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Stock-Flow Confusion Yet Again: QE and Tapering

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"I have found out what economics is; it is the science of confusing stocks with flows". (Michal Kalecki)

Stocks and Flows 101

Polish economist Michal Kalecki's nearly century-old "snarky" comment keeps rearing its head. We were all taught early in our training the importance of distinguishing between stocks and flows; for example, wealth versus income, capital stock versus investment and debt versus deficit, to name a few. We are also taught not to mix these concepts, as in the popular debt-to-GDP ratio. But old habits die hard. The latest example of stock-flow confusion involves QE and tapering.

As we begin to exit the pandemic, economies recover and central banks reduce or taper their asset purchases, we sometimes hear that this means the end of QE. Unfortunately, this is incorrect. Tapering is a reduction in the rate of asset purchases by a central bank. The process of tapering is complete when additional asset purchases are zero. Tapering is thus a flow concept (specifically, a change in the flow).

But the cessation of asset purchases is not the end of QE. What about stocks? Central bank balance sheets will still have "excess" government (and other) assets. This will push bond yields lower, compress spreads, and thereby distort the price of credit relative to what it would be in the absence of QE. These "unnaturally" low rates will keep potentially non-viable firms in business and lower productivity, growth, and dynamism. (For further discussion of these issues, see our Credit Conditions webpage.)

QE Accounting and History

In terms of the accounting, asset purchases enlarge the central bank's balance sheet. How? The accumulation of these assets is financed via the issuance of bank reserves, a liability which the central bank can create without limit (because it is the central bank!). Ending asset purchases by the central bank does not end QE, it merely stops the growth of the central bank balance sheet.

The always helpful central bank balance sheet identity is:

Assets (mainly government obligations) = Liabilities (Currency in Circulation + Government Deposits + Desired Bank Reserves + Excess Bank Reserves)

What then is the end game for QE? It is perhaps easiest to focus on the liability side of the balance sheet. We would argue that QE corresponds to excess bank reserves in the banking system, which is a relatively recent phenomenon: QE ends when excess reserves are zero. To understand why the system has excess reserves in the first place requires some history.

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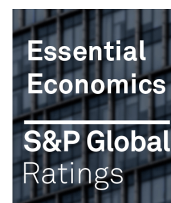
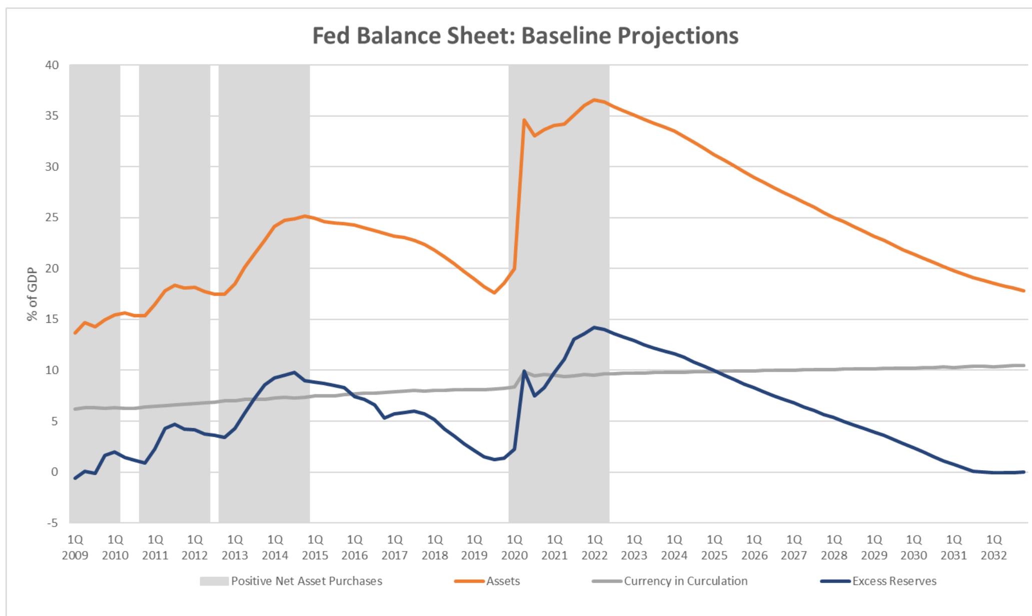


Before the Global Financial Crisis, central banking was simpler. The policy interest rate was moved up (or down) with the objective of slowing (or speeding up) the economy so as to decrease (or increase) the rate of inflation. We have called this one-dimensional monetary policy. There were no excess reserves in the system, as total reserves equaled desired reserves. Through its open market operations, central banks purchased (sold) short-term government debt that added to (subtracted) from the bank reserves so that its interest target rate prevailed in the interbank market. This interbank rate was then transmitted – with spreads – to the broader economy via the financial system with the terms dictated by credit conditions.

All of that changed post-GFC when the policy rate reached the “effective lower bound” but inflation was still too low. What to do? Central banks began additional, large asset purchases, adding a second dimension to monetary policy. They bought longer-term government bonds to push the yield curve lower and ease financial conditions in an aim to spur inflation. One important outcome was excess reserves in the banking system. Banks (as a whole) couldn’t sell them since the total amount was determined by the central bank.



Stocktaking: The QE End Game

Where does this leave us now? Let’s use the example of the Fed. After four rounds of asset purchases and with tapering completed by mid-2022, the Fed’s balance sheet will reach over 36 percent of GDP and excess reserves will reach over 14 percent of GDP (see chart). This is clearly not the end game since central bank has a “stock problem.”

Using our identity above excess reserves can fall in number of ways. The slow way is as an offset to the gradually rising demand for currency by the general public as banks “cash in” their excess reserves. This does not shrink the size of the balance sheet. A faster way is when the central bank sells down its bond portfolio. The road to a QE-free balance sheet with no excess reserves may take upwards of a decade depending mainly on how fast the Fed chooses to sell its assets (see “Complete Fed Balance Sheet Normalization Is Still Years Away” August 16, 2021).

Until then, the stock of QE will remain positive, and the distortive effects of asset purchases will remain. Distinguishing stocks from flows during this period will be critical for assessing the macro and credit implications of central bank policy.

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