,000	3,500	5,000	0	10,500	76,511
Mar-17	2,000	2,000	4,000	2,558	10,558	67,569

Source: DMO

The breakdown of the Treasury bill portfolio by bill maturity date (including amounts issued bilaterally) at end-March 2017 is shown in Table 23.

Table 23: Treasury bills outstanding at 31 March 2017 by maturity date

Maturity date	Size (£mn)	Maturity date	Size (£mn)
03-Apr-17	3,500	26-Jun-17	2,000
10-Apr-17	5,500	10-Jul-17	2,500
18-Apr-17	5,501	17-Jul-17	2,500
21-Apr-17	2,546	24-Jul-17	2,000
24-Apr-17	5,500	31-Jul-17	2,000
02-May-17	4,501	07-Aug-17	2,000
08-May-17	3,500	14-Aug-17	1,000
15-May-17	3,500	21-Aug-17	1,000
22-May-17	3,013	29-Aug-17	1,000
30-May-17	2,500	04-Sep-17	1,000
05-Jun-17	2,500	11-Sep-17	1,000
12-Jun-17	2,509	18-Sep-17	1,000
19-Jun-17	3,000	25-Sep-17	1,000
Total			**67,569**

Source: DMO

Bilateral cash management operations

In practice, a significant portion of cash management operations in 2016-17, as in previous years, were negotiated bilaterally by the DMO with market counterparties. To ensure competitive pricing, the DMO maintains relations with a wide range of money market counterparties with whom it transacts both directly and via voice and electronic brokers.

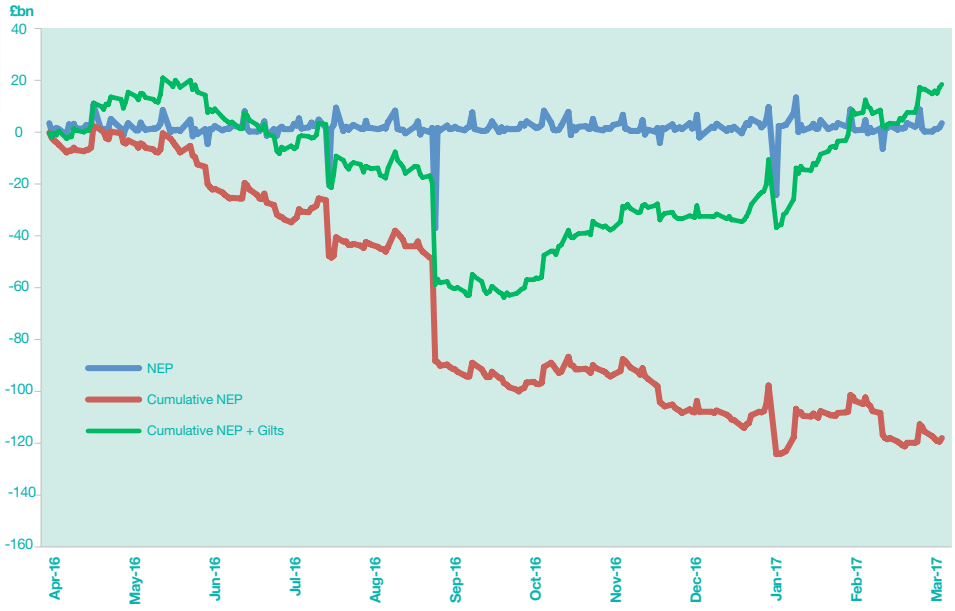
Cash management is conducted using market instruments in order to minimise cost whilst operating within agreed risk limits. Sterling-denominated repurchase agreements (repo) and reverse repurchase agreements currently dominate these transactions, though short-dated cash bonds, Certificates of Deposit, Commercial Paper, reverse repo of foreign currency bonds swapped into Sterling, unsecured loans and deposits can also be used.

The DMO's money market dealers borrow from or lend to the market on each business day to balance the position on the NLF. In order to do so the DMO receives from HM Treasury forecasts of each business day's significant cash flows into and out of central government. Additionally, the DMO obtains up-to-date intra-day monitoring of cash flows as they occur. The DMO trades only with the purpose of offsetting current and forecast future government cash flows, subject to the agreed risk limits. The DMO does not take interest rate positions, except in so far as that is necessary to offset forecast future cash flows.

Over the course of a financial year, the Exchequer's cash flow has typically had a fairly regular and predictable pattern associated with the tax receipts and expenditure cycles. Outflows associated with gilt coupons and redemptions are also known in advance.

Chart 14 shows the scale of daily cash flows measured in terms of the Net Exchequer Position (NEP) in 2016-17 on a daily and cumulative basis. The NEP excludes the effects of gilt sales, Treasury bill issuance and NS&I's overall net contribution to financing, and therefore shows the cumulative in-year deficit which has to be financed. The chart also shows the net effect including gilt sales demonstrating how the timing of these make a significant contribution to reducing the in-year financing required by Exchequer cash management operations.

Chart 14: Exchequer cash flows 2016-17



Source: HM Treasury/DMO

Active cash management performance framework

Since 2000, the in-year cash needs of the government have been managed actively by HM Treasury and the DMO, with HM Treasury providing short and medium-term forecasts of daily net cash surpluses and deficits and the DMO transacting with its market counterparties in a range of instruments at a range of different maturities to offset the current and forecast future cumulative net cash position.

This active cash management framework is designed to allow specialist cash managers to select appropriate counterparties, instruments and maturities with which to deliver the cash management remit at minimum cost subject to the agreed risk limits. Formal performance reporting is in place as a means of enhancing effectiveness and ensuring accountability and the results for 2016-17 are presented in Annex B. HM Treasury and the DMO recognise that performance measurement needs to capture the wider policy objectives the government sets the DMO as its cash manager, as well as the cost minimisation objective, and for this reason a number of key performance indicators are used, including a quantifiable measure of net interest saving which is shown under key performance indicator (KPI) 1.4.

HM Treasury and the DMO equally recognise that to measure performance solely in terms of net interest savings is a somewhat narrow interpretation that does not fully capture the ethos or the wider policy objectives the government sets the DMO as its cash manager. Exchequer cash management differs from that of a commercial entity in that it does not seek to maximise profits, but rather to minimise costs subject to risk, while playing no role in the determination of Sterling interest rates. Consequently the DMO and HM Treasury monitor and assess overall performance in meeting the government's objectives using a number of quantitative and qualitative KPIs and controls. A full report on performance in 2016-17 is presented in Annex B.

Chapter 4: Fund Management

Fund management

The origins of the Commissioners for the Reduction of the National Debt (CRND) date back to the passing of the National Debt Reduction Act of 1786. From their earliest days the Commissioners also had associations with the stock market and this led to a diversification of CRND operations, including in particular responsibility for the investment of major government funds. This now constitutes the main function of CRND, which since 2002 has been carried out under the auspices of the DMO.

CRND had £29.4 billion under management at end-March 2017, representing the assets of the various investment accounts. The Commissioners themselves had not officially met in this capacity since 1860, however, in February 2016, the Chancellor of the Exchequer hosted a meeting, at which the DMO's Chief Executive was officially appointed as the Government Broker, a formal title, which was, up until 1986, conferred on the senior partner of the stockbrokers Mullens & Co.

The investment powers differ to some extent from fund to fund, depending upon the provisions of the relevant Acts of Parliament or risk profiles agreed with fund owners, but essentially investments are restricted to cash deposits or government-issued and government-guaranteed securities. Currently, the largest funds are the National Insurance Fund Investment Account, the Court Funds Investment Account and the National Lottery Distribution Fund Investment Account. The main funds under CRND management at end-March 2017 were as follows:

- National Insurance Fund Investment Account
- Court Funds Investment Account
- National Lottery Distribution Fund Investment Account
- Northern Ireland National Insurance Fund Investment Account
- Insolvency Services Investment Account
- Northern Ireland Court Service Investment Account
- Various smaller legacy administrative accounts, including the Donations and Bequests Account, which processes any gifts to the nation for the purpose of debt reduction.

CRND continues to provide an efficient, value-for-money service, with the main investment objectives being to maintain sufficient liquidity to meet withdrawals and to protect the capital value of the funds under management.

Annexes:

A) List of GEMMs and Inter Dealer Brokers (IDBs) at 31 March 2017

B) Debt and cash management performance

C) The gilt portfolio

ANNEX A: List of GEMMs and IDBs at 31 March 2017

All are market-makers in both conventional and index-linked gilts

Gilt-edged Market Makers	Website
BofA Merrill Lynch Financial Centre 2 King Edward Street London EC1A 1HQ	www.baml.com
Barclays Bank plc^ 5 The North Colonnade Canary Wharf London E14 4BB	www.barclays.com
BNP Paribas (London Branch) 10 Harewood Avenue London NW1 6AA	www.bnpparibas.com
Citigroup Global Markets Limited Citigroup Centre 33 Canada Square London E14 5LB	www.citigroup.com
Deutsche Bank AG (London Branch) Winchester House 1 Great Winchester Street London EC2N 2DB	https://gm-secure.db.com
Goldman Sachs International Bank Peterborough Court 133 Fleet Street London EC4A 2BB	www.gs.com
HSBC Bank PLC^ 8 Canada Square London E14 5HQ	www.hsbcgroup.com
Jefferies International Limited* Vintners Place 68 Upper Thames Street London EC4V 3BJ	www.jefferies.com

JP Morgan Securities PLC
25 Bank Street
Canary Wharf
London
E14 5JP
www.jpmorgan.com

Lloyds Bank plc
25 Gresham Street
London
EC2V 7AE
www.lloydsbankcommercial.com

Morgan Stanley & Co. International plc
20 Cabot Square
Canary Wharf
London
E14 4QW
www.morganstanley.com

NatWest (Markets)^
250 Bishopsgate
London
EC2M 4AA
www.natwestmarkets.com

Nomura International plc
One Angel Lane
London
EC4R 3AB
www.nomura.com

Royal Bank of Canada Europe Limited
Thames Court
One Queenhithe
London
EC4V 4DE
www.rbccm.com

Santander Global Banking & Markets UK
2 Triton Square
Regent's Place
London
NW1 3AN
www.santander.com

Scotiabank Europe plc
201 Bishopsgate
London
EC2M 3NS
www.scotiabank.com

The Toronto-Dominion Bank (London Branch)*
60 Threadneedle Street
London
EC2R 8AP
www.td.com

UBS Limited
1 Finsbury Avenue
London
EC2M 2PP
www.ubs.com/investmentbank/

Winterflood Securities Limited*^ www.wins.co.uk
The Atrium Building
Cannon Bridge
25 Dowgate Hill
London EC4R 2GA

* Retail GEMM
^ Strips market participant

Inter Dealer Brokers

BGC Brokers L.P. www.bgcpartners.com
One Churchill Place
Canary Wharf
London
E14 5RD

BrokerTec Europe Limited www.icap.com
2 Broadgate
London
EC2M 7UR

Dowgate www.ksbb.com
6th Floor
Candlewick House
120 Cannon Street
London
EC4N 6AS

GFI Securities Limited www.gfigroup.com
1 Snowden Street
London
EC2A 2DQ

ICAP WCLK Limited www.icap.com
2 Broadgate
London
EC2M 7UR

Tullett Prebon Gilts www.tullettprebon.com
155 Bishopsgate
London
EC2N 3DA

ANNEX B: Debt and cash management performance

This Annex includes data on the DMO's performance in execution of the gilt financing and Exchequer cash management remits in 2016-17.

The gilt data compare the actual cost of gilt issuance (measured by the average yield at which gilts were sold in accordance with the DMO's financing remit) with illustrative counterfactual costs of different patterns of gilt financing. It also looks at the performance of gilt auctions by comparing the average accepted/strike price of an auction with prevailing secondary market price levels.

Table 10 on page 19 of this Review reports on the average cover ratios at all gilt auctions in 2016-17 and on the concentration of bidding (the tail) at conventional gilt auctions.

The cash management material comprises a formal report on compliance with the DMO's published Key Performance Indicators (KPIs) in respect of Exchequer cash management and a comparison of the average yields achieved at weekly Treasury bill tenders with the prevailing SONIA rate for comparable maturities.

Other aspects of the DMO's performance each financial year are reported in the DMO's Annual Report and Accounts[14]. These comprise (page references refer to the 2016-17 Accounts published on 17 July 2017):

- A review of the DMO's main activities (pages 16-19);
- A report on achievements against agency objectives as set by HM Treasury (pages 22-23);
- A report on performance against agency targets (pages 24-27), including:
  - Compliance with the financing remit
  - Gilt and Treasury bill operation results – release times
  - Accuracy of the recording of transactions through the Debt Management Account
  - Compliance with the Freedom of Information Act 2000
  - Avoidance of breaches of operational notices
  - Compliance with the schedule for reporting cash management operational balances
  - Accurate and timely administration of settlement procedures
  - Accuracy of publications and timeliness of announcements
  - Timeliness of processing of local authority loan and early repayment applications
  - Appropriate operation of the DMO (retail) gilt purchase and sales service
  - Appropriate administration of the National Loan Guarantee Scheme.

[14] The Annual Report and Accounts for 2016-17 are available at: http://www.dmo.gov.uk/documentview.aspx?docname=publications/annualreports/dmodmarep2017.pdf&page=Annual_Report

a) Gilt issuance counterfactuals

Since 2001 the DMO has published in its Annual Reviews the results of its measurement of relative performance of outright issuance in each financial year against counterfactuals. Although the UK's debt management objective is concerned with minimising the cost of issuance "*over the long term*" rather than in any one year, the intention here is to illustrate whether different non-discretionary issuance patterns during a particular year could have resulted in higher or lower costs of financing.

The calculations compare the cash weighted yield of actual issuance with the yield on various counterfactual issuance patterns but on the basis of a key assumption that the different issuance patterns modelled would not have impacted the levels of yields relative to those achieved in practice (see below).

There are a number of limitations to this analysis. In particular, a major assumption that is unlikely to hold in practice is that the shape of the yield curve remains fixed over time. This is particularly relevant when considering the refinancing timeframes associated with different maturities of debt (i.e. short issuance needs to be refinanced much more frequently than long issuance) so this analysis is not comparing like-for-like in this regard. In principle, therefore, if yields evolve as reflected by the forward yield curve it would be too simplistic to say that, in any one year, one issuance pattern has outperformed another.

Another relevant assumption is that the counterfactual issuance patterns themselves would not have had any impact on yields. This is unlikely to hold in practice particularly where the gilt issuance pattern under the counterfactual is significantly different from actual issuance (e.g. a heavy skew to a certain maturity). Whilst it is likely, certainly over the medium- to longer-term, that the greatest influences on the level of yields will be macro-economic conditions, market expectations of interest rates, and other external factors over which the debt manager has no control, establishing the extent to which changes in volumes and patterns of supply might affect yields is more difficult.

The underlying rationale for considering issuance performance against counterfactuals is that it provides one means by which to analyse the performance of the debt management authorities in achieving the debt management objective, in particular regarding the decisions on the split between maturities/types of gilt sold in a given year. It is worth noting in this context that measuring performance against the primary debt management objective is not straightforward, a fact widely acknowledged by many other sovereign debt managers. Hence, presentation of annual counterfactuals should not be interpreted as a complete or authoritative means by which to test achievement against the debt management objective – which as noted above is a long-term test.

For these reasons, caution is required when interpreting the yield impact of counterfactual issuance patterns set out in this annex in comparison with the actual issuance yield.

The cash weighted average yield of actual issuance at the gilt auctions, syndicated offerings and gilt tenders in 2016-17 was 1.296%[15] (68.2 bps lower than the 1.978%

[15] Index-linked real yields have been converted to nominal equivalents, assuming 3% RPI inflation.

in the previous financial year). The cash weighted average yield of issuance by type of gilt and maturity is shown in Table B1.

Table B1: Average issuance yield by type and maturity of gilt 2016-17

	Cash (£mn)	Yield (%)
All issuance	**147,605**	**1.296**
Conventional		
Short	38,376	0.573
Medium	29,498	1.131
Long	43,581	1.650
Total conventional	**111,455**	**1.142**
Index-linked		
Medium	5,984	1.071
Long	30,166	1.586
Total Index-linked	**36,150**	**1.501**

Source: DMO

The actual yield of 1.296% can be compared with yields derived by applying the actual annual cash weighted yield of different maturities/types of gilt to different gilt issuance patterns. Table B2 contrasts the actual average issuance yield in 2016-17 with three counterfactuals which assume the same yields by maturity and type as shown above, but with alternative issuance skews, namely:

- a significantly greater skew towards short issuance;
- a more even-distribution of financing between maturity buckets; and
- a significantly greater skew towards long issuance.

Table B2: Illustrative average issuance yields assuming different issuance patterns

	Yield	Actual £mn	Shorter £mn	Even flow £mn	Longer £mn
Conventional					
Short	0.573	38,376	74,229	37,152	18,613
Medium	1.131	29,498	18,613	37,152	18,163
Long	1.650	43,581	18,613	37,152	74,229
Total conventional		111,455	111,455	111,455	111,455
Index-linked					
Medium	1.071	5,984	24,076	18,075	3,615
Long	1.586	30,166	12,074	18,075	32,535
Total Index-linked		36,150	36,150	36,150	36,150
Total all		**147,605**	**147,605**	**147,605**	**147,605**
Ave. Issuance yield		**1.296**	**0.943**	**1.169**	**1.420**
	Difference v actual (bps)		**-35.1**	**-12.7**	**12.4**

Source: DMO

The more even approach to financing by maturity produces an average yield of issuance 12.7bps lower than the actual, mainly reflecting the greater proportion of lower yielding medium issuance at the expense of long conventional. The shorter skew produces an implied issuance yield significantly (35.3bps) lower than the actual while the longer skew produces an issuance yield 12.4bps higher than actual.

The results from counterfactual modelling of this kind need to be considered in the context of an objective that requires the DMO (and many other sovereign issuers with similar objectives) to pursue policies designed to minimise long-term cost whilst taking account of the risks to which debt issuance exposes the Exchequer, i.e. the DMO does not seek exclusively to minimise yield at the expense of other

considerations. In order to determine the maturity and composition of debt issuance, the government takes into account a number of factors including:

- the government's own appetite for risk, both nominal and real;
- the shape of both the nominal and real yield curves; and
- investors' demand for gilts.

b) Auction concession analysis

There are a number of ways to measure auction concessions. The method presented in Table B3 shows the extent of any concession/premium at auctions by measuring the difference between the actual proceeds received and those that would have been generated had each gilt at auction been priced at the secondary market price at the close of bidding.

Table B3: Concession (-) and premium (+) ahead of gilt auctions in 2016-17

Date	Gilt	Concession/ premium £ million
05-Apr-16	1½% Treasury 2021	0.61
07-Apr-16	1½% Treasury 2026	0.95
13-Apr-16	1½% Treasury 2045	4.06
20-Apr-16	0⅛% IL 2026	2.27
04-May-16	1½% Treasury 2021	0.61
05-May-16	1½% Treasury 2026	1.08
10-May-16	0⅛% IL 2058	0.28
18-May-16	4¼% Treasury 2036	1.24
01-Jun-16	1½% Treasury 2021	0.52
07-Jun-16	4¼% Treasury 2046	0.20
09-Jun-16	0⅛% IL 2036	1.72
05-Jul-16	1½% Treasury 2021	0.38
07-Jul-16	1½% Treasury 2026	0.83
13-Jul-16	0⅛% IL 2026	2.93
20-Jul-16	4¼% Treasury 2039	0.92
02-Aug-16	1½% Treasury 2022	1.93
11-Aug-16	0⅛% IL 2036	1.36
17-Aug-16	4¼% Treasury 2055	2.96
01-Sep-16	0½% Treasury 2022	1.87
06-Sep-16	1½% Treasury 2026	0.78
14-Sep-16	0⅛% IL 2046	2.72
20-Sep-16	1½% Treasury 2047	4.13
04-Oct-16	0½% Treasury 2022	0.96
06-Oct-16	1½% Treasury 2047	2.62
12-Oct-16	0⅛% IL 2036	5.61
19-Oct-16	1½% Treasury 2026	0.95
01-Nov-16	1½% Treasury 2022	0.44
08-Nov-16	1½% Treasury 2037	1.90
17-Nov-16	0⅛% IL 2026	0.22
22-Nov-16	1½% Treasury 2026	0.60
01-Dec-16	1½% Treasury 2022	1.10
06-Dec-16	1½% Treasury 2026	0.97
07-Dec-16	1½% Treasury 2047	2.27
14-Dec-16	0⅛% IL 2036	0.90

Date	Gilt	Concession/ premium £ million
05-Jan-17	1¾% Treasury 2037	2.77
10-Jan-17	0⅛% IL 2046	0.21
12-Jan-17	2% Treasury 2025	1.13
18-Jan-17	0½% Treasury 2022	1.32
31-Jan-17	1½% Treasury 2026	1.04
07-Feb-17	1¾% Treasury 2019	0.51
09-Feb-17	1½% Treasury 2047	3.93
15-Feb-17	0⅛% IL 2026	-0.38
23-Feb-17	1½% Treasury 2026	1.08
02-Mar-17	0½% Treasury 2022	1.10
09-Mar-17	0⅛% IL 2036	4.64
14-Mar-17	1¼% Treasury 2027	0.27
22-Mar-17	1½% Treasury 2047	2.26
28-Mar-17	0½% Treasury 2022	0.80
	Auction premia 2016-17	**(£mn)**
	Aggregate all auctions	**73.57**
	Average all auctions	**1.53**
	Average conventional auctions	**1.42**
	Short-dated conventional auctions	0.93
	Medium-dated conventional auctions	0.88
	Long-dated conventional auctions	2.44
	Average Index-linked auctions	**1.87**

Source: DMO

A total premium of £73.6 million occurred across the 48 auctions in 2016-17 (an average premium of £1.5 million per auction – compared to £1.6 million in 2015-16). The average premium at conventional auctions was £1.4 million, while that at index-linked auctions was higher at £1.9 million. A concession was recorded at only one auction.

The largest premium was £5.61 million at the auction of 0⅛% Index-linked Treasury Gilt 2036 on 12 October 2016 and the only concession was -£0.38 million at the auction of 0⅛% index-linked Treasury Gilt 2026 on 15 February 2017.

c) The DMO's cash management objective: performance report

The DMO's high level cash management objective as set out in Chapter 3 has been subdivided into a series of objectives, to each of which has been attached a Key Performance Indicator (KPI). The following section explains how performance was delivered against these objectives in 2016-17.

Objective 1.1: DMO must supply sufficient cash each day to enable government to meet its payment obligations. This is fundamental and unconditional.

The core requirement of Exchequer cash management is to secure the day-to-day funding of Exchequer cash needs. This objective is supported by HM Treasury's daily net cash flow forecasts for 19 weeks ahead and intraday updates of same-day scheduled expenditure and revenue flows. The DMO cash dealers raise and place current and future anticipated net daily balances in the DMA with counterparties in the Sterling money markets, transacting in a range of instruments and at a range of different maturities to smooth the profile of the forecast cumulative net cash position.

Table B4: Components of the cash management objective

CASH MANAGEMENT OBJECTIVE	KEY PERFORMANCE INDICATORS AND CONTROLS
The DMO must supply sufficient cash each day to enable government to meet its payment obligations. This is fundamental and unconditional.	Ways and Means transfers must be avoided for cash management purposes by ensuring that there is always a positive DMA/DMA balance. (NB: HM Treasury is responsible for monitoring and reporting performance of the forecasting function against outturns).
Cash management operations and arrangements should be conducted in a way that does not interfere with monetary policy operations.	The DMO will conduct market operations with a view to achieving, within a very small range, the weekly cumulative target balance for the DMA at the Bank of England. The DMO will maintain formal and informal channels of communication with the Bank on conditions in the Sterling money markets. The DMO will seek to avoid holding weekly or ad hoc Treasury bill tenders when the Bank conducts its weekly open market operations.
Cash management operations and arrangements should be conducted without impeding the efficient working of the Sterling money markets.	The DMO will advise HM Treasury as appropriate on the impact of Exchequer cash flows on liquidity conditions in the Sterling money markets.
The DMO should maintain a system in which the costs and risks are transparent, measured and monitored and the performance of government cash management is assessed. The DMO maintains an ethos of cost minimisation rather than profit maximisation.	The DMO will report to HM Treasury on a quarterly basis the details of its cash management activity, its active management performance against the government's marginal cost of funds and the market and credit risks incurred. Performance may also be reported in the DMO Annual Review.

CASH MANAGEMENT OBJECTIVE	KEY PERFORMANCE INDICATORS AND CONTROLS
The DMO should maintain a credible reputation in the market that leads to lower costs in the long term and a cash management system that is sustainable.	The DMO should maintain channels of communication with money market participants and Treasury bill counterparties both formally and informally to explain, as far as possible, the nature and intent of its operations in the money markets. The DMO should monitor compliance with its operational notices; provide complete, accurate and timely instructions to counterparties, agents, external systems and operators; and achieve the successful settlement of agreed trades on the due date.

The DMA is used to manage the Exchequer's net cash position. Balances in central government accounts contained within the Exchequer pyramid are swept on a daily basis into the NLF and the DMA is required to offset the resultant NLF balance through its borrowing and lending in the money markets. The DMA is held at the Bank of England and a positive end-of-day balance must be maintained at all times; it cannot be overdrawn. Automatic transfers from the government Ways and Means (II) account at the Bank of England would offset any negative end-of-day balances, though it is an objective to minimise such transfers. Thus, evidence of meeting this objective is provided by reference to the number of occasions the DMA goes overdrawn.

KPI 1.1: Ways and Means end of day transfers for cash management purposes must be avoided by ensuring that there is always a positive DMA balance.

- The DMO ensured a positive end-of-day DMA balance for all of 2016-17.

Objective 1.2: Cash management operations and arrangements should be conducted in a way that does not conflict with the operational requirements of the Bank of England for monetary policy implementation.

The DMA target balance at the Bank of England serves solely as a buffer against unexpected payments that occur after the wholesale money markets have closed for same-day settlement. It serves to mitigate the risk of going overdrawn. All changes to the daily net cash forecast that occur before markets are closed should be transacted by DMO cash dealers with market counterparties. The DMO cash forecasters are required to notify the Bank of England, in advance of its weekly round of open market operations, of the weekly target balance on the DMA for the week ahead. This contributes to the forecast money market shortage and hence it is important that actual cumulative end-of-day balances do not differ significantly from target.

KPI 1.2: The DMO will conduct market operations with a view to achieving, within a very small range, the weekly cumulative target balance for the DMA at the Bank of England. The DMO will maintain formal and informal channels of communication with the Bank on conditions in the Sterling money markets. The DMO will seek to avoid holding weekly or ad hoc Treasury bill tenders when the Bank conducts its weekly open market operations.

- The DMO achieved its target weekly cumulative balance for the DMA within a very small range (+/-2% of its weekly cumulative target) in 27 out of 52 weeks in 2016-17. All significant known daily and forecast cumulative weekly variations from target were notified to the Bank of England in a timely fashion. The DMO and the Bank held regular meetings to review the operation of these arrangements.

- No cash management operations were undertaken that by their nature or timing could be perceived as clashing with the Bank's open market operations.

Objective 1.3: Cash management operations and arrangements should be conducted to avoid undermining the efficient functioning of the Sterling money markets.

While this objective is difficult to capture in a KPI, the DMO interprets this as a responsibility to seek to minimise the impact of individual daily flows on the Sterling money markets while ensuring it transacts at competitive prices. The DMO operates as a customer at the core of the money markets, seeking to ensure the widest possible access to maturities, instruments, trading arrangements and counterparties across which to diversify its cash management operations. Limits have been set on the amount of dealing with individual counterparties and in individual instruments; exposure to Sterling overnight liquidity and Sterling interest rates are also subject to limits. In accordance with objective 1.3, limits and controls are intended to avoid concentration of exposures and are reviewed regularly to ensure consistency with market trends and developments; they find their expression in KPI 1.3.

KPI 1.3: The DMO will advise HM Treasury as appropriate on the impact of Exchequer cash flows on liquidity conditions in the Sterling money markets.

Throughout 2016-17, the DMO undertook regular formal and informal communication with the Bank of England, money market counterparties, and industry groups to assess liquidity in the Sterling money markets. It also maintained frequent and regular dialogue to update HM Treasury on market liquidity and, working with HM Treasury, reviewed its trading policies and risk controls to respond to significant Sterling liquidity trends and developments.

Objective 1.4: The DMO should maintain a system in which the costs and risks are transparent, measured and monitored and the performance of government cash management is assessed. The DMO maintains an ethos of cost minimisation rather than profit maximisation.

The active cash management framework encompasses a series of quantitative liquidity, interest rate, foreign exchange and credit risk limits that together reflect the government's risk preferences and are designed to be consistent with the wider policy objectives the government sets its cash manager.

Under the current approach active cash performance is measured and evaluated directly by comparing actual net interest paid and received with cost of funds (i.e. deducting net interest on daily balances at the Bank of England repo rate and deducting transaction and management costs).

KPI 1.4: The DMO will report to HM Treasury on a quarterly basis the details of its cash management activity, including active cash management performance after cost of funds and the liquidity, interest rate, foreign exchange and credit risks incurred. Performance may also be reported in the DMO Annual Review.

- The DMO duly reported to HM Treasury on a quarterly cycle the details of Exchequer cash management activity carried out through the DMA, including active cash management performance and usage of liquidity, interest rate, foreign exchange and credit risk limits.

- Net returns on active cash management (over cost of funds) to the DMA are affected by market conditions, including any differential between the DMA's internal cost of funds and prevailing market rates, and the non-discretionary size and volatility of the Exchequer's cumulative cash position, both of which vary significantly over time. The Exchequer cash management results should not therefore be considered a reflection of, for example, the DMO's cash management trading strategies or performance.

- The Exchequer cash management activity is carried out in accordance with the government's ethos of cost minimisation: cash transactions are intended to support the statutory objectives of the DMA and in particular to enable the Exchequer's daily net cash positions to be offset over time by using a range of products and instruments, within agreed risk parameters, and are not intended to seek risk opportunities to generate excess return.

- Active cash management recorded positive net interest after cost of funds, but before transaction and management costs, of £19.6 million for 2016-17. The DMO's estimated transaction and management costs during 2016-17 were £9.5 million.

- Positive net interest after cost of funds has been recorded by virtue of funding the Exchequer's daily cash needs in the wholesale money markets at rates that have been on average below the DMA's internal cost of funds (Bank of England Bank Rate) and from investing surpluses at market rates that were on average above this.

- There were no breaches of the credit, interest rate, foreign exchange or liquidity risk limits in 2016-17 and the Exchequer's net cash position was successfully offset each day.

Objective 1.5: The DMO should maintain a credible reputation in the market that leads to lower costs in the long term and a system that is sustainable.

The DMO seeks to maintain and enhance its reputation in the market by being open, transparent and consistent about the aims and intentions of its operations and transactions. This has allowed it to continue to widen its market and counterparty access and to deal at fair and competitive rates.

In addition, DMO personnel, processes and internal systems have to be capable of complying with market standards and following market practice in respect of speed and accuracy in negotiation, clearing and settlement of trades.

KPI 1.5: The DMO should maintain channels of communication with money market participants and Treasury bill counterparties both formally and informally to explain, as far as possible, the nature and intent of its operations in the money markets. The DMO should monitor compliance with its operational notices; provide complete, accurate and timely instructions to counterparties, agents, external systems and operators; and achieve the successful settlement of agreed trades on the due date.

- As stated in the report on KPI 1.3 above, in 2016-17 the DMO maintained an active and open dialogue with cash counterparties and other market stakeholders to explain its cash management approach and strategy and to explain the context for and receive feedback on Treasury bill tenders and other market operations.

- There were no breaches of cash management operational targets for trade settlement (percentage by value on the due date[16]) or the timing of the announcement of Treasury bill tender results[17]. There were no breaches of the cash management operational notice in 2016-17.

[16] The target is to settle at least 99% of trades by value on the due date: the level achieved was 99.5%.
[17] The target is to release tender results within 15 minutes: the average release time was 5.9 minutes.

d) Treasury bill tender performance

Table B5 and Charts B1-3 compare the results (in terms of the average accepted yield) of all Treasury bill tenders held in 2016-17 with the corresponding SONIA rates. Over the financial year the average accepted yields at one month and three month tenders outperformed the corresponding SONIA rates by 9.6bps and 3.5bps respectively, but slightly underperformed (by 1.4bps) in the case of six month tenders.

The range of relative performances may in part reflect the range of average tender sizes. The average size of six-month Treasury bill tenders was some 3.8 times larger than the average for one-month tenders. The average cover ratios were, however, more consistent across the three maturities (see Table B6).

Table B5: Comparison of average tender yields with SONIA rates in 2016-17

	Average tender yield (%)	Average SONIA rate (%)	Difference (bps)
One-month	0.184	0.280	-9.6
Three-month	0.229	0.263	-3.5
Six-month	0.263	0.249	1.4
Average	**0.225**	**0.264**	**-3.9**

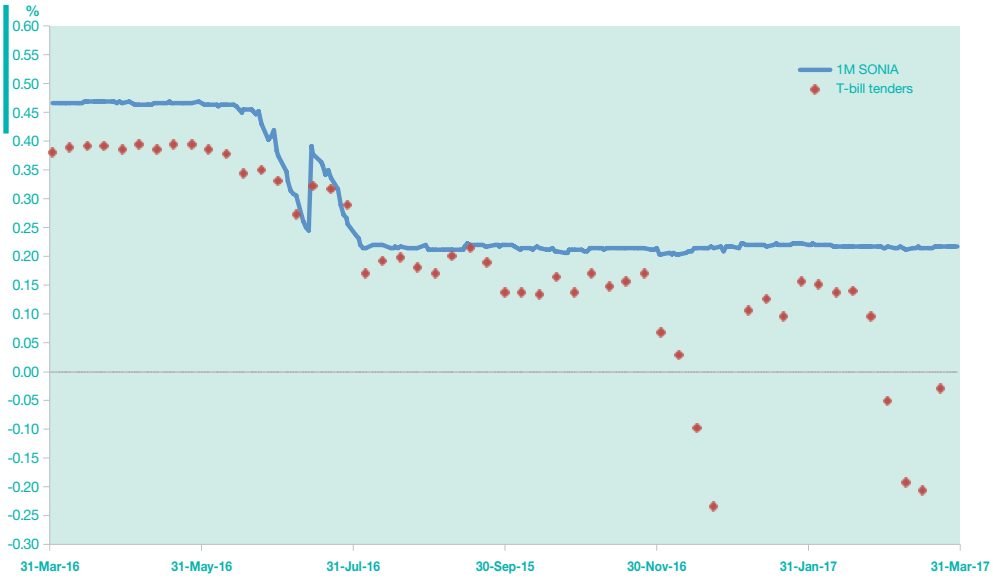
Source: DMO/Bloomberg

Table B6: Comparison of average tender sizes and cover ratios

	Average tender size (£mn)	Average cover ratio (x)
One-month	596.2	4.50
Three-month	1,480.8	3.90
Six-month	2,278.8	3.10

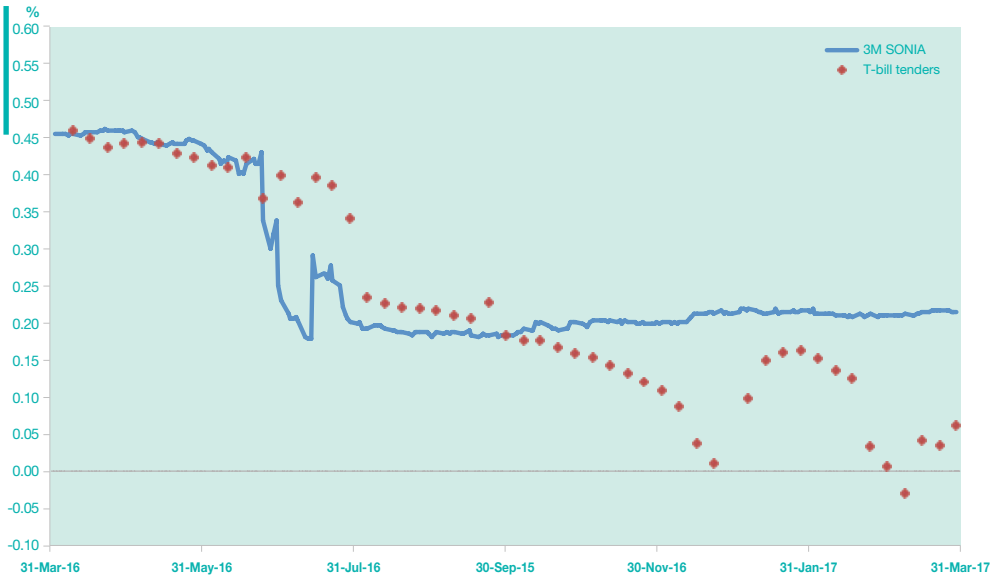
Source: DMO/Bloomberg

Chart B1: One-month tender yields compared with SONIA rates in 2016-17



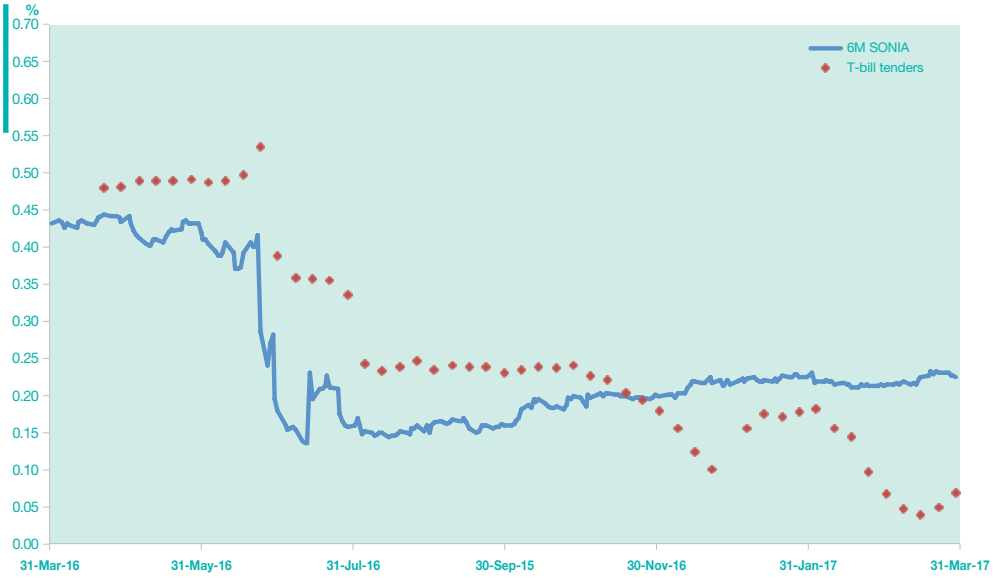
Source: DMO/Bloomberg

Chart B2:
Three-month tender yields compared with SONIA rates in 2016-17



Source: DMO/Bloomberg

Chart B3:
Six-month tender yields compared with SONIA rates in 2016-17



Source: DMO/Bloomberg

Annex C: The gilt portfolio

The gilt portfolio

The key statistics of the gilt portfolio at end-March 2017 compared with the position at the end of the previous financial year are shown in Table C1 below. Figures in the 'Net' columns next to the nominal and market values of the gilt portfolio are the corresponding totals excluding central government holdings.

Table C1: Key gilt portfolio statistics

	End-March 2016		End-March 2017	
	Gross	Net	Gross	Net
Nominal value of the debt portfolio – inc T-bills (£bn)	1,540.48	1,424.65	1,592.04	1,474.64
Nominal value of the gilt portfolio (£bn)	1,462.17	1,346.34	1,522.50	1,405.14
– conventional gilts	1,075.65	970.72	1,128.46	1,019.19
– index-linked gilts	386.52	375.62	394.04	385.95
Market value of the debt portfolio – inc T-bills (£bn)	1,941.65	1,789.47	2,159.59	1,997.42
Market value of the gilt portfolio (£bn)	1,863.40	1,711.22	2,090.13	1,927.95
– conventional gilts (£bn)	1,324.91	1,186.80	1,437.21	1,287.24
– index-linked gilts (£bn)	538.49	524.41	652.92	640.71
Weighted average market yields				
– conventional gilts	1.37	1.36	1.00	0.99
– index-linked gilts	-1.05	-1.05	-1.96	-1.96
Gilt portfolio weighted average financing yield (%)	3.40	3.31	3.24	3.14
Portfolio average maturity – inc T-bills (years)	16.47	16.59	17.71	17.89
Portfolio average maturity – exc T-bills (years)	17.15	17.34	18.30	18.53
– conventional gilts (years)	15.09	15.04	15.69	15.67
– index-linked gilts (years)	22.21	22.54	24.04	24.27
Average modified duration				
– conventional gilts (years)	10.24	10.20	11.12	11.11
– index-linked gilts (years)	22.00	22.24	23.08	23.31

T-bills for cash management purposes are excluded from the end-March 2017 data

Source: DMO

A list of gilts, including first issue and coupon dates and nominal amounts outstanding (updated daily) is available on the DMO website at:
http://www.dmo.gov.uk/index.aspx?page=Gilts/Gilts_In_Issue

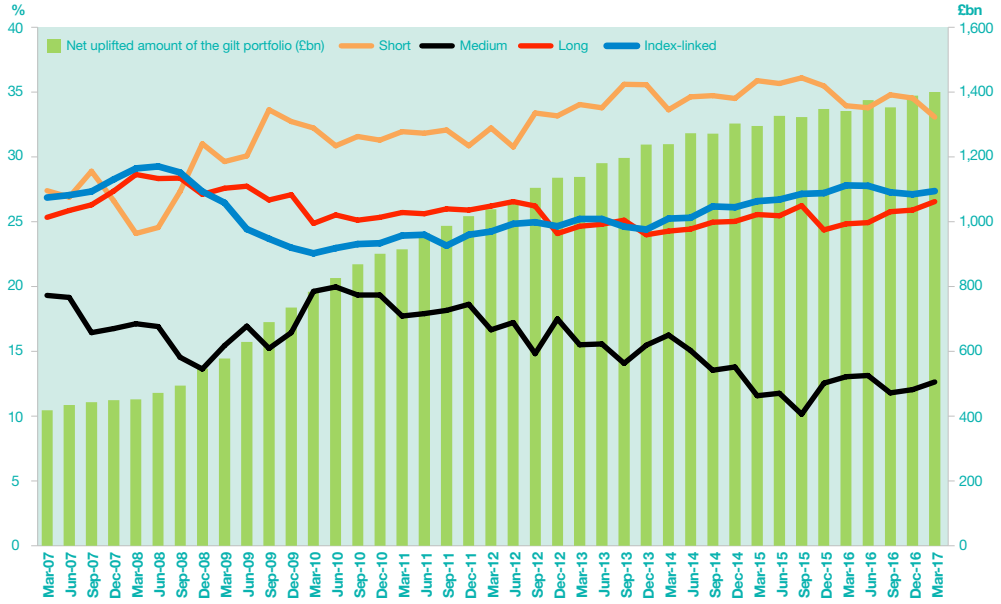
The nominal value[18] of the gilt portfolio rose by 4.1% to £1,522.5 billion as gross gilt issuance plus inflation accrual on index-linked gilts exceeded gilt redemptions. The market value of the portfolio also rose but by 12.2% to £2,090.1 billion, reflecting a fall in yields over the course of the year.

[18] Including inflation uplift on index-linked gilts.

The size of the gross gilt portfolio is larger as a result of the creation (since 2008-09) of £117.4 billion (cash) of gilt collateral for the DMO's Exchequer cash management operations and the Bank of England's Discount Window Facility. The gilt collateral is held on the DMA and the net data above exclude these holdings.

Chart C1 shows the growth of the net (uplifted) value of the gilt portfolio since March 2007; it also shows how the composition of the portfolio has varied over the past ten years.

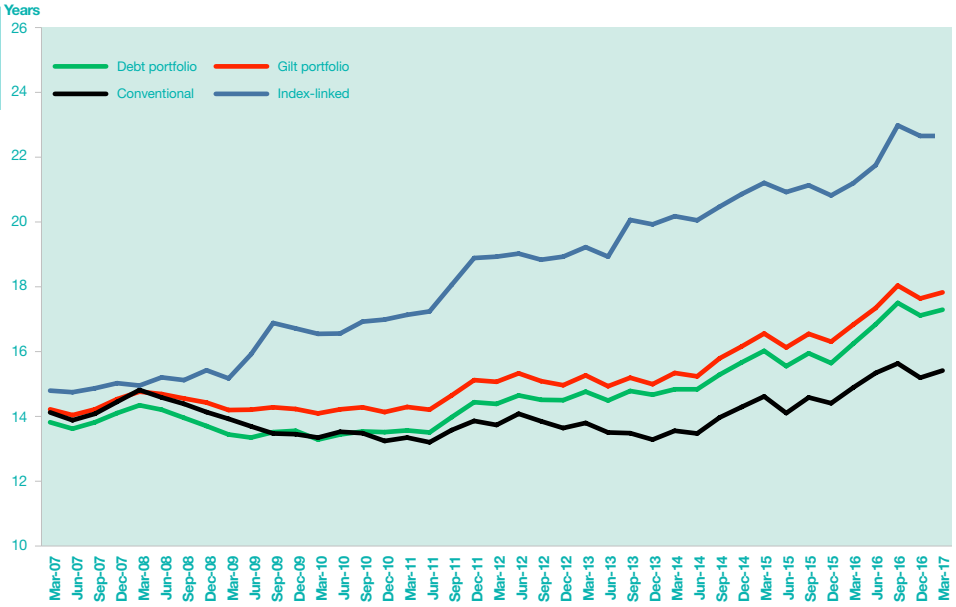
Chart C1: Nominal values of the gilt portfolio and gilt portfolio composition



Source: DMO

Chart C2 shows the maturity of the UK Government marketable debt[19] and gilt portfolios from end-March 2007 to end-March 2017, at which point the maturity of the debt portfolio was 17.9 years and that of the gilt portfolio was 18.5 years. Within the gilt portfolio, the maturity of conventional gilts was 15.7 years and that of index-linked gilts 24.3 years.

Chart C2: Maturity of the UK marketable debt and gilt portfolios



Source: DMO

[19] The Government marketable debt portfolio includes gilts and Treasury bills.

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