

Box A: Quantitative easing, government debt management and debt interest

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For nine years after the global financial crisis, central government debt interest payments fell steadily relative to GDP, from 2.5 per cent in 2011-12 to 1.1 per cent in 2020-21, despite continuing budget deficits. This was partly the result of low short-term interest rates, and generally falling longer-term rates, but it was also a consequence of quantitative easing (QE). The purpose of this box is to explain the connection between quantitative easing, which is generally regarded as an instrument of monetary policy, and government debt management and interest payments.

How quantitative easing works.

Quantitative easing began in March 2009 and, in a period when short-term interest rates could not be reduced further, became the main instrument of monetary policy. The Bank of England purchased fixed-interest gilt-edged securities in increasingly large amounts, spread over all maturities, including the longest. The last phase of QE, initiated in March 2020, was the largest by far, comprising the purchase of £450 billion of gilts over a period of 21 months. The Bank of England paid for the gilts it bought by crediting the reserve balances of the commercial banks where the sellers held their accounts, for the credit of the sellers. It did not absorb the surplus funds on the commercial banks' reserve balances. Thus reserve balances increased as the amount of QE increased. Reserve balances bear interest at the Bank rate; therefore, to implement a Bank rate change, the Bank of England need only announce it and alter the rate at which reserve balances are remunerated. Because the coupon interest rates of the gilts that the Bank of England bought in its QE operations were generally higher than Bank rate at the time, the QE programme reduced the government's interest costs while it was in progress.

The gilts bought in QE are held by a subsidiary of the Bank of England called the Bank of England Asset Purchase Facility Fund Ltd (APF), which is financed by a loan from the Bank of England itself. The loan bears interest at Bank rate. The APF is fully indemnified by the Treasury, that is, any financial losses as a result of the asset purchases are borne by the Treasury, and any gains are owed to the Treasury. QE operations were subject to the prior approval of the Treasury, which in practice appears to have been given readily.

Each quarter there is a transfer of cash between the APF and the Treasury: the APF transfers to the Treasury the coupons received on the gilts in its portfolio, minus the interest on its loan from the Bank of England, minus administrative expenses. If the amount is positive, the transfer is from the APF to the Treasury; if the amount is negative, then the transfer is from the Treasury to the APF.¹ The existence of the indemnity means that the Treasury is not at liberty to cease paying interest on the loan from the Bank of England to the APF. When gilt yields increase sharply and gilt prices fall, as they have done this year, the net worth of the APF becomes negative, and the solvency of the APF depends entirely on the Treasury indemnity. Moreover, since the Bank of England's loan to the APF is a very large multiple of its capital and reserves, the solvency of the Bank of England also depends on the Treasury indemnity.

QE in effect converts fixed-interest liabilities of the Treasury into floating rate liabilities. Before QE, the government had had very little short-term debt, but between the inception of the programme in 2009 and its termination in December 2021, the APF had invested £875 billion in gilts, equivalent to 38% of the GDP of 2021.

Profits and losses.

Up to 28th February 2022, the APF had transferred £120 billion to the Treasury under the arrangements described above, but the Treasury's liability under the indemnity as at 28th February 2022 was valued at £23 billion in the APF's accounts.² Thus the APF had made a net profit of £97 billion over its life until then. Since then, short-term interest

1 McLaren and Smith (2013).

2 Bank of England Asset Purchase Facility Fund Ltd (2022, note 8, p 30). It is assumed that the APF's profits and losses on assets other than gilts are negligible relative to its profits and losses on gilts.

rates and gilt yields have risen sharply, and since 28th February, the APF has incurred a loss of about £164 billion (up to 20th October, author's calculation), so that over its life to date, it has made a net loss of roughly £67 billion.

The APF therefore has an unrealised loss of about £187 billion (the lifetime loss in value of £67 billion plus the £120 billion remitted to the Treasury). It will not be realised immediately in full, and it would become smaller if gilt yields were to fall sufficiently. For the immediate future, the quarterly flows of cash will be from the Treasury to the APF, because with Bank rate at 2.25 per cent, the annual interest cost of the Bank of England loan (£19 billion) exceeds the annual coupon income of the APF (£16 billion). The break-even level of Bank rate, at which the interest cost of the loan is equal to the APF's coupon income, is currently 1.94 per cent. The size of the flow is highly sensitive to Bank rate: if Bank rate were to rise by 1 per cent, the interest cost of the loan, and of the outstanding stock of Treasury bills, which are also short-term debt, would increase by £9 billion a year.

Quantitative tightening, or the reversal of quantitative easing.

In August 2022, the Bank of England announced plans to conduct active sales of gilts from the APF amounting to £40 billion net in the year beginning September 2022; the plans were slightly amended in October.³ It also announced a standing facility for providing funds to the banking system, so as to ensure that it has access to adequate funds at all times as quantitative tightening – the reversal of quantitative easing – progresses.⁴ As quantitative tightening reaches the point at which banks need additional funds, banks will increasingly use the facility, some money market interest rates may begin to increase a little, and the Bank of England will have received a signal that the commercial banks' reserve balances are somewhere in the vicinity of equilibrium.

When the commercial banks' reserve balances reach equilibrium, quantitative tightening can cease. The APF can be wound up, and its loan from the Bank of England repaid. The Bank will need to alter its technique for managing market short-term interest rates, because it will need to provide funds to the market at times when the demand exceeds the available supply. It will need to decide, among other things, whether to continue paying interest on commercial banks' reserve balances, and would be free not to do so, if it so chose.

If gilt yields remain at or anywhere near current levels, the APF is likely to be in deficit when it is wound up. The redemption proceeds of the gilts that it holds to maturity, the sales proceeds of those that the Bank sells through active sales, and the market value of those that it holds when it is wound up, plus the coupon interest that the APF receives, will not be enough to repay the Bank of England's loan to the APF, plus interest. The Bank of England will have to rely on the indemnity for full repayment from the Treasury.

The economic significance of QE, and of the APF's profits and losses.

The £120 billion that the APF has remitted to the Treasury since 2009 has been incorporated into the government accounts, and has enabled government spending, other than on debt interest, to be higher, and taxation lower, than they might otherwise have been. For the future, while the APF is still in existence, and while Bank rate is higher than the average coupon rate of the gilts held in the APF, there will be remittances from the Treasury to the APF which will add to government spending on debt interest. When the APF is wound up, then if there is a deficit, the Treasury will have to enable the APF to repay its debt to the Bank of England. It could finance the deficit in the APF by borrowing in the market, in which case at some point in the future taxation would have to be higher than otherwise, or non-interest government spending lower. If there were to be a surplus in the APF, then it would simply be remitted to the Treasury.

The sensitivity of the budget deficit to variations in Bank rate means that there is a latent tension between monetary policy and fiscal policy. The degree of tension has increased with the scale of QE. When the Bank of England Monetary Policy Committee (MPC) was established, there was very little short-term government debt in issue, and the Committee's decisions on short-term interest rates had no significant effect on the budget. However, this kind of tension is not unprecedented, and before the MPC was set up, governments were at times (though not always) willing to increase short-term interest rates in the interests of reducing inflation, even though doing so added substantially to their interest expenses.

³ Bank of England (2022a and c). The Bank of England has said that its temporary purchases of long-dated gilts in September and October 2022 do not affect its net sales objective.

⁴ Bank of England (2022b).

More generally, the QE programme was essentially an act of government debt management.⁵ But, it was specifically introduced as an act of monetary policy, directed at achieving the inflation target. The Bank of England made a radical change to UK debt management policy, which has traditionally aimed to maintain a longer average maturity of debt than most other countries.

The Treasury acquiesced in this subordination of debt management to monetary policy, but the changes that the Bank of England made currently seem likely to be very costly. The losses incurred by the APF, unless they are reversed by future falls in gilt yields, will be real losses, to be borne by members of the public. The Bank of England has argued that any evaluation of QE should take account not only of the profits or losses that it produces, but also its macro-economic benefits.⁶ Of course it is very hard to evaluate the macro-economic benefits, but the Bank's argument is justified in principle. It would also, however, be reasonable to consider whether other forms of QE, e.g. involving the purchase of shorter-term government securities (as in the United States and Australia), or shorter-term privately-issued assets, might have delivered a better balance between costs and benefits. The House of Lords Economic Affairs Committee's inquiry into QE did not address this issue; the Bank of England's Independent Evaluation Office also conducted a review of QE, but its terms of reference were too narrow to enable it to examine these issues..

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⁵ Tobin (1963)

⁶ See e.g. Ramsden (2021).