

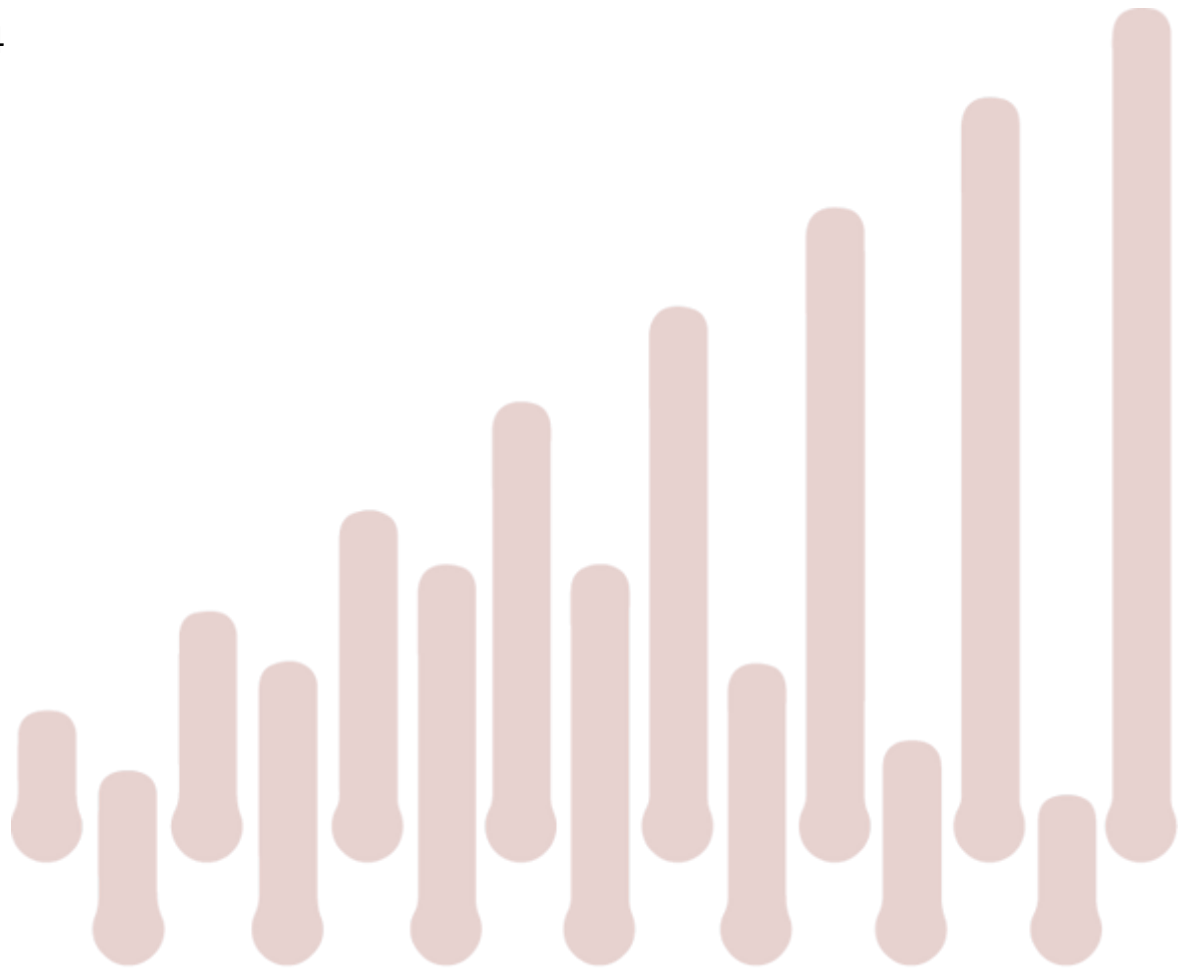
Price-Making and Last-Resort Market-Making in Gilts

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Abstract

The Bank of England acted with great success as market maker of last resort in the gilt market in September - October 2022, when the market became illiquid after the Truss-Kwarteng mini-budget. Future episodes of illiquidity are quite likely, because of the coincidence of budget deficits, a high debt/GDP ratio, quantitative tightening and possibly continued relatively slow economic growth. Last-resort market making is an act of financial stability, monetary policy, and government debt management. Its sole objective must be to restore two-way trading in a dysfunctional market, and the market-maker must find a price level to achieve that objective. It would be desirable to set up a body including the Bank of England and the Debt Management Office, capable of convening at short notice and equipped with the necessary authority, to decide when and how to activate the market maker of last resort.

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Introduction

This paper aims to clarify aspects of official last-resort market making in government securities markets, namely that it is always an act of monetary policy and debt management, as well as of financial stability policy, and that its sole objective is to find a price at which two-way trading can re-start in a dysfunctional market. It concludes that there needs to be standing arrangement between the Bank of England and the Debt Management Office to make quick decisions on last-resort market making.

Beginning in the early 1950s, the Bank of England acted as the market-maker of last resort in the gilt market, at times on a large scale and for long periods. For many years after the 'Big Bang' in the London Stock Exchange in 1986, it no longer needed to do so. The commercial market makers had far more capital resources than previously, and fiscal policy was conducted in a way which did not arouse any anxiety about the sustainability of the government's debt. In these circumstances, there was no longer any cause for concern about the liquidity of the gilt market.¹

That changed with the advent of the Covid pandemic in March 2020, when the gilt market, along with other countries' government securities markets, became dysfunctional, in the sense that there was a surge of offers, and for a while there were no bids available to would-be sellers. The authorities provided relief, in the U.K. and elsewhere, but not by acting as a market-maker of last resort, i.e. helping the market find a new level of yields at which supply, including from the government, would be in balance with demand. Instead they suppressed the price discovery process by quantitative easing, i.e. purchasing government securities continuously and in large amounts until December 2021 (in the U.K.).²

The 2022 episode

The Bank of England acted as a genuine market-maker of last resort in September and October 2022. Prime Minister Liz Truss, who took office on 6th September, had been elected leader of the Conservative party, and thus Prime Minister, by advocating energy subsidies and tax cuts. These were announced by the new Chancellor of the Exchequer Kwasi Kwarteng on Friday 23rd September. The gross gilt sales objective set for the Debt Management Office (DMO) for the current financial year 2022/2023 was revised upwards from £131.5 billion to £193.9 billion. Including the active sales that the Bank of England planned as part of its quantitative tightening programme (the reversal of the quantitative easing that had ended in December 2021), gross official sales (DMO + Bank of England) would increase from roughly £10 billion a month in the first half of the financial year to roughly £25 billion in the second half. The announcement was not however accompanied by a new economic forecast from the Office for Budget Responsibility (OBR), which would normally have provided forecasts of the budget balance and the debt/GDP ratio. The public sector net debt/GDP ratio at the end of August 2022 had been 96.6%, and economic growth had been disappointingly slow since the financial crisis; unless economic growth were to accelerate sharply, as the new Prime Minister and Chancellor hoped

¹ Allen (2019).

² Mehrling (2014, pp 116 – 117).

and expected, there would be obvious grounds to doubt the sustainability of the public finances.³

The announcement led to a surge of offers in the gilt market (as in March 2020), and a weakening of the exchange rate. Quoted yields for 30-year gilts rose by well over 100 basis points between Thursday 22nd and Wednesday 28th September. The gilt offers came mainly from the pension industry. Many defined-benefit pension funds had adopted so-called Liability Driven Investment (LDI) strategies in order to hedge against fluctuations in the balance between the discounted present values of their assets and liabilities. These strategies included borrowing to finance increased exposure to long-term gilts, as well as holding riskier and higher-yielding assets such as equities. The means used to implement LDI strategies included investment in specialised LDI funds, set up to offer LDI services to multiple pension funds. As gilt yields increased after the mini-budget, many LDI funds were presented with margin calls which exceeded their liquid asset holdings. Many of them could meet the immediate need only by selling assets: hence the offering of gilts.⁴ There was positive (i.e. self-reinforcing) feedback as falls in gilt prices caused further offers.

Accordingly, on Wednesday 28th September the Bank of England announced a programme of temporary purchases of long-dated gilts on whatever scale was needed to restore market functioning. It was judged that a maximum of £5 billion a day for 13 days beginning that day would suffice.⁵ On the day of the announcement, quoted long gilt yields fell by more than 100 bp.⁶ Total purchases were £19 billion. They were intended to be temporary, and they were reversed between 29th November 2022 and 12th January 2023. The operation as a whole yielded a profit of about £4 billion.⁷

The temporary purchase programme was a major success, in that it prevented an episode of financial instability. The Bank of England was aware of the problems that the rise in yields had caused for the pension industry and reacted to them promptly and decisively. Had it not done so, there would have been financial distress in the pension industry, arising from illiquidity rather than insolvency. Moreover, it is unlikely that the DMO would have been able to maintain its sales programme, and there would have been a risk that the government would have resorted to monetary financing – fiscal dominance of monetary policy.

This was an object lesson in crisis management. However the Bank's explanation of its actions betrayed one confusion which did not impair their efficacy, but which might be important on a future occasion. In conducting its purchases, the Bank set reserve prices: an undisclosed 'reserve spread' was

'used to calculate a yield for each bond below which the Bank will not make purchases. The reserve spread is set as a spread (in basis points) to the market mid yield at the end of each auction.'⁸

³ Chadha (2022) outlines the impact of the Truss-Kwarteng Mini-Budget.

⁴ Cunliffe (2022) provides a fuller and very clear explanation.

⁵ Bank of England (2022a), Cunliffe (2022).

⁶ Cunliffe (2022).

⁷ Author's calculation.

⁸ Bank of England (2022b), explained more fully in Alexander, Fakhoury, Horn, Panjwani and Roberts-Sklar (2023, section 5), hereafter AFHPRS. It is clear that AFHPRS are very fully informed about the operation, and their account seems authoritative.

Over the entirety of the programme of temporary purchases, £8.4 billion of offers were thus rejected. The notion of a reserve spread is consistent with the accepted doctrine that a last-resort market maker should quote price spreads – the spreads between offer and bid prices – which are substantially wider than those customarily quoted by commercial market makers, to ensure that commercial market makers have an incentive to re-enter the market promptly.⁹

The Bank's use of the mid-market yield at the end of each auction (this must mean after the offers had been submitted) gives the impression that the Bank was acting as a price-taker, rather than a price-maker, but that could not have been the case, by definition. The very essence of market-making is to find a level of prices at which supply and demand are in balance. The Bank says that its choice

‘was suitable for conventional gilts, where a market mid-yield could be identified and trusted, given the market size and active trading in these bonds. However, for index-linked gilts market mid-yields were poorly defined, with a wide dispersion in traded prices. So for linkers, we set a further minimum absolute “reference yield”, below which we would not make purchases.’¹⁰

The use of the word ‘suitable’ is curious. The only criterion for suitability was whether supply and demand would be roughly in balance at the chosen yield level, but AFHPRS's account does not mention that criterion, nor do other Bank of England publications on the subject.¹¹

Why the confusion matters

Despite the apparent confusion about price-making, the 2022 operation achieved its purpose: in this episode the confusion did not matter. However, in two important respects the episode was rather simple:

- i. The Bank of England knew and understood the source of the illiquidity (LDI funds), and could estimate the likely scale of offers of gilts (at least £50 billion) as a basis for deciding the maximum amount that it would undertake to purchase (£65 billion).¹²
- ii. The government's reaction to market developments was fairly quick and decisive (reversal of much of the previously proposed fiscal easing: the DMO's gross gilt sales objective for 2022 – 2023 was reduced to £169.5 billion. The Chancellor of the Exchequer and the Prime Minister resigned on 14th and 20th October respectively.) Uncertainty was quickly dispelled.

In other circumstances, the amount of gilts that might be offered would have been unknowable (as was the case in March 2020), market views about what yield levels would be sustainable might have been much more diverse (as appears to have been the case in the index-linked market in 2022), and the uncertainty that gave rise to the illiquidity might have been prolonged. In such circumstances, clarity about the purpose of the operation would have been essential.

The Bank's temporary purchases maintained financial stability, but it would be wrong to say that they had nothing to do with monetary policy or debt management. Not only did they help to

⁹ Tucker (2014), Mehrling (2014).

¹⁰ AFHPRS.

¹¹ E.g. Cunliffe (2022).

¹² Cunliffe (2022).

reduce the risk of fiscal dominance of monetary policy, but they also enlarged the Bank of England's asset portfolio and altered the term structure of the government's financial liabilities. The operation was inescapably an act of both monetary policy and debt management, even if it was conceived and explained as a price-neutral act of financial stability policy. The method used to decide what price the Bank should be willing to pay bore no relation to the objectives of a market-maker of last resort, and it was fortunate that it nevertheless produced a good answer.

Monetary and debt management policies have been managed separately since 1998, by the Bank of England and the DMO (set up in 1998) respectively. The separation has depended on three inter-related preconditions: the liquidity of the gilt-edged market, which has enabled short-term interest rate policy to be conducted without any need for concern about the progress of gilt sales; investors' confidence in the sustainability of the public finances, which has ensured that the government has been able to borrow without resort to the creation of money or close substitutes for money; and the fact that for much of the period since 1998, the government has had little short-term debt, so that the Bank of England's decisions on short-term interest rates have had little immediate impact on fiscal policy.

None of the three preconditions can now be taken for granted. The liquidity of the gilt market evaporated in March 2020 and September 2022 (see above); the sustainability of the public finances was put in doubt in September 2022; and quantitative easing has radically increased the government's short-term liabilities.

The Bank executives responsible for the operation told the Monetary Policy Committee about it in advance; the MPC 'wanted this to be targeted and temporary so it did not appear to be monetary QE or monetary policy'.¹³ There is however no sign that the Debt Management Office took part in the discussion, even though it was particularly well-equipped to contribute to the design of the operation by virtue of its familiarity with the gilt market. There is no reason to think that, if the DMO had taken part, the Bank's actions would have been any different, but that might not be so on a future occasion.

Organising the market-maker of last resort

If the arrangements for making decisions about the market-maker of last resort in September 2022 were not optimal, what would be better?

There is nothing to prevent the DMO from acting as a market-maker of last resort itself. Its mandate requires it to finance the government, which means selling gilts rather than buying them. Buying would be counter-cultural, but in some circumstances it might help the DMO meet its objectives if buying now made it possible to sell more later. However, the DMO is ultimately under the control of the government: if the source of a liquidity problem is government policy, as it was in September 2022, the government may be slow to acknowledge and react to it.

There is an argument for the Bank of England having the authority to act as the market-maker of last resort, since it can exercise a degree of independent judgment, and for the DMO standing aside. This means that either the operations must be small enough for the Bank's own capital resources to protect it against the interest rate risks that are involved, which is unlikely, or that

¹³ Bank of England (2022c, Q122).

the Treasury indemnifies the Bank against any losses in the operation, and receives any profits, as was the case in 2022.

Once it has been decided to activate the market-maker of last resort, the key decisions are about price, or, as in 2022, quantity. The objective must be to maintain the functioning of the market so that investors can sell gilts if they want to, until commercial market-makers are again operating normally. If what were considered to be reliable sources of liquidity fail, then panic can ensue. That was the case, for example, after the failure of Lehman Brothers in September 2008, when financial companies which had no connection at all to Lehman's nevertheless experienced heavy withdrawals of credit as investors panicked indiscriminately.¹⁴ Therefore the authorities must be willing to offer to buy, both for financial stability reasons and to ensure that investors are not frightened away from bidding in the DMO's auctions by fears of illiquidity.

How should the authorities decide what price to set? As already noted, the objective must be to achieve a balance between supply and demand. So the price needs to be low enough to attract demand, even though the rise in yields must increase the government's debt interest costs.¹⁵ If the price was set too high, the cycle of illiquidity and last-resort market-making would merely be repeated.

In the aftermath of the prolonged economic and financial crisis of the 1970s, when 10-year gilt yields rose from 7.87% at the end of 1970 to 14.12% six years later, the Bank of England described the process of facilitating a downward adjustment in gilt prices in an illiquid market, and drew attention to the possibility and consequences of delay before the uncertainties that had led to the price adjustment were clarified sufficiently for bidders to emerge.¹⁶ In 1976, for example, the delay was caused by lengthy negotiations, both within the government and between the government and the IMF, about future fiscal policy.¹⁷ On occasions when gilt price adjustments were necessary, the process involved consultations with the gilt market, which in the 1970s were conducted by the Government Broker in the Stock Exchange. In the present market structure, the consultation would be best conducted by the DMO, which has close relations with the gilt-edged market makers, and would in effect be a channel of communication between the market and the government.

It would not be surprising if there were to be more episodes of illiquidity in the gilt market in the next few years. The debt/GDP ratio has reached a level at which investors could become concerned about the risk of fiscal dominance of monetary policy, governments will need to finance large deficits while QT is in progress, and the schedule of redemptions is very heavy.¹⁸ In September – October 2022, the government's reaction to the market pressures was decisive and normal market functioning was resumed fairly quickly; in other circumstances, the price discovery process could be much longer and messier. Last-resort market making might need to continue for much longer periods.

¹⁴ Scott (2016, ch 7).

¹⁵ The Bank of England (1979) described the process before the Big Bang in some detail.

¹⁶ Bank of England (1979, p 140). In 1976, nine months had elapsed between the first market signals of unease with government policies and the eventual policy response

¹⁷ The OBR was created in 2010 so as to facilitate such negotiations.

¹⁸ Maturities in the coming five years average £149 billion a year, compared to £94 billion in 2020.

Conclusion

Debates about last resort last-resort market making are about debt management, monetary policy and financial stability. They should therefore include the parties directly responsible for those matters. There would be no conflict of interest between the Bank of England and the DMO; both would have the same objective.

The Bank of England's statutory independence does not extend to financial market operations for which it needs an indemnity from the Treasury against losses, but it is capable of exercising independent judgment, whereas the government can overrule the judgment of the executives of the DMO. For that reason, the Bank of England should be allowed the final say in the decision about when to act and what prices to bid (or quantities to bid for) when acting as market-maker of last resort. It would be desirable for a permanent group of officials, including the DMO, equipped with the necessary authority, to be available to make such decisions. Their sole objective should be to re-start two way trading.

References

Allen, W.A. (2019), The Bank of England and the government debt: operations in the gilt-edged market, 1928 – 1972, Cambridge University Press.

Alexander, P., R. Fakhoury, T. Horn, W. Panjwani and M. Roberts-Sklar (2023), 'Financial stability buy/sell tools: a gilt market case study', Bank of England Quarterly Bulletin, available at <https://www.bankofengland.co.uk/quarterly-bulletin/2023/2023/financial-stability-buy-sell-tools-a-gilt-market-case-study>.

Bank of England (1979), 'The gilt-edged market', Quarterly Bulletin, Q2, available at <https://www.bankofengland.co.uk/quarterly-bulletin/1979/q2/the-gilt-edged-market>.

Bank of England (2022a), 'Bank of England announces gilt market operation', 28th September, available at <https://www.bankofengland.co.uk/news/2022/september/bank-of-england-announces-gilt-market-operation>.

Bank of England (2022b), 'Gilt market operations – market notice 10 October 2022', available at <https://www.bankofengland.co.uk/markets/market-notices/2022/october/gilt-market-operations-market-notice-10-october-2022>.

Bank of England (2022c), Oral evidence to House of Commons Treasury Committee, 19th October, available at <https://committees.parliament.uk/committee/158/treasury-committee/publications/oral-evidence/?SearchTerm=Bank+of+England&DateFrom=03%2F10%2F2022&DateTo=30%2F11%2F2022&SessionId=>.

Chadha J. S. (2022), Monetary and Fiscal Policy Redux – The Mini-Budget. *National Institute Economic Review*. pp262:1-7. doi:10.1017/nie.2023.8

Cunliffe, Sir J. (2022), letter to Mel Stride, M.P, chairman of the House of Commons Treasury Committee, 5th October, available at <https://committees.parliament.uk/committee/158/treasury-committee/publications/3/correspondence/>.

Mehrling, P. (2014), 'Why central banking should be re-imagined', in Rethinking the lender of last resort, BIS paper no 79, available at <https://www.bis.org/publ/bppdf/bispap79.htm>

Scott, H.S. (2016), Connectedness and contagion, MIT Press, Cambridge, Mass. and London, England.

Tucker, P.M.W. (2014), 'The lender of last resort and modern central banking: principles and reconstruction', in, Rethinking the lender of last resort, BIS paper no 79, available at <https://www.bis.org/publ/bppdf/bispap79.htm>.