

## **Ben S Bernanke: The Federal Reserve's balance sheet**

Speech by Mr Ben S Bernanke, Chairman of the Board of Governors of the US Federal Reserve System, at the Federal Reserve Bank of Richmond 2009 Credit Markets Symposium, Charlotte, North Carolina, 3 April 2009.

*The original speech, which contains various links to the documents mentioned, can be found on the US Federal Reserve System's website.*

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In ordinary financial and economic times, my topic, "The Federal Reserve's Balance Sheet," might not be considered a "grabber." But these are far from ordinary times. To address the current crisis, the Federal Reserve has taken a number of aggressive and creative policy actions, many of which are reflected in the size and composition of the Fed's balance sheet. So, I thought that a brief guided tour of our balance sheet might be an instructive way to discuss the Fed's policy strategy and some related issues. As I will discuss, we no longer live in a world in which central bank policies are confined to adjusting the short-term interest rate. Instead, by using their balance sheets, the Federal Reserve and other central banks are developing new tools to ease financial conditions and support economic growth.

### **Some principles for balance sheet policy**

Before I get into the details of our balance sheet and how it reflects various Federal Reserve initiatives, I would like to note some general considerations that have been important in shaping our policy approach. As you know, financial markets and institutions both in the United States and globally have been under extraordinary stress for more than a year and a half. Relieving the disruptions in credit markets and restoring the flow of credit to households and businesses are essential if we are to see, as I expect, the gradual resumption of sustainable economic growth. To achieve this critical objective, the Federal Reserve has worked closely and cooperatively with the Treasury and other agencies. Such collaboration is not unusual. We have traditionally worked in close concert with other agencies in fostering stable financial conditions, even as we have maintained independent responsibility for making monetary policy.

Though we have been creative in deploying our balance sheet, using a multiplicity of new programs (and coining a multiplicity of new acronyms, I might add), we have done so prudently. As much as possible, we have sought to avoid both credit risk and credit allocation in our lending and securities purchase programs. As I will discuss further today, the great majority of our lending is extremely well secured. And our programs have been aimed at improving financial and credit conditions broadly, with an eye toward restoring overall economic growth, rather than toward supporting narrowly defined sectors or classes of borrowers.

In pursuing our strategy, which I have called "credit easing," we have also taken care to design our programs so that they can be unwound as markets and the economy revive. In particular, these activities must not constrain the exercise of monetary policy as needed to meet our congressional mandate to foster maximum sustainable employment and stable prices.

We are also committed to working with the Administration and the Congress to develop a new resolution regime that would allow the U.S. government to effectively address, at an early stage, the potential failure of systemically critical nonbank financial institutions. As this audience well knows, the lack of such a regime greatly hampered our flexibility in dealing with the failure or near-failure of such institutions as Bear Stearns, Lehman Brothers, and American International Group (AIG).

The principles I have just noted were recently formalized in a joint Federal Reserve-Treasury statement.<sup>1</sup> Those principles are: (1) that the Fed will cooperate closely with the Treasury and other agencies in addressing the financial crisis; (2) that the Fed in its lending activities should avoid taking credit risk or allocating credit to narrowly defined sectors or classes of borrowers; (3) that the Fed's independent ability to manage monetary policy must not be constrained by its programs to ease credit conditions; and (4) that there is a pressing need for a new resolution regime for nonbanks that, among other things, will better define the Fed's role in preventing the disorderly failure of systemically critical financial institutions. I welcome the clarity that this public statement brings to the principles underlying our policy strategy during this very difficult period.

### **The balance sheet as a tool of monetary policy**

The severe disruption of credit markets that began late in the summer of 2007 and the associated tightening in credit conditions and declines in asset prices have weighed heavily on economic activity here and abroad. The Federal Reserve has responded by aggressively easing short-term interest rates, beginning in September 2007. In October 2008, as the financial crisis intensified, the Federal Reserve participated in an unprecedented coordinated rate cut with other major central banks. At its December 2008 meeting, the Federal Open Market Committee (FOMC) reduced its target for the federal funds rate close to its lower bound, setting a target range between 0 and 1/4 percent. And, with inflation expected to remain subdued for some time, the Committee has indicated that short-term interest rates are likely to remain low for an extended period. With conventional monetary policy having reached its limit, any further policy stimulus requires a different set of tools.

The Federal Reserve has been a global leader in developing such tools. In particular, to further improve the functioning of credit markets and provide additional support to the economy, the Fed has established and expanded a number of liquidity programs and recently initiated a large-scale program of asset purchases. These actions have had significant effects on both the size and composition of the Federal Reserve's balance sheet. Notably, the balance sheet has more than doubled, from roughly \$870 billion before the crisis to roughly \$2 trillion now. In the remainder of my remarks, I will walk you through the major components of the Fed's balance sheet, which is a convenient way to discuss the range of policy tools the Fed is employing and some of the issues we are confronting in our policy decisions.

An excellent source of information on our balance sheet, by the way, is a new section of the Board's website, entitled Credit and Liquidity Programs and the Balance Sheet.<sup>2</sup> This section brings together much diverse information about the Fed's balance sheet, including some only recently made available, as well as detailed explanations and analyses. Serious Fed watchers should add this link to their online favorites list.

Let me begin with the asset side of our balance sheet. For decades, the Federal Reserve's assets consisted almost exclusively of Treasury securities. Since late 2007, however, our holdings of Treasury securities have declined, while our holdings of other financial assets have expanded dramatically. It is useful to group the Federal Reserve's assets into three broad categories: (1) short-term credit extended to support the liquidity of financial firms such as depository institutions, broker-dealers, and money market mutual funds; (2) assets related to programs focused on broader credit conditions; and (3) holdings of high-quality securities,

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<sup>1</sup> Board of Governors of the Federal Reserve System and Department of the Treasury (2009), "The Role of the Federal Reserve in Preserving Financial and Monetary Stability: Joint Statement by the Department of the Treasury and the Federal Reserve," joint press release, March 23.

<sup>2</sup> Credit and Liquidity Programs and the Balance Sheet is available on the Board's website.

notably Treasury securities, agency debt, and agency-backed mortgage-backed securities (MBS).<sup>3</sup> As I will discuss later, the Federal Reserve also has provided support directly to specific institutions in cases when a disorderly failure would have threatened the financial system.

### **Liquidity programs for financial firms**

The first of these categories of assets – short-term liquidity provided to financial institutions – totals almost \$860 billion and today represents nearly 45 percent of the assets on our balance sheet. These loans are made to sound institutions, are fully secured, and are for maturities no greater than 90 days, usually less. Thus, they are very safe. The main components of this category are lending to commercial banks and primary dealers, as well as currency swaps with other central banks to support interconnected global dollar funding markets.<sup>4</sup>

From its beginning, the Federal Reserve, through its discount window, has provided credit to depository institutions to meet unexpected liquidity needs, usually in the form of overnight loans. The provision of short-term liquidity is, of course, a long-standing function of central banks. In August 2007, conditions in short-term bank funding markets deteriorated abruptly, and bank funding needs intensified sharply. In response to these developments, the Federal Reserve reduced the spread of the primary credit rate – the rate at which most institutions borrow at the discount window – relative to the target federal funds rate, and also made it easier for banks to borrow at term. However, as in some past episodes of financial distress, banks were reluctant to rely on discount window credit to address their funding needs. The banks' concern was that their recourse to the discount window, if it became known, might lead market participants to infer weakness – the so-called stigma problem. The perceived stigma of borrowing at the discount window threatened to prevent the Federal Reserve from getting much-needed liquidity into the system.

To address this issue, in late 2007, the Federal Reserve established the Term Auction Facility (TAF), which, as the name implies, provides fixed quantities of term credit to depository institutions through an auction mechanism. The introduction of this facility seems largely to have solved the stigma problem, partly because the sizable number of borrowers provides anonymity, and possibly also because the three-day period between the auction and auction settlement suggests that the facility's users are not relying on it for acute funding needs on a particular day. As of April 1, 2009, we had roughly \$525 billion of discount window credit outstanding, of which about \$470 billion had been distributed through auctions and the remainder through conventional discount window loans.

Like depository institutions in the United States, foreign banks with large dollar funding positions were also experiencing powerful liquidity pressures. This unmet demand for dollars was spilling over into U.S. markets, including the federal funds market. To address this issue, the Federal Reserve has cooperated with foreign central banks in establishing what are known as reciprocal currency arrangements, or liquidity swap lines. In these arrangements, the Federal Reserve provides dollars to foreign central banks which they, in turn, lend to banks in their jurisdictions. Credit risk is minimal in these arrangements, as the foreign central bank is responsible for repayment, rather than the institutions that ultimately receive the funds; in addition, the Fed receives foreign currency from its central bank partner of equal value to the dollars lent. Liquidity provided through such arrangements peaked ahead of

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<sup>3</sup> Agency debt, in this instance, is debt issued by Fannie Mae, Freddie Mac, and the Federal Home Loan Banks. Agency MBS are backed by Fannie Mae, Freddie Mac, and Ginnie Mae.

<sup>4</sup> Primary dealers are broker-dealers that trade in U.S. government securities with the Federal Reserve Bank of New York.

year-end 2008 but has since declined as pressures in short-term funding markets have eased; the outstanding amount currently stands at about \$310 billion.

In addition, following the sharp deterioration in market conditions in March 2008, the Federal Reserve used its emergency lending authority to provide primary dealers access to central bank credit. Primary dealers can obtain short-term collateralized loans from the Fed through the Primary Dealer Credit Facility, or PDCF. The PDCF, which is closely analogous to the discount window for commercial banks, currently has about \$20 billion in borrowings outstanding. Another program for primary dealers, called the Term Securities Lending Facility, lends Treasury securities to dealers, taking investment-grade securities as collateral. The primary dealers then use the more-liquid Treasury securities to obtain private-sector funding. Extensions of credit under this program, which currently total about \$85 billion, do not appear as distinct assets on the Fed's balance sheet, because the Federal Reserve continues to own the Treasury securities that it lends.

As I mentioned, the provision of liquidity on a collateralized basis to sound financial institutions is a traditional central bank function. This so-called lender-of-last-resort activity is particularly useful during a financial crisis, as it reduces the need for fire sales of assets and reassures financial institutions and their counterparties that those institutions will have access to liquidity as needed. To be sure, the provision of liquidity alone cannot address solvency problems or erase the large losses that financial institutions have suffered during this crisis. Yet both our internal analysis and market reports suggest that the Fed's ample supply of liquidity, along with liquidity provided by other major central banks, has significantly reduced funding pressures for financial institutions, helped to reduce rates in bank funding markets, and increased overall financial stability. For example, despite ongoing financial stresses, funding pressures around year-end 2008 and the most recent quarter-end appear to have moderated significantly.

Before leaving this category of assets, I should mention briefly the Fed's actions to ensure liquidity to another category of financial institution, money market mutual funds. In September, a prominent money market mutual fund "broke the buck" – that is, was unable to maintain a net asset value of \$1 per share. This event led to a run on the other funds, which saw very sharp withdrawals. These withdrawals in turn threatened the stability of the commercial paper market, which depends heavily on money market mutual funds as investors. Following the long-standing principle that the central bank should lend into a panic, the Federal Reserve established two programs to backstop money market mutual funds and to help those funds avoid fire sales of their assets to meet withdrawals. Together with an insurance program offered by the Treasury, the Fed's programs helped end the run; the sharp withdrawals from the funds have been replaced by moderate inflows. Although credit extended to support money funds was high during the intense phase of the crisis in the fall, borrowings have since declined substantially, to about \$6 billion.

### **Direct lending to borrowers and investors**

A second set of programs initiated by the Federal Reserve – including the Commercial Paper Funding Facility (CPFF) and the Term Asset-Backed Securities Loan Facility (TALF) – aims to improve the functioning of key credit markets by lending directly to market participants, including ultimate borrowers and major investors. The lending associated with these facilities is currently about \$255 billion, corresponding to roughly one-eighth of the assets on the Fed's balance sheet. The sizes of these programs, notably the TALF, are expected to grow in the months ahead.

The commercial paper market is a key source of the short-term credit that American businesses use to meet payrolls and finance inventories. Following the intensification of the financial crisis in the fall, commercial paper rates spiked, even for the highest-quality firms. Moreover, most firms were unable to borrow for periods longer than a few days, exposing both firms and lenders to significant rollover risk. By serving as a backstop for commercial

paper issuers, the CPFF was intended to address rollover risk and to improve the functioning of this market. Under this facility, the Fed stands ready to lend to the highest-rated financial and nonfinancial commercial paper issuers for a term of three months. As additional protection against loss, and to make the facility the last rather than the first resort, the CPFF charges borrowers upfront fees in addition to interest. Borrowing from this facility peaked at about \$350 billion and has since declined to about \$250 billion as more firms have been able to issue commercial paper to private lenders or have found alternative sources of finance. Conditions in the market have improved markedly since the introduction of this program, with spreads declining sharply and with more funding available at longer maturities. Market participants tell us that the CPFF contributed to these improvements.

Most recently, the Federal Reserve launched the TALF, which is aimed at restoring securitization markets, now virtually shut down. The closing of securitization markets, until recently an important source of credit for the economy, has added considerably to the stress in credit markets and financial institutions generally. Under the TALF, eligible investors may borrow to finance their holdings of the AAA-rated tranches of selected asset-backed securities. The program is currently focused on securities backed by newly and recently originated auto loans, credit card loans, student loans, and loans guaranteed by the Small Business Administration. The first TALF subscription attracted about \$8 billion in total asset-backed securities deals and used about \$4.7 billion in Federal Reserve financing. Over time, the list of securities eligible for the TALF is expected to expand to include additional securities, such as commercial mortgages, as well as securities that are not newly issued.

Relative to the Fed's short-term lending to financial institutions, the CPFF and the TALF are rather unconventional programs for a central bank to undertake. I see them as justified by the extraordinary circumstances in which we find ourselves and by the need for central bank lending practices to reflect the evolution of financial markets; after all, a few decades ago securitization markets barely existed. Notably, other central banks around the world have shown increasing interest in similar programs as they address the credit strains in their own countries. These programs also meet the criteria I stated at the beginning of my remarks regarding credit risk and credit allocation. Credit risk is very low in both programs; in particular, the TALF program requires that loans be overcollateralized and is further protected by capital provided by the Treasury. Both programs are directed at broad markets whose dysfunction impedes the flow of numerous types of credit to ultimate borrowers; consequently, I do not see these programs as engaging in credit allocation – the favoring of a particular sector or a narrow class of borrowers over others.

### **Purchases of high-quality assets**

The third major category of assets on the Fed's balance sheet is holdings of high-quality securities, notably Treasury securities, agency debt, and agency-backed MBS. These holdings currently total about \$780 billion, or about three-eighths of Federal Reserve assets. Of this \$780 billion, holdings of Treasury securities currently make up about \$490 billion. Some of these Treasury securities are lent out through the Term Securities Lending Facility that I mentioned earlier. Obviously, these holdings are very safe from a credit perspective. Longer-term securities do pose some interest-rate risk; however, because the Federal Reserve finances its purchases with short-term liabilities, on average and over time, that risk is mitigated by the normal upward slope of the yield curve.

The Fed's holdings of high-quality securities are set to grow considerably as the FOMC, in an attempt to improve conditions in private credit markets, has announced large-scale open-market purchases of these securities. Specifically, the Federal Reserve will purchase cumulative amounts of up to \$1.25 trillion of agency MBS and up to \$200 billion of agency debt by the end of the year, and up to \$300 billion of longer-term Treasury securities over the next six months. The principal goal of these programs is to lower the cost and improve the availability of credit for households and businesses. As best we can tell, so far the programs

are having the intended effect. For example, 30-year fixed mortgage rates, which responded very little to our cuts in the target for the federal funds rate, have declined 1 percentage point to 1-1/2 percentage points since our first MBS purchase program was announced in November. Over time, lower mortgage rates should help to improve conditions in the housing market, whose persistent weakness has had a major impact on economic and financial conditions more broadly, and will improve the financial condition of some households by facilitating refinancing. In addition, open-market purchases should benefit credit markets by adding liquidity and balance sheet capacity to the system.

### **Support for specific institutions**

In addition to those programs I have just discussed, the Federal Reserve has provided financing directly to specific systemically important institutions. With the full support of the Treasury, we used emergency lending powers to facilitate the acquisition of Bear Stearns by JPMorgan Chase & Co. and also to prevent default by AIG. These extensions of credit are very different than the other liquidity programs discussed previously and were put in place to avoid major disruptions in financial markets. From a credit perspective, these support facilities carry more risk than traditional central bank liquidity support, but we nevertheless expect to be fully repaid. Credit extended under these programs has varied but recently has accounted for only about 5 percent of our balance sheet. That said, these operations have been extremely uncomfortable for the Federal Reserve to undertake and were carried out only because no reasonable alternative was available. As noted in the joint Federal Reserve-Treasury statement I mentioned earlier, we are working with the Administration and the Congress to develop a formal resolution regime for systemically critical nonbank financial institutions, analogous to one already in place for banks. Such a regime should spell out as precisely as possible the role that the Congress expects the Federal Reserve to play in such resolutions.

### **Liabilities**

Having reviewed the Federal Reserve's main asset accounts, let me now touch briefly on the liability side of the balance sheet. Historically, the largest component of the Federal Reserve's liabilities has historically been Federal Reserve notes – that is, U.S. paper currency. Currency has expanded over time in line with nominal spending in the United States and demands for U.S. currency abroad. By some estimates, a bit over one-half of U.S. currency is held outside the country.

Other key liabilities of the Federal Reserve include the deposit accounts of the U.S. government and depository institutions. The U.S. government maintains a "checking account" with the Federal Reserve – the so-called Treasury general account – from which most federal payments are made. More recently, the Treasury has established a special account at the Federal Reserve as part of its Supplementary Financing Program (SFP). Under this program, the Treasury issues special Treasury bills and places the proceeds in the Treasury supplementary financing account at the Federal Reserve. The net effect of these operations is to drain reserve balances from depository institutions.

Depository institutions also maintain accounts at the Federal Reserve, of course, and over recent months, as the size of the Federal Reserve's balance sheet has expanded, the balances held in these accounts have increased substantially. The large volume of reserve balances outstanding must be monitored carefully, as – if not carefully managed – they could complicate the Fed's task of raising short-term interest rates when the economy begins to recover or if inflation expectations were to begin to move higher. We have a number of tools we can use to reduce bank reserves or increase short-term interest rates when that becomes necessary. First, many of our lending programs extend credit primarily on a short-term basis and thus could be wound down relatively quickly. In addition, since the lending rates in these

programs are typically set above the rates that prevail in normal market conditions, borrower demand for these facilities should wane as conditions improve. Second, the Federal Reserve can conduct reverse repurchase agreements against its long-term securities holdings to drain bank reserves or, if necessary, it could choose to sell some of its securities. Of course, for any given level of the federal funds rate, an unwinding of lending facilities or a sale of securities would constitute a de facto tightening of policy, and so would have to be carefully considered in that light by the FOMC. Third, some reserves can be soaked up by the Treasury's Supplementary Financing Program. Fourth, in October of last year, the Federal Reserve received long-sought authority to pay interest on the reserve balances of depository institutions. Raising the interest rate paid on reserves will encourage depository institutions to hold reserves with the Fed, rather than lending them into the federal funds market at a rate below the rate paid on reserves.<sup>5</sup> Thus, the interest rate paid on reserves will tend to set a floor on the federal funds rate.

The FOMC will continue to closely monitor the level and projected expansion of bank reserves to ensure that – as noted in the joint Federal Reserve-Treasury statement – the Fed's efforts to improve the workings of credit markets do not interfere with the independent conduct of monetary policy in the pursuit of its dual mandate of ensuring maximum employment and price stability. As was also noted in the joint statement, to provide additional assurance on this score, the Federal Reserve and the Treasury have agreed to seek legislation to provide additional tools for managing bank reserves.

## **Conclusion**

These are extraordinarily challenging times for our financial system and our economy. I am confident that we can meet these challenges, not least because I have great confidence in the underlying strengths of the American economy. For its part, the Federal Reserve will make responsible use of all its tools to stabilize financial markets and institutions, to promote the extension of credit to creditworthy borrowers, and to help build a foundation for economic recovery. Over the longer term, we also look forward to working with our counterparts at other supervisory and regulatory agencies in the United States and around the world to address the structural issues – some of which have been discussed in this conference – that have led to this crisis so as to minimize the risk of ever facing such a situation again.

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<sup>5</sup> The interest rate on reserves did not establish a hard floor on the federal funds rate during the short period between the time that payment of interest on reserves was introduced and the FOMC's decision to bring the federal funds rate target close to zero. Possible reasons were the unfamiliarity of banks with the program, the fact that some institutions are not legally eligible to receive interest on reserve balances and were therefore willing to lend funds in the federal funds market at a rate below the rate paid by the Fed, and the reluctance of banks to use scarce balance sheet space to arbitrage the difference between the federal funds rate and the rate paid on reserves. We expect these problems to be reduced with time.