



## W(h)ither the Fed's Balance Sheet?

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The Federal Reserve balance sheet's size and composition have changed dramatically since September 2008. Federal Reserve policymakers have expressed their support for eventually shrinking the Fed's balance sheet and returning the composition of its securities portfolio to include only U.S. Treasury issues. Through the careful study of public Federal Open Market Committee documents, this *Economic Commentary* concisely explains some of the FOMC's decisions concerning an appropriate sequence of policy actions..

Monetary policy over the past three years has been a non-stop stream of nimble responses to unprecedented challenges. The traditional interest rate target framework for implementing monetary policy has evolved into a "credit-easing" approach in response to the financial crisis. This new approach focuses on the mix of loans and securities the Federal Reserve holds and how the mix of these assets affects credit conditions for households and businesses.

One implication of the new approach is that the stance of monetary policy can no longer be easily summarized by a target for the federal funds rate. The Fed's balance sheet has become a crucial tool of monetary policy. This *Economic Commentary* explains recent policy actions in terms of changes in the size and composition of the balance sheet and also draws out the likely sequencing of actions based on careful study of the FOMC meeting minutes. Under current policy, the Fed's balance sheet is set to diminish slowly (wither). What path it will take going forward (whither), however, will depend on the evolution of economic and financial conditions.

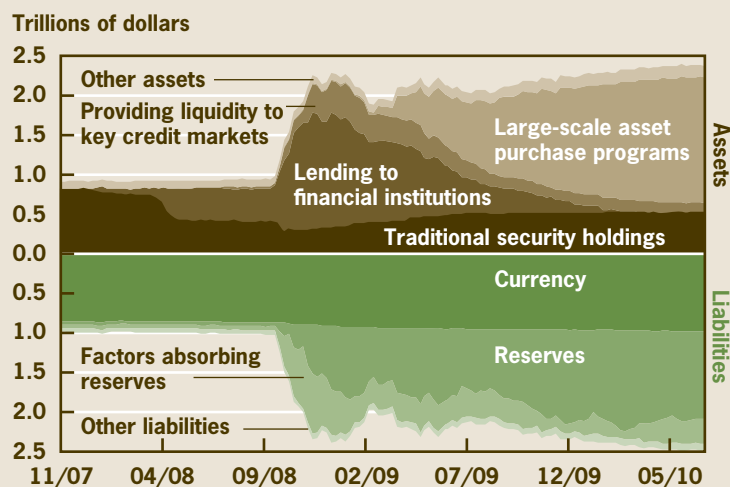
### Early Stages of Credit Easing

When financial turmoil first emerged in the summer of 2007, inflationary pressures were a concern, and the FOMC was reluctant to lower the fed funds rate from its then target of 5¼ percent. So the initial response was to provide credit through the Fed's traditional facility for banks, the Discount Window. But the liquidity failed to spread to nonbank financial intermediaries, and a number of new lending facilities were created to provide credit to a broader array of financial institutions and to targeted markets. In September 2007, the FOMC also began to ease its policy stance using its traditional tool, lowering the fed funds rate to 2 percent by the end of its April 2008 meeting. In March 2008, the Fed invoked Section 13 (3) of the Federal Reserve Act to allow it

to provide secured credit directly to primary dealers. During the first year of the turmoil, the credit-easing policies affected the composition but not the size of the balance sheet.

This changed when Lehman Brothers filed for bankruptcy in September 2008. Additional credit channels developed to provide credit directly to the commercial paper and money-fund markets generated a surge in loans that more than doubled the size of the balance sheet within a few weeks. Some of the new loans were a direct result of support provided to systemically important institutions, such as the loan made to AIG. Other new facilities channeled liquidity to the commercial paper market and to money market mutual funds. The consequences for both the size and composition of the Fed's balance sheet were dramatic, as can be seen in figure 1.

**Figure 1. The Federal Reserve Balance Sheet**



Source: The Federal Reserve Board.



## Beyond the Zero Bound

By the time of the Lehman bankruptcy, the Fed had vastly depleted its arsenal of interest rate cuts as measures for policy stimulus. In October 2008, the FOMC lowered the fed funds rate to 1 percent. A further reduction in December essentially took the policy rate to its zero bound.

In November 2008, prior to reaching the zero bound, the Federal Reserve announced a program to purchase the direct obligations of housing-related government-sponsored enterprises (GSEs)—Fannie Mae, Freddie Mac, and the Federal Home Loan Banks—and mortgage-backed securities (MBS) backed by Fannie Mae, Freddie Mac, and Ginnie Mae. Never before had the Fed made purchases that affected the allocation of credit so directly to one sector of the economy on so large a scale.

When the program, called Large Scale Asset Purchases (LSAP), was announced, the release noted that the action was taken to reduce the cost and increase the availability of credit for the purchase of houses, which in turn should support housing markets and foster improved conditions in financial markets more generally. The announcement was associated with an immediate reduction across an array of mortgage-related interest rates. In the face of a continuing deterioration of economic and financial conditions, LSAP was expanded in March 2009. Purchase limits on agency debt and MBS were increased to a total of more than \$1.4 trillion, and the Committee introduced an additional \$300 billion of total purchases of long-term Treasury issues.

A byproduct of credit-easing policies has been the increase in excess reserves to more than \$1 trillion from around \$2 billion—their average level for much of the decade prior to the crisis. For some members of the FOMC, the unprecedented level of excess reserves poses potential risks that could undermine the Fed's credibility to maintain price stability.

## Removing Policy Accommodation

Maintaining credibility will ultimately depend on removing the extraordinary policy accommodation at the right pace and time. Some of the credit policies have unwound naturally as financial conditions improved. Almost all of the special loan programs expired on February, 2010, the majority of loans have been repaid with interest, and the amount outstanding is projected to be repaid likewise. The balance sheet effect of the unwinding of lending facilities, however, has been more than offset by the security purchases. At the end of March 2010, the Fed completed its last planned purchases. Since then it has followed a policy of redeeming agency debt or MBS that have matured or been prepaid. When principal and interest payments are made, there is an equal reduction in bank reserves at the payer's bank. Thus, the balance sheet is set to wither, but very slowly.

Well before the recovery started, the FOMC had begun to prepare and develop an exit strategy for when the time came to remove the extraordinary policy accommodation.

Communication, transparency, and consistent behavior will be critical elements to keep inflation expectations in check and minimize any potential risk posed by the extraordinary level of excess reserves. Discussions about the exit strategy are ongoing, but key perspectives are revealed in FOMC policy statements, published minutes of the FOMC meetings, and speeches by Committee members.

## Long-Term Strategy

Published minutes of recent FOMC meetings show participants broadly support steps to reduce the size of the Fed's balance sheet over time and return the composition of its portfolio to include only Treasury securities. The guiding principle is that the FOMC should minimize the extent to which the Fed's portfolio affects the allocation of credit among private borrowers and sectors of the economy. It was only in the face of the extraordinary threat to the economy posed by the collapse in housing prices that the Committee chose to deviate from that principle.

The Committee also has expressed broad support for ultimately returning to a fed funds rate targeting procedure or something quite similar. Taken together with the long-term strategy to return to a Treasury-security-only portfolio, the balance sheet would eventually appear more similar to how it looked like prior to 2007. Its size would again be determined by the levels of currency and reserves demanded, given the targeted policy rate.

## Getting to There from Here

While FOMC members share a broad consensus on the eventual size and composition of the balance sheet, Committee members differ on how quickly that configuration can be reached. The course of policy will be determined by the Committee's assessment of the sustainability of the economic recovery, financial market conditions, and the resilience of the housing sector. It is clear, however, that when economic conditions warrant a removal of policy accommodation, the Federal Reserve will have a number of new tools to choose from.

One key new tool is interest on reserves. In October 2008, the Fed announced that it would begin to pay interest on depository institutions' required and excess reserve balances, having been given authority by Congress. By raising the interest rate on excess reserves (IOER), the Fed can increase the general level of short-term interest rates. In principle, the Fed now has the ability to remove policy accommodation without reducing the size of the balance sheet or excess reserves.

When first introduced, it was expected that IOER would provide an effective floor to the fed funds rate, the rate at which banks borrow and lend reserves to each other. Banks with excess reserves have no incentive to lend at rates below the interest earned on excess reserves. Hence banks deficient in reserves, it was thought, would have to pay more than the IOER rate to get the funds. In practice, however, the fed

funds market includes some lending institutions that do not earn interest on reserves, such as the GSEs, and they do not have an alternative but to lend at a market determined rate. Because of the sheer magnitude of excess reserves at depositories, few depositories need to borrow fed funds. GSEs have limited alternatives to lending in the fed funds market and thus have little bargaining power—and has led the fed funds rate to trade below the IOER floor.

### Reserve Management Tools

When the credit policies were adopted, it was well understood that unwinding the policy accommodation would likely benefit from having new and enhanced tools for draining reserves. Reserve draining tools would help to further quell fear that may spread from elevated levels of excess reserves, but unlike the aforementioned IOER management tool, reserve draining tools would temporarily remove reserves from the system. To this end, the Fed has been developing tools that would allow it to drain bank reserves quickly if warranted. Reducing excess reserves would also likely improve the FOMC's control over short-term interest rates using the IOER policy tool.

One enhanced reserve management tool involves the Fed selling a security from its portfolio with an agreement to purchase it back at a specified time and price—an arrangement commonly called a reverse repurchase agreement or reverse repo. Technically the security sold remains an asset on the Fed's balance sheet and hence does not reduce the balance sheet's size. But because the arrangement absorbs bank reserves, the reverse repo also appears as a Fed liability. Reverse repos have been used by the Fed, often with a foreign official institution as the counterparty, though on a small scale. Since the fall of 2009, the New York Fed Trading Desk has implemented a number of changes that will allow for a larger scale of operations with a broader set of counterparties (see box).

Another reserve management tool—the Term Deposit Account (TDA)—is similar to a certificate of deposit available at one's local bank. It involves a commitment to lock up deposits for a specified period of time. Depositories could choose to hold their deposits at the Fed in a TDA and earn a higher rate. TDAs would not count toward reserve requirements, so by choosing a TDA, banks would directly reduce their level of excess reserves. Similar to the case of reverse repos, the size of the Fed's balance sheet would not be affected by an increase in TDAs.

### Sequencing

Although the balance sheet has begun to wither slowly as agency debt and MBS mature or are prepaid, most FOMC members expect asset sales will be part of the exit strategy at some point. Sales of agency debt and MBS would hasten the return to a Treasuries-only portfolio, consistent with the FOMC's long-term strategy. Asset sales would also reduce the potential inflationary consequences of a persistently high level of excess reserves.

## Current Progress in Developing Reserve-Management Tools

The latest reports on the preparedness of the reserve draining tools show that positive steps have been taken to assure that the tools' implementation will take place smoothly when the time arrives.

Reverse repos are all but operational at this point. Small-scale operations have already taken place to make certain that the procedures and transactions are properly arranged, and those trades were successful. More recently, a broader set of counterparties is being constructed to make these investment opportunities more widely accessible. Money market funds were invited to participate in mid-March 2010 and were given their own set of eligibility requirements. Other possible inclusions may be GSEs or any other traditional sellers of funds in the money markets. Until all counterparties are added, only announced, small-scale operations are expected.

The basic principles for the Term Deposit Facility were established in a recent press release in May 2010. Deposits are to be awarded in a single-rate auction setting with maturities up to 84 days. There will be both competitive and noncompetitive auctions to ensure entry for smaller institutions. Term deposits will not be counted toward excess reserve balances but may be used as collateral at the Discount Window. Small-scale operations to test the preparedness of the facility began in June, and more may be forthcoming. These small-scale operations were largely successful and were met with very high demand.

While the Committee has broadly agreed to eventually return to a more normal balance sheet, the wounds from the collapse in housing have been deep, and the risks from removing support too quickly are potentially great. Recent FOMC meeting minutes reveal that for the time being, Committee members agreed to redeem agency debt and MBS prepayments but to roll over all maturing Treasury securities. The FOMC has also broadly agreed that asset sales would not begin for some time. Sales would be implemented in accordance with a framework communicated in advance and be conducted initially at a gradual pace that could be adjusted in response to changes in economic and financial conditions.

However, because the Fed has developed other tools for removing policy accommodation without asset sales, the pace



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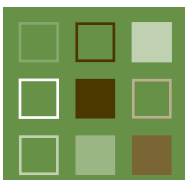
at which the balance sheet will return to its normal configuration will depend on the sequence of policy actions. That sequence will largely be determined by the perceptions of FOMC participants about the likely evolution of economic and financial market conditions, and on the resilience of the housing sector. The stronger the economy and the stronger the housing sector in particular, the sooner asset sales would likely commence.

Recent FOMC minutes reveal that a majority of members do not expect asset sales to begin until after the first increase in interest rates, and that would not occur for a considerable period of time. Of course, the current view on the sequence of policy actions hinges on inflation remaining well behaved and inflation expectations staying anchored. Should inflation expectations appear to be rising, asset sales could be moved forward in the sequence. A concrete path for asset sales could serve as a clear commitment to produce stable inflation and head off an inflation scare. On the other hand, the sudden resumption of financial turmoil in Europe underscores the uncertainty of any economic outlook. We

cannot rule out a potential deflation scare quite yet. Nor can we be sure that the size of the balance sheet has crested.

To summarize, given the most recent policy actions, the balance sheet is on a track to decline very gradually as payments (both scheduled and prepayments) are made on the underlying mortgages held in the Fed's portfolio. At some point, however, we expect the economic recovery will gain sufficient momentum to be clearly self-sustained. In the meantime, the FOMC will monitor closely measures of inflation and inflation expectations, both for signs of rising inflation or further disinflation. If the economy accelerates and inflationary pressures emerge, one might expect the FOMC to change its post-meeting statement language to prepare markets for an anticipated increase in IOER.

It should be emphasized that any decision to initiate asset sales, and thus accelerate the decline of the balance sheet, would be implemented in accordance with a framework communicated in advance and be conducted initially at a gradual pace that could be adjusted in response to changes in economic and financial conditions.



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