

MOVING BACK TOWARDS MARKET-BASED GOVERNMENT FINANCE

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NIESR Policy Paper. 018

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Date: 12 May 2020

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Registered charity no. 306083

This paper was first published in May 2020

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Abstract

The Federal Reserve and the Bank of England have been pursuing yield curve control in their respective government securities markets since market liquidity collapsed in the middle of March. The paper discusses the issues that arose during and after previous episodes of yield curve control, particularly after World War II, and proposes changes in procedures, such as state underwriting of new issue auctions and a safety net for market makers, that would help the authorities escape from the rigidity of present policies.

Keywords: Central bank operations, government bonds.

JEL classifications: E52, E58.

Acknowledgements

This paper was written in close collaboration with Richhild Moessner of CESifo, to whom I am extremely grateful. I am also grateful to Jagjit Chadha for helpful comments. The views expressed are those of the author and should not be taken to reflect those of the National Institute for Economic and Social Research.

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1. Introduction

This paper examines central banks' very recent activities in government securities markets, and explores some of the issues associated with the policy of 'yield curve control' which has been pursued openly by the Bank of Japan since 2016 and has been adopted, though without explicit acknowledgement, by the Federal Reserve and the Bank of England since the coronavirus crisis affected financial markets. It proposes a procedure for conducting debt management operations so as to make yield curves less rigid than they are at present. It does not discuss the operations of the European Central Bank, since the multiplicity of governments in the euro area creates complications which are beyond its scope.

2. Central banks' recent activities in government securities markets

Particularly since the financial crisis of 2008, and even more during the coronavirus epidemic, central banks have been large-scale buyers of domestic government bonds. Quantitative easing was introduced in 2009 by the Federal Reserve and the Bank of England as a means of inducing investors to take more risk and thereby help stimulate economic recovery. The word 'quantitative' signified that the amount of bonds that the central bank bought was pre-determined, while the resulting yield pattern was determined by the market in the light of the central banks' purchasing plans.

More recently, in 2016, the Bank of Japan went further, and introduced 'yield curve control'. In addition to controlling short-term interest rates, the BoJ made it an objective to keep 10-year bond yields close to 0%. That involved very heavy purchases of Japanese government bonds. At the end of 2019, the Bank of Japan owned 47% of JGBs in issue, compared with 31% at the end of 2015, and during the year 2019 had bought more than the government had sold. The commercial market in JGBs has atrophied as a result of Bank of Japan's activities.¹

Even in February 2020, before the coronavirus epidemic was widely recognised as a crisis, the Federal Reserve had become concerned about deteriorating liquidity in the market for U.S. Treasury securities, which had previously been regarded as the most

¹ Bank of Japan (2019). Data sources: Ministry of Finance, Japan, Bank of Japan.

liquid asset market in the world.² On 15th March, the Fed announced that it would purchase at least \$500 billion of Treasuries, and on 23rd March, it said that its purchases would be subject to no upper limit.³

Likewise, the Bank of England's decision at an emergency meeting on 19th March to undertake large additional gilt-edged purchases as part of a further £200 billion of quantitative easing was a reaction to the collapse of liquidity in the gilt-edged market; the Monetary Policy Committee explained its action by reference to the inflation target, but did not explain the connection between the action and the objective in any detail.⁴

Since the middle of March, the bond purchases of both the Federal Reserve and the Bank of England have greatly exceeded the bond sales of their respective national Treasuries. Neither has as yet acknowledged it explicitly, but it is clear in logic that both central banks have embraced yield curve control, and that both have simply perpetuated previously-prevailing yield levels.⁵

Some commentators have advocated yield curve control as an appropriate response to the coronavirus crisis.⁶ Yield curve control has been used in the past in both the United States and the United Kingdom. The past experience of both countries suggests that there are some issues which will need to be addressed once again.

3. Historical experience

Both countries used what is now called yield curve control in the Second World War, by setting maximum yields for government bonds. In part, they were motivated by the desire to keep down borrowing costs, and yield curve control was accompanied by a wide range of other financial and economic controls. In the United Kingdom, another motivation was to reassure investors that yields would not be allowed to rise, as they

² Quarles (2020).

³ Federal Reserve (2020 a and b)

⁴ Aldrick (2020); the minutes of the meeting said that an 'increase in the Bank of England's gilt purchases would help improve the functioning of the gilt market and help to counteract a tightening of monetary conditions that would put at risk the MPC's statutory objectives' (Bank of England 2020).

⁵ Allen and Moessner (2020), Allen (2020).

⁶ For example Chadha (2020).

had done in the First World War, and thus to limit the risk to investors of buying long-dated bonds.⁷

Both countries continued to pursue cheap money policies after the war. In the United States, the Fed struggled with the Treasury for the rest of the 1940s to regain control of monetary policy. Yield curve control remained in operation until the showdown which led to the Accord of 1951 between the Fed and the Treasury.⁸

In the United Kingdom, the National Debt Enquiry of 1945, heavily influenced by J.M. Keynes, recommended the continuation of wartime debt management practices: the government decided what the yield curve would be, and allowed the investing public to determine the maturity structure of the national debt.⁹ The Labour government elected in 1945 decided to reduce the level of the yield curve by ½% throughout, so that long yields would fall from their wartime level of 3% to 2½%. The reaction of the market was to shun new issues of long-dated bonds at 2½%, on the grounds that 2½% was too low to be credible as a long-term yield level.¹⁰ The policy was abandoned as its effects on the maturity structure of the debt became apparent, and long-term yields rose from early 1947 onwards.

In both countries, short-term interest rates were reactivated as instruments of monetary policy in 1951, and bond yields increased during the 1950s. Market liquidity deteriorated, but the two central banks reacted in opposite ways.¹¹ The Fed left the medium and long term bond markets alone (with the exception of a single episode in 1958), under its policy of 'bills only', or to be more accurate, 'bills preferably'.¹² Fed policy changed in 1961 with the advent of Operation Twist, whose objective was to raise short-term interest rates to support the balance of payments, while lowering long rates so as to support investment.

⁷ Allen (2019, ch 6).

⁸ Garbade (2020) describes the struggle between the Fed and the Treasury, and the large shifts in the Fed's balance sheet that were required to keep yields at the required levels.

⁹ Howson (1993, pp 45 - 54).

¹⁰ King's devastating critique of the issue of a 2½% bond with no final redemption date (1946) bears re-reading today.

¹¹ For evidence on the dearth of liquidity of the U.S. government securities market, see Meltzer and von der Linde (1960, p 15 and p 47).

¹² On the 1958 episode, see Garbade (2012, pp 351 – 352).

The Bank of England, by contrast, intervened in the gilt-edged market on an increasing scale during the 1950s and much of the 1960s. It acted as market-maker of last resort, providing liquidity so as to maintain the attractiveness of gilts to investors, but often it vainly resisted upward pressure on yields that was motivated by growing apprehension among investors about the balance of payments and inflation.¹³

To summarise, in both countries, the ending of yield curve control was followed by a secular rise in yields, by growing inflationary pressures, and in the U.K. at least, by persistent complaints from bond holders that their patriotic wartime investment in government securities had been rendered virtually worthless by the debt management policies of post-war governments.

In both countries, also, the ending of yield curve control was followed by a period of less than ample liquidity in government securities markets, except at short maturities. It was not possible for governments to sell bonds by auction as price-taker, as has been standard practice in recent years.¹⁴ The U.S. Treasury issued bonds for subscription at fixed yields, and the offers remained open over substantial periods. The amount issued depended on investors' response. The U.K. Treasury issued bonds in fixed amounts at fixed-price tenders that were underwritten by the Bank of England, and the BoE sold the bonds that it had acquired through underwriting later in its secondary market operations. Thus the amount sold at the tender depended on investors' behaviour, as it did in the United States.

4. Implications of current monetary policies

The Fed and the Bank of England embarked on their current purchasing programmes precisely because liquidity in the commercial market had dried up. It would be open to the central banks to continue to maintain yields at current levels by purchasing bonds in whatever amounts were needed, financing government budget deficits and refinancing maturing government debt, and bailing out existing investors, by expanding their own balance sheets. Opinions differ about the inflationary risks inherent in the current situation. For example, Goodhart and Pradhan (2020) regard

¹³ Allen (2019).

¹⁴ Garbade (2007) describes the adoption of 'regular and predictable' issuance techniques by the U.S. Treasury in the 1970s and 1980s.

higher inflation as inevitable, whereas Blanchard (2020) regards it as a small risk. The post-war experiences of the United States and the United Kingdom suggests that there are serious inflationary risks, whereas the recent experience of Japan suggests not. There is no reassurance to be had from the relationship between nominal and index-linked bond yields, which does not indicate heightened inflationary expectations, because yields have been held down by central bank purchasing.

What is clear is that heavy purchases of government securities by central banks shorten the maturity structure of the public sector's debt, because fixed-interest bonds are withdrawn from the market, and replaced by deposits with the central bank bearing variable-rate interest. The public sector's finances are made more vulnerable to future increases in short-term interest rates, and the danger of monetary policy being overborne by political demands not to raise short term interest rates is made greater. In Japan, an increase of 1% in short-term interest rates would cause the government budget deficit to increase immediately by 0.7% of GDP, on account of the additional cost of interest on deposits in the Bank of Japan and the consequent reduction in the dividends payable by the BoJ to the government.¹⁵

5. Restoring market liquidity

It is therefore useful to consider what would be needed to restore market liquidity, so that governments could borrow without so much resort to their central banks.

First, the fact that the central banks have had to buy enormous quantities of bonds to keep yields at roughly unchanged levels is *prima facie* evidence that yields need to rise to restore equilibrium.

Second, the necessary rise in yields would be minimised if measures to reinforce market liquidity were implemented. The gradual deterioration of liquidity has reflected a weakening of the capacity of market makers in government securities, which are all, or nearly all, banks, to hold inventories of government securities over the time intervals

¹⁵ In general, if the amount of bonds held by the central bank is $x\%$ of GDP, and the amount of short-term government debt held by the public is $y\%$ of GDP, then an increase of 1% in short-term interest rates will immediately increase the budget deficit by $0.01(x + y)\%$ of GDP. In the UK, when the current QE programme is completed, a 1% increase in short-term interest rates will increase the budget deficit by 0.3 – 0.4% of GDP.

between episodes of heavy supply, notably Treasury auctions, and the emergence of market demand. The market makers' problems include the Basel 3 leverage ratio, which bears hard on banks holding large amounts of low-risk assets like government securities, and the lack of profitability of market making.

In 2016 – 2017, the U.K. Debt Management Office adapted its issuing procedures to reduce the burden that its auction programme placed on the capacity of the market makers, and thereby indirectly to keep the Treasury's borrowing costs as low as possible.¹⁶ The risks associated with the coronavirus epidemic and the explosion in budget deficits are likely to make market makers still more cautious about market risks. In the future, therefore, it is therefore likely to be necessary to adapt issuing and selling procedures further so as to reduce the burden on market makers, to alleviate the most recent loss of market liquidity and to keep borrowing costs down.

As I have previously argued, the fact that central banks have taken control of yield curves mean that they must, as a matter of logic, decide what yield curve they want.¹⁷ So far, they have merely perpetuated the pre-pandemic curves, but those curves are not likely to be optimal for meeting their policy objectives in the new circumstances, and as circumstances continue to change, the optimal yield curve will also change.

Central banks are able to forecast the future paths of short-term interest rates that will be consistent with meeting their objectives, and some of them publish those forecasts, extremely uncertain though they are.¹⁸ Those forecasts could form the basis of estimates of the optimal yield curves, which could be used in the formulation and implementation of debt management policy.¹⁹

¹⁶ Debt Management Office (2017, pp 23 – 26).

¹⁷ Allen and Moessner (2020).

¹⁸ See Moessner et al. (2017) for a survey.

¹⁹ Barwell and Chadha (2014) proposed that a central bank could publish fan charts (reflecting uncertainty) for future policy rates up to and beyond the three-year horizon, as well as fan charts for its expected asset purchases to provide information to the gilt market on the net supply of bonds, as part of what they refer to as 'complete forward guidance'.

New procedures could be developed as follows:

a. Underwriting of new issues by the government itself, or by the central bank

Bonds would be offered for sale at tenders, at which there would be a pre-set maximum yield, but no minimum. In a not-very-liquid market, the government could not expect that tenders would always be covered (i.e. that total bids would exceed the amount offered). The government could either retain those bonds that remained unsold at the tender, and sell them later in the secondary market, or it could cancel them. In the latter case, later issues would need to be increased in size to make good the shortfall.

As already noted, central banks would have made estimates of the yield curves that were compatible with meeting their policy objectives. These estimates would help governments determine the maximum yields to be set at each tender, which might need to include a risk premium. If investors were convinced by the central banks' analysis, then governments would be able to meet their bond financing needs in the market, perhaps not all on the day of the tender, but over a period.

The appropriate yield levels would have to be kept under review, in the light not only of economic developments but also of bond market behaviour and the revealed demand for bonds, which would be based on market participants' own forecasts of future interest rates and the accompanying risks. If insufficient demand were forthcoming at the initially-estimated set of yields, then the yields would have to be increased. If, in contrast, there was excess demand at the initially-estimated yields, then the auction process would ensure that the bonds were sold at lower yields.

b. A 'safety net' for market makers

A safety net would give market makers the right to sell bonds up to a predetermined maximum amount to the government at the end of each day at a predetermined margin below the opening price of the day. The Bank of England operated such a safety net in the gilt-edged market between 1971 and 1986, when it was responsible

for government debt management.²⁰ The existence of such a free option would make market makers more confident in quoting buying prices to investors, and by supporting market liquidity, it would help to keep down the cost of government borrowing.

6. Concluding remarks

Maintaining the current rigid form of yield curve control entails several risks:

- a. it lacks supporting logic;
- b. it risks inflation;
- c. it increases the vulnerability of public finances, and the financial stability risks, associated with a rise in short-term interest rates;
- d. it encourages misallocation of economic resources brought about by the under-pricing of credit;
- e. the longer the policy continues, the more the existing market infrastructure will decay, and the harder it will be to recreate it.

There are powerful reasons for introducing flexibility into the yield structure quickly, and for providing more support for bond market liquidity.

²⁰ Allen (2019, p 164).

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