Market Bulletin

April 16, 2019

Understanding the Fed balance sheet

In brief

- The U.S. Federal Reserve (Fed) has called a halt to the balance sheet reduction program earlier, and at a higher terminal level, than investors first anticipated.
- Bond purchases grew the assets of the balance sheet; however, it is liabilities that are constraining the Fed's normalization plan.
- Going forward, the balance sheet will likely be used as a monetary policy tool. Furthermore, growth in liabilities should increase the Fed's balance sheet even if no further quantitative easing (QE) is adopted.

Growing the balance sheet

Before looking at the future of the Fed's balance sheet, it may be helpful to understand how it became such a major monetary policy tool.

Prior to the 2008 financial crisis, the balance sheet was not used as a tool by the Fed, who preferred to target the fed funds rate. However, in the midst of the financial crisis, the Fed launched the first round of QE (QE1), in addition to cutting the fed funds rate, in order to unfreeze credit markets, which had become paralyzed after the collapse of Lehman Brothers. QE1 was followed by QE2 in November 2010 and QE3 in September 2012 as the Fed looked to stimulate economic growth by driving down bond yields.

It should be noted that Fed asset purchases benefited the federal government. Through balance sheet expansion the Fed drove down bond yields, lowering borrowing costs for the Treasury. More importantly and less discussed is that the government bonds purchased by the Fed were in effect an interest-free loan to the Treasury, as all coupon payments received by the Fed are returned to the Treasury.

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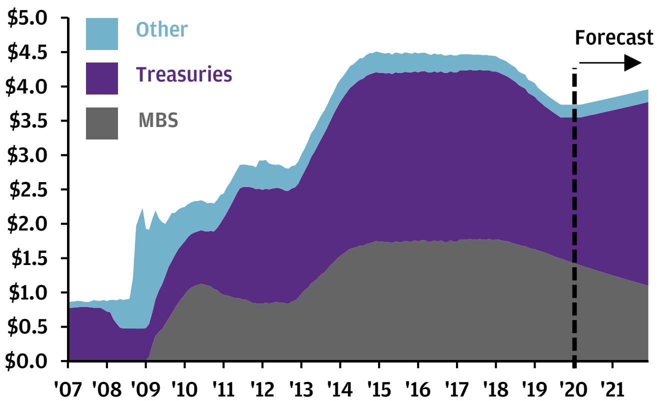
Overall, from September 2008 to June 2015, the balance sheet rose from USD900 billion to USD4.5 trillion. The Fed then kept the balance sheet at approximately USD4.5 trillion from June 2015 to October 2017 by reinvesting any maturing debt, as seen in **Exhibit 1**. The asset purchases turned the balance sheet into a key monetary policy tool.

EXHIBIT 1: FED BALANCE SHEET ASSETS
USD trillions



Source: Federal Reserve, J.P. Morgan Asset Management. mortgage-backed security (MBS) and Treasury holdings are reduced in line with the Fed's balance sheet reduction program until September 2019. After this date MBS assets will continue to mature and all proceeds will be invested in U.S. Treasuries. Data are as of March 29, 2019.

Reducing the balance sheet

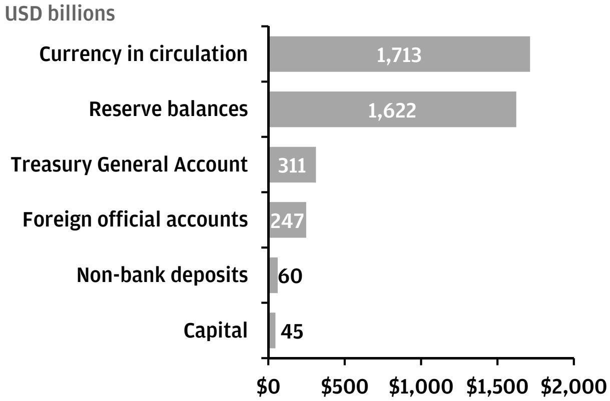
When the Fed began to reduce the size of its USD4.5 trillion balance sheet in October 2017, Fed officials quipped that it would be as "boring as watching paint dry." This supposedly dull process was meant to take between four and six years and would gradually see the balance sheet reduced to USD2.5-USD3.0 trillion with little impact on financial markets[1].

Fast forward 16 months and the Fed has reconsidered its position. The balance sheet reduction program has been more challenging than first anticipated, and the Fed will stop the process in September 2019 at a level of between USD3.6-USD3.7 trillion.

To better understand the Fed's change of heart, investors need to understand the underlying drivers of the Fed's balance sheet. The pace of normalization is being increasingly hampered by the liability side of the balance sheet, highlighted in **Exhibit 2**. The three biggest liabilities are:

- **Currency in circulation:** The single biggest, and fastest growing, liability is printed dollars in circulation, rising at 7% per year since 1980. Much of the demand for dollars comes from overseas, with an estimated 70% of printed dollars held outside of the U.S., most likely as a store of value[2].
- **Reserve balances:** The reserve balances are funds deposited at the Fed by financial institutions. The vast majority of these reserves are used to meet traditional capital requirements. The additional reserves are held on deposit in order to comply with other capital requirements.
- **Treasury General Account (TGA):** The Fed acts as a checking account for the U.S. Treasury. As political stand-offs over the debt ceiling have become more common, the Treasury has run larger TGA levels to help provide a buffer as negotiations take place.

EXHIBIT 2: U.S FEDERAL RESERVE BALANCE SHEET LIABILITIES
USD billions



Source: U.S. Federal Reserve, J.P. Morgan Asset Management. Data are as of March 29, 2019.

[1] U.S. Federal Reserve Bank of New York, Projections for the SOMA portfolio and Net Income, July 2017.

[2] Fed data shows that there have been more USD100 bills printed than USD1 bills, evidence that overseas investors are using the security of the dollar to store their wealth.

These liabilities have remained stubbornly high because the factors that drive them are not directly controlled by the Fed itself. The growth in currency in circulation is a bi-product of the dollar being the world's reserve currency. International investors demand it as a store of value or as an alternative medium of exchange if they have lost faith in their domestic currency (e.g. Venezuela, Argentina and Zimbabwe). The size of TGA is controlled by the Treasury and is therefore out of the Fed's control.

The size of the second biggest liability, reserve balances, is also tricky for the Fed to influence. U.S. banks currently have USD1.6 trillion of reserves stashed at the Fed. There are two benefits for banks keeping reserves at the Fed. First, banks earn the interest on excess reserves rate (IOER)[3], currently at 2.4%, for any Fed deposits. This yield is similar to what is paid out on short-term U.S. Treasuries but has the added benefit of having no duration risk, making it an attractive instrument for bank reserves.

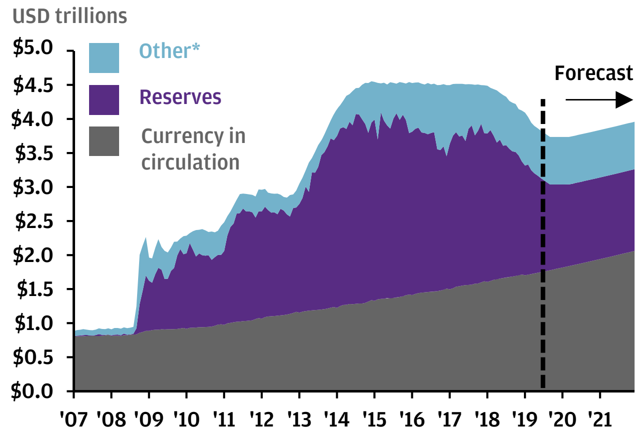
The second benefit is that reserves at the Fed are important for helping U.S. financial institutions meet their capital and liquidity requirements. As an indicator of the demand for reserves, the top five biggest listed banks in the U.S., as of December 2018, had USD1.6 trillion held in high-quality liquid assets (HQLA) in order to meet regulatory standards. While not all of these HQLAs are held at the Fed in the form of reserves, banks can also count Treasuries as HQLA, which is indicative of the need for large reserve levels on the Fed balance sheet. A recent Fed assessment estimated that there was demand for at least USD1.0-USD1.2 trillion in reserves from banks[4].

These liabilities have been a roadblock on the Fed's balance sheet journey. Investors should understand that the Fed is not halting this journey early because it is concerned that it sees signs of economic distress down the road, it is halting it for technical factors.

The balance sheet in the future

The two balance sheet factors that investors need to watch going forward are its size and its composition. As highlighted in **Exhibit 3**, after the Fed's March meeting the balance sheet should reach a low point of USD3.6-USD3.7 trillion by September 2019. The balance sheet is likely to stay at this low level for a few quarters before beginning to rise once more. Balance sheet growth will be driven by increases in the Fed's liabilities. As the liability side of the Fed's balance sheet grows it will be forced to purchase more Treasuries in order to keep assets level.

EXHIBIT 3: FED BALANCE SHEET LIABILITIES



Source: Federal Reserve, J.P. Morgan Asset Management. *Other includes capital, Treasury General Account (TGA), deposits from foreign banks, reverse repurchase agreements. Currency in circulation is rising at 6.8% per year. Reserves include both excess and required reserves. Data are as of March 29, 2019.

However, it's not just the size of the balance sheet that is changing: its composition is also transitioning. Currently, the asset side of the balance sheet is comprised of both U.S. Treasuries and MBS. Fed officials have communicated that they are not comfortable with holding MBS debt to credit risk and would like to transition to a 100% Treasury balance sheet.

[3] The IOER tool was provided to the Fed in 2008 after the financial crisis. Prior to the financial crisis, the Fed controlled day-to-day financial conditions by repurchase agreements; however, the increasing size of the Fed balance sheet made it difficult for the Fed to do that. Therefore the IOER tool was created for the Fed to better manage reserves and overall financial conditions.
[4] U.S. Federal Reserve minutes, January 2019.

Even beyond September 2019, the Fed is going to continue to allow MBS to mature and it will reinvest any proceeds into the U.S. Treasury market. This passive approach will take time. Assuming no new MBS purchases, it would take until 2045 for MBS to be fully removed from the Fed's balance sheet. Fed officials have also hinted that should financial conditions remain stable, they may actively sell MBS debt in order to speed up the reduction.

Overall, changes in the composition and the size of the balance sheet will mean that the Fed will own more U.S. Treasuries going forward. Assuming the Fed does not restart QE, it could end up owning nearly 18% of outstanding U.S. Treasuries by 2029, up from 14% today.

Investors should also be cognizant that the Fed's balance sheet will likely be used once more in the event of an economic downturn. In the past six downturns, the Fed has cut the Federal funds rate on average by 6.55% to stimulate growth. With the federal funds rate sitting at just 2.4% and the Fed on pause with its hiking cycle, the balance sheet will once again be used to stimulate growth in the next recession.

A larger Fed balance sheet in the future is likely to be an anchor on U.S. Treasury yields and potentially hamper long-run bond returns. It also provides a flexibility for U.S. fiscal policy because the U.S treasury does not technically pay interest on debt held by the Fed.

Investment implications

- The size of liabilities has hampered the Fed's plans to reduce its balance sheet. Currency in circulation, the TGA and reserve levels are outside of the Fed's control.
- These technical factors prevent the Fed from reducing the size of the balance sheet and it will stop in September 2019 at a level of around USD3.6-USD3.7 trillion, much higher than original estimates.
- Going forward, the Fed balance sheet will gradually begin to grow as liabilities expand. During the next downturn, the Fed is likely to lean on the balance sheet to stimulate growth. A larger balance sheet will weigh on bond yields in the long run but will be helpful for U.S. fiscal policy.

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