Quantitative tightening in the eurozone?

As the Euro Area economy recovers, the European Central Bank in January 2018 started to reduce the pace at which it purchases public and private sector assets each month. Purchases will continue at least until September, by which time the central bank will decide whether to keep expanding its balance sheet. The ECB will have several options available and the economic outlook will be critical for its decision. It may choose to hold stable the stock of assets held, which by then will be substantially above €1 trillion, by reinvesting proceeds from maturing debt. This is the assumption we make in our baseline forecast. Alternatively, the ECB may make an announcement about a future reduction of assets held, by letting debt mature or actively selling bonds on secondary markets. Figure 1 illustrates the evolution of government debt purchased by the ECB according to information provided at different points in time. An example of a balance sheet reduction is depicted by the dotted line: it may entail holding the stock of assets stable for some time while setting the expectation that within a decade the amount of government debt held by the central bank will reduce by €1 trillion. This box tries to gauge the effects such an announcement of ‘quantitative tightening’ may have on the Euro Area economy.

We proceed to analyse this in two steps. First, we estimate the impact such an announcement could have on long-term interest rates. By selling government bonds, the central bank would increase the overall supply of such bonds in the market, thereby putting pressure on long-term bond yields. To estimate by how much long-term yields would rise, we conduct an event study of the bond market reaction to announcements by the ECB of quantitative easing. For analytical tractability we assume that a tightening of balance sheet policy has symmetric effects. We decompose sovereign bond yields into a component that reflects expectations about future policy rates and a component that captures risk and liquidity premia, including the compensation investors require for liquidity limitations due to central bank balance sheet policies. We then estimate the reaction of the premia component to the initial set of announcements related to the ECB’s Public Sector Purchase Programme of €1 trillion of sovereign bonds to be purchased. Our estimates aim to isolate the response to ECB announcements from the responses to other news and macroeconomic trends.

Table 1 summarises our findings. On average, Euro Area bond yields declined by around 45 basis points as a result of the quantitative easing, with the impact varying across countries. Member states of the common currency area with more vulnerable fiscal positions, like Italy, benefited more than Germany. Our results are similar to findings in the literature, depending on control variables employed. Assuming symmetry, they imply that an announcement of a quantitative tightening, that corresponded to a €1 trillion balance sheet reduction, would raise long-term interest rates by around half a percentage point.

A second step consists of estimating the effect on the economy. Long-term interest rates determine the borrowing conditions faced by the government. They also affect what firms have to pay in order to fund investment through the user cost of capital. Tighter borrowing conditions depress investment, output and inflation. We employ the National Institute Global Econometric Model, NiGEM, to simulate the effect of a positive shock to long-term interest rates. Besides assuming symmetry between...
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Figure 2. Response of real GDP growth to quantitative tightening (difference from base)

Figure 3. Inflation response to quantitative tightening (difference from base)

Quantitative tightening and easing, we let the shock materialise over the course of one year as expectations are adjusted. We further assume that the ECB policy rate will remain unchanged beyond the end of asset purchases, in line with forward guidance given by the Governing Council. Figure 2 depicts the impact on the growth rate of real output from the hypothetical announcement of quantitative tightening. Around two years after the announcement, Euro Area GDP growth is estimated to be around 0.3 percentage points lower than our baseline forecast. GDP growth in Italy is affected somewhat more, whereas the impact on German GDP growth is negligible. Quantitative tightening would generate some deflationary pressure and prices would grow by around 0.2 percentage points less in the Euro Area as a whole, with varying effects across countries (figure 3). These results are similar to those found by Clemens et al. (2017) for an early QE exit scenario in the Euro Area.

A number of caveats should be mentioned. Our estimates of the financial market response to QE announcements capture the impact of the stock of assets purchased and abstract from additional effects that the continued process of purchasing may have on yields (flow effects). In contrast to QE programmes by other central banks, ECB QE was announced at a time at which markets were relatively calm, which may have led to smaller bond yield responses. The impact of quantitative tightening may also depend on the business cycle and not be symmetric to the impact of QE.

Overall our findings imply that an announcement by the ECB of a reduction in its balance sheet would only have a small effect on the economy through the long-term interest rate channel. This supports the view that the ECB may want to use the current recovery, which was stronger than initially anticipated in 2017, to unwind unconventional monetary policy measures adopted during the crisis. However, our results also show that effects are likely to vary across countries, with some more vulnerable to a tightening announcement than others.

References

This box was prepared by Arno Hantzsche and Iana Liadze.