Federal Reserve's Balance Sheet Normalization

July 2017

The Fed is about to begin unwinding its balance sheet following the unprecedented quantitative easing measures which followed the Financial Crisis and this promises to be a very closely watched effort since it, too, is unprecedented.

The Fed's regular purchases to build and then maintain its \$4.5 trillion portfolio have made it hugely influential in keeping bond yields low. By removing itself as an influence in the market, the Fed is on the path to removing the distortions it has caused, but it must be careful to avoid unleashing an abrupt increase in bond yields that could lead to slower growth and cause panic in the stock market.

First, some background: after the Financial Crisis of 2008, the Fed brought short-term rates down to zero at which point it could no longer change the price of money without adopting negative interest rates (which was later done by other central banks). In order to add even more stimulus to the economy and get financial markets functioning normally again, the Fed decided to target the quantity of money by embarking on a quantitative easing (QE) campaign designed to create excess reserves in the financial system and spur lending. To accomplish this, they bought a total of about \$4.5 trillion in Treasuries, Agencies, and Agency Mortgage-Backed Securities (MBS) in a series of steps over several years (which we referred to as QE1, QE2, etc.).

Prior to the Crisis, the Fed's balance sheet contained about \$0.8 trillion in securities, primarily Treasuries, mainly to back outstanding currency in circulation. By buying securities in the open market that would have otherwise gone to the private sector, the Fed effectively forced prevailing interest rates on what remained to go lower, arguably forcing investors into other segments of the bond market or perhaps into equities or other types of investments (by keeping interest rates so low).

While the open market purchases ended in October of 2014, the Fed has continued to reinvest cash

flows from their securities portfolio in order to keep the overall level of holdings steady at \$4.5 trillion. Now that short term interest rates have been increased four times and the economy is on much more sound footing, the Fed has decided it is appropriate to end this reinvestment policy and end this era of extraordinary monetary accommodation, but the process of doing so is fraught with risk since it has simply never been done before.

If the Fed were to sell the securities outright, interest rates would likely soar since the holdings represent a massive proportion of each market and a sizable portion of GDP. Even just reducing its purchases, if done haphazardly, could risk producing very disruptive conditions in the bond market since the Fed has become such a substantial owner of securities and a huge, regular buyer. Markets hate uncertainty, so the threat of the Fed becoming an outright seller of its securities on the open market could have thrown investors into a panic.

In its first public comments on this topic, the Fed was clear in stating it would not sell Treasuries or MBS but instead would allow its portfolio to "run off" naturally via maturities and principal paydowns in a gradual, orderly, and predictable manner. The Fed then crafted a carefully planned message on how and when it will begin to 1) reduce its buying, and then 2) reduce its holdings. This strategy reduces uncertainty and provides assurances that the huge bond portfolio will not be dumped haphazardly which would likely cause bond yields to rise sharply. Recent comments by Fed officials liken the strategy they've chosen to "watching paint dry" so as to remove it from even being discussed because the process is on autopilot.

Some of the questions that have swirled since this balance sheet reduction topic has heated up include: 1) the ultimate size of the balance sheet, 2) the pace of ending reinvestment, 3) the timing.

The ultimate size remains a mystery, but it may help to provide some additional context. First, the Fed is a bank and therefore has assets and liabilities. The assets have traditionally been limited to Treasuries, while the liabilities are made up of currency (Federal Reserve notes) in circulation, reverse repurchase agreements ("reverse repo" where the Fed lends its Treasuries out for repurchase later), Treasury cash balances, required reserves as well as excess reserves for the US banking system. Next, the size of many of these components is a function of the overall economy and many have grown substantially since pre-Crisis days. This means the Fed's balance sheet reduction will not revert to pre-Crisis levels, but instead will be reduced in size but still maintaining a sizable position in Treasuries.

Specifically, the liability side of the Fed's balance sheet has evolved as follows:

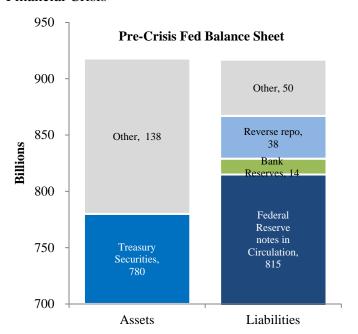
- Currency in circulation has increased from below \$1 trillion pre-Crisis to \$1.5 trillion today, and could reach \$2 trillion within a few years.
- Bank reserves (required and excess) were near zero pre-Crisis but now total \$2.2 trillion. This is the component that will decline most significantly as the Fed winds down its balance sheet.
- Reverse repo was largely absent pre-Crisis as a rate management tool but is now more important in promoting liquidity in the markets, providing another lever to control short-term rates, and reducing the need for banks to use the Fed's discount window in times of crisis.
- Treasury cash was near zero pre-Crisis but now totals about \$300B.

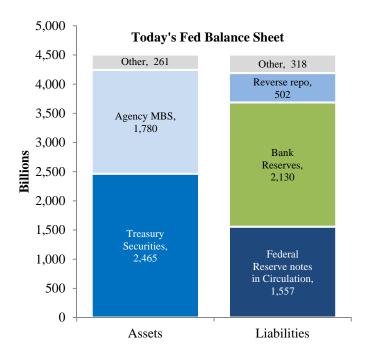
The end result is expected to be a balance sheet in the \$2.5 - \$3 trillion range, which means the Fed need not allow all the securities to roll off. This also means the Fed can be patient with this process rather than acting in haste and disrupting the market in the process. Estimates on the timing suggest this balance sheet reduction process will take about 50 months to complete, assuming no change in the pace of the program.

After the most recent Fed meeting in June, more details were made available which have now largely answered the "pace" issue: The Fed intends to set caps on the amount it will cease reinvesting each month as follows:

- No more than \$6B of Treasury securities and \$4B of Agencies and MBS will be allowed to roll off each month.
- The caps would increase each quarter to a combined \$50B per month over 12 months.
- Caps allow the Fed some flexibility should it choose to adjust the amounts.

Exhibit 1: The Federal Reserve's balance sheet expanded as a result of the quantitative easing actions taken to stimulate the economy after the Financial Crisis





Source: Deutsche Bank, NY Fed. Pre-crisis as of October, 2007. Today's Balance Sheet as of May, 2017.

The last question, the timing, has still not been answered but the market expects it to begin as early as September or as late as December, well before Yellen's term ends in early 2018.

All eyes will be on the Fed and US markets as this process unfolds since both the ECB and Bank of Japan are still conducting QE policies and may soon need to conduct a similar "unwinding" process. They will undoubtedly learn from the Fed's experience which will hopefully allow markets to function normally and interest rates to react calmly.

This is a key development which will allow monetary policy to return to normal and markets to be freed from the distortions caused by the Fed's buying activity, but it won't be over soon. Please let us know if you would like to discuss any of this material in more detail.

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