We live in extraordinarily challenging times for the global economy and for economic policymakers, not least for central banks such as the Federal Reserve. As you know, the recent economic statistics have been dismal, with many economies, including ours, having fallen into recession. And behind those statistics, we must never forget, are millions of people struggling with lost jobs, lost homes, and lost confidence in their economic future. In examples that resonate with me personally, the unemployment rate in the small town in South Carolina where I grew up has risen to 14 percent, and I learned the other day that what had once been my family home was recently put through foreclosure.

Traditionally the most conservative of institutions, central banks around the world have responded to this unprecedented crisis with force and innovation. In the United States, the Federal Reserve has done, and will continue to do, everything possible within the limits of its authority to assist in restoring our nation to financial stability and economic prosperity as quickly as possible. Policy innovation has been necessary because conventional monetary policies, which focus on influencing short-term interest rates, have proven insufficient to overcome the effects of the financial crisis on credit conditions and the broader economy. To further ease financial conditions, beyond what can be attained by reducing short-term interest rates, the Federal Reserve has taken additional steps to improve the functioning of credit markets and to increase the supply of credit to households and businesses – a policy strategy that I have called "credit easing." In the first portion of my remarks, I will briefly outline the three principal approaches to easing credit that we have undertaken, over and above cutting the short-term interest rate, and assess their effectiveness to date.

Each of these policy approaches involves the provision of credit or the purchase of debt securities by the Federal Reserve, which collectively have resulted in a substantial expansion in the size of the Federal Reserve's balance sheet. The second portion of my remarks addresses some issues raised by the changes in the size of the Fed's balance sheet. In particular, I will discuss how the size of the balance sheet affects the ability of the Federal Open Market Committee (FOMC), the body that sets monetary policy, to foster maximum sustainable employment and price stability, as well as the steps that are being taken to manage the balance sheet appropriately.

Finally, the expansion of the Federal Reserve's balance sheet has raised some concerns – and led to some misconceptions – about the credit risk being taken by the Fed. I will address the issue of credit risk today. And I would also like to talk about steps that the Fed is taking to improve the transparency of its programs to the public, consistent with our obligations in a democracy.

**Federal Reserve policy during the crisis**

The Federal Reserve has responded forcefully to the crisis since its emergence in the summer of 2007. The FOMC began to ease monetary policy in September 2007, reducing the target for the federal funds rate, its policy instrument, by 50 basis points, or 1/2 percentage point. As indications of economic weakness proliferated, the Committee...
continued to respond, bringing down its target for the federal funds rate by a cumulative 325 basis points by the spring of 2008. In historical comparison, this policy response stands out as exceptionally rapid and proactive.

Monetary easing helped support employment and incomes during the first year of the crisis. Unfortunately, the intensification of financial turbulence last fall led to further significant deterioration in the economic outlook. The Committee responded by cutting the target for the federal funds rate an additional 100 basis points in October, with half of that reduction coming as part of an unprecedented coordinated interest rate cut by six major central banks on October 8. In December, the Committee reduced its target further, setting a range of 0 to 25 basis points for the target federal funds rate.

The Fed's monetary easing has been reflected in significant declines in a number of lending rates, especially shorter-term rates, thus offsetting to some degree the effects of the financial turmoil on the cost of credit. However, that offset has been incomplete, as widening credit spreads, more-restrictive lending standards, and credit market dysfunction have worked against the monetary easing and led to tighter financial conditions overall. Thus, in addition to easing monetary policy, the Federal Reserve has made use of a range of additional tools to ease credit conditions and support the broader economy.

These additional components of the Fed's toolkit can be divided into three sets. The first set is closely tied to the central bank's traditional role of provider of short-term liquidity to sound financial institutions. Over the course of the crisis, the Fed has taken a number of extraordinary actions to ensure that financial institutions have adequate access to short-term credit. In fulfilling its traditional lending function, the Federal Reserve enhances the stability of our financial system, increases the willingness of financial institutions to extend credit, and helps to ease conditions in interbank lending markets, thereby reducing the overall cost of capital to banks. In addition, some interest rates, including the rates on some adjustable-rate mortgages, are tied contractually to key interbank rates, such as the London interbank offered rate (Libor). To the extent that the provision of ample liquidity to banks reduces Libor, other borrowers will also see their payments decline.

Because interbank markets are global in scope, the Federal Reserve has also approved temporary bilateral liquidity agreements with 14 foreign central banks. These so-called currency swap facilities have allowed these central banks to acquire dollars from the Federal Reserve that they may lend to financial institutions in their own jurisdictions. The purpose of these swaps is to ease conditions in dollar funding markets globally. Improvements in global interbank markets, in turn, promote greater stability in other markets, such as money markets and foreign exchange markets.

Although the provision of ample liquidity by the central bank to financial institutions is a time-tested approach to reducing financial strains, it is no panacea. Today, concerns about capital, asset quality, and credit risk continue to limit the willingness of many intermediaries to extend credit, notwithstanding the access of these firms to central bank liquidity. Moreover, lending to financial institutions does not directly address instability or declining liquidity in critical nonbank markets, such as the commercial paper market or the market for asset-backed securities, which under normal circumstances are major sources of credit for U.S. households and firms.

To address these issues, the Federal Reserve has developed a second set of policy tools, which involve the provision of liquidity directly to borrowers and investors in key credit markets. Notably, we have introduced facilities to purchase highly rated commercial paper at a term of three months and to provide backup liquidity for money market mutual funds. The purpose of these facilities is to serve, once again in classic central bank fashion, as backstop liquidity provider, in these cases to institutions and markets that were destabilized by the rapid withdrawal of funds by short-term creditors and investors. In addition, the Federal Reserve and the Treasury have jointly announced a facility – expected to be operational shortly – that will lend against AAA-rated asset-backed securities collateralized by recently
originated student loans, auto loans, credit card loans, and loans guaranteed by the Small Business Administration. Last week, in conjunction with the Treasury, we announced that we were prepared to expand significantly this facility, known as the Term Asset-Backed Securities Loan Facility, or TALF, to encompass other types of newly issued AAA-rated asset-backed securities, such as commercial mortgage-backed securities and private-label mortgage-backed securities, as well. If this program works as planned, it should lead to lower rates and greater availability of consumer, business, and mortgage credit.

The Federal Reserve’s third set of tools for supporting the functioning of credit markets involves the purchase of longer-term securities for the Fed’s portfolio. For example, we are purchasing up to $100 billion in the debt of government-sponsored enterprises (GSEs) and up to $500 billion in mortgage-backed securities guaranteed by federal agencies by midyear.

The Federal Reserve is engaged in continuous assessment of the effectiveness of its credit-related tools, and we have generally been encouraged by the market responses. Our lending to financial institutions has helped to relax the severe liquidity strains experienced by many firms and has been associated with improvements in interbank lending markets; for example, we believe that liquidity provision by the Fed and other central banks is a principal reason that liquidity pressures around the end of the year – often a period of heightened liquidity strains – were relatively modest. Libor has fallen sharply as well. Our commercial paper facility has helped to stabilize that market, lowering rates significantly and allowing high-quality firms access to financing at terms longer than a few days. Together with other government programs, our actions to stabilize the money market mutual fund industry have also shown some success, as the sharp withdrawals from funds seen in September have given way to modest inflows. And rates on 30-year conforming fixed-rate mortgages have fallen nearly 1 percentage point since we announced the program to purchase GSE-related securities. Thus, taken together, these policies appear to give the Federal Reserve some scope to affect credit conditions and economic performance, notwithstanding that the conventional tool of monetary policy, the federal funds rate, is nearly as low as it can go.

The Federal Reserve’s policies and its balance sheet

The various credit-related policies I have described have implications for the Federal Reserve’s balance sheet. In the remainder of my remarks I will discuss those implications as well as some related issues.

The three sets of policy tools I have focused on today – lending to financial institutions, providing liquidity directly to key credit markets, and buying longer-term securities – each represents a use of the asset side of the Fed’s balance sheet. Specifically, loans that the Fed extends – either to financial institutions, through the discount window and related facilities, or to other borrowers in programs like our commercial paper facility – are recorded as assets on our balance sheet, as are securities acquired in the open market, such as the GSE securities we are purchasing. The Fed’s assets also include about $500 billion of Treasury securities. About 5 percent of our balance sheet, or $100 billion, consists of assets we acquired in the government interventions to prevent the failures of Bear Stearns and American International Group (AIG). I won’t say much about those interventions today, except to note that the failures of those companies would have posed enormous risks to the stability of our financial system and economy. Because the United States has no well-specified set of rules for dealing with the potential failure of systemically critical nondepository financial institutions, we believed that the best of the bad options available was to work with the Treasury to take the actions we did to avoid those collapses. The liability side of the Federal Reserve’s balance sheet is relatively simple, consisting primarily of currency issuance (Federal Reserve notes) and reserves held by the banking system on deposit with the Federal Reserve.

The various credit-related policies I have described today all act to increase the size of both the asset and liability sides of the Federal Reserve’s balance sheet. For example, the purchase of $1 billion of GSE securities, paid for by crediting the deposit account of the
seller’s bank at the Federal Reserve, increases the Fed's balance sheet by $1 billion, with the acquired securities appearing as an asset, and the seller’s bank's deposit at the Fed being the offsetting liability. The quantitative impact of our credit actions on the balance sheet has been large; its size has nearly doubled over the past year, to just under $2 trillion.

Some observers have expressed the concern that, by expanding its balance sheet, the Federal Reserve will ultimately stoke inflation. The Fed's lending activities have indeed resulted in a large increase in the reserves held by banks and thus in the narrowest definition of the money supply, the monetary base. However, banks are choosing to leave the great bulk of their excess reserves idle, in most cases on deposit with the Fed. Consequently, the rates of growth of broader monetary aggregates, such as M1 and M2, have been much lower than that of the monetary base. At this point, with global economic activity weak and commodity prices at low levels, we see little risk of unacceptably high inflation in the near term; indeed, we expect inflation to be quite low for some time.

However, at some point, when credit markets and the economy have begun to recover, the Federal Reserve will have to moderate growth in the money supply and begin to raise the federal funds rate. To reduce policy accommodation, the Fed will have to unwind some of its credit-easing programs and allow its balance sheet to shrink. To some extent, this unwinding will happen automatically, as improvements in credit markets should reduce the need to use Fed facilities. Indeed, where possible, we have tried to set lending rates and other terms at levels that are likely to be increasingly unattractive to borrowers as financial conditions normalize. In addition, some programs – those authorized under the Federal Reserve’s so-called 13(3) authority, which requires a finding that conditions in financial markets are “unusual and exigent” – will, by law, have to be phased out once credit market conditions substantially normalize. However, the principal factor determining the timing and pace of that process will be the Federal Reserve's assessment of the condition of credit markets and the prospects for the economy.

A significant shrinking of the balance sheet can be accomplished relatively quickly, as a substantial portion of the assets that the Federal Reserve holds – including loans to financial institutions, temporary central bank liquidity swaps, and purchases of commercial paper – are short-term in nature and can simply be allowed to run off as the various programs and facilities are scaled back or shut down. As the size of the balance sheet and the quantity of excess reserves in the system decline, the Federal Reserve will be able to return to its traditional means of making monetary policy – namely, by setting a target for the federal funds rate.

Importantly, the management of the Federal Reserve's balance sheet and the conduct of monetary policy in the future will be made easier by the recent congressional action to give the Fed the authority to pay interest on bank reserves. Because banks should be unwilling to lend reserves at a rate lower than they can receive from the Fed, the interest rate the Fed pays on bank reserves should help to set a floor on the overnight interest rate. Moreover, other tools are available or can be developed to improve control of the federal funds rate during the exit stage. For example, the Treasury could resume its recent practice of issuing supplementary financing bills and placing the funds with the Federal Reserve; the issuance of these bills effectively drains reserves from the banking system, thereby improving monetary control. As we consider new programs or the expansion of old ones, the Federal Reserve will have to moderate growth in the money supply and begin to raise the federal funds rate.

1 The monetary base is the sum of currency in circulation and bank reserves.

2 M1 consists of currency, traveler's checks, demand deposits, and other checkable deposits. M2 consists of M1 plus savings deposits, small-denomination time deposits, and balances in retail money market mutual funds. M2 has grown more rapidly than normal in recent months, at about a 15 percent annual rate on a quarterly average basis in the fourth quarter. We attribute this increase primarily to investors’ demand for greater safety, which has led them to increase their holdings of government-guaranteed bank deposits. We expect growth in M2 to slow considerably in 2009, barring a similar shift in portfolio preferences.
Reserve will carefully weigh the implications for the exit strategy. And we will take all necessary actions to ensure that the unwinding of our programs is accomplished smoothly and in a timely way, consistent with meeting our obligation to foster maximum employment and price stability.

Credit risk and transparency

Two other frequently asked questions about the Federal Reserve's balance sheet are: First, how much credit risk is the Fed taking in its lending activities? And, second, is the Fed informing the public adequately about these activities?

To address the first question, for the great bulk of Fed lending, the credit risks are extremely low. The provision of short-term credit to financial institutions – our traditional function – exposes the Federal Reserve to minimal credit risk, as the loans we make to financial institutions are generally short-term, overcollateralized, and made with recourse to the borrowing firm. In the case of the liquidity swaps, the foreign central banks are responsible for repaying the Federal Reserve, not the financial institutions that ultimately receive the funds, and the Fed receives an equivalent amount of foreign currency in exchange for the dollars it provides foreign central banks. The Treasury stands behind the debt and other securities issued by the GSEs.

Our special lending programs have also been set up to minimize our credit risk. The largest program, the commercial paper funding facility, accepts only the most highly rated paper. It also charges borrowers a premium, which is set aside against possible losses. And the TALF, the facility that will lend against securities backed by consumer and small business loans, is a joint Federal Reserve-Treasury program, as I mentioned, and capital provided by the Treasury will help insulate the Federal Reserve from credit losses.

The transactions we undertook to prevent the systemically destabilizing failures of Bear Stearns and AIG, which, as I noted, make up about 5 percent of our balance sheet, carry more risk than our traditional activities. But we intend, over time, to sell the assets acquired in those transactions in a way that maximizes the return to taxpayers, and we expect to recover the credit we have extended. Moreover, in assessing the financial risks of those transactions, once again one must also consider the very grave risks our nation would have incurred had public policy makers not acted in those instances.

Finally, I should remind you that all the Federal Reserve's assets pay interest, and the expansion of our balance sheet thereby implies increased interest income, income that will accrue to the benefit of the federal budget. From the point of view of the federal government, the Federal Reserve's activities do not imply greater expenditure or indebtedness. To the contrary, the Federal Reserve's interest earnings have always been, and will continue to be, a significant source of income for the Treasury.

On the second question, transparency, I firmly believe that central banks should provide as much information as possible, both for reasons of democratic accountability and because many of our policies are likely to be more effective if they are well understood by the markets and the public. During my time at the Federal Reserve, the FOMC has taken important steps to increase the transparency of monetary policy, such as moving up the publication of the minutes of policy meetings and adopting the practice of providing projections of the evolution of the economy at longer horizons and four times per year rather than twice.

Later today, with the release of the minutes of the most recent FOMC meeting, we will be making an additional significant enhancement in Federal Reserve communications: To supplement the current economic projections by governors and Reserve Bank presidents for the next three years, we will also publish their projections of the longer-term values (at a horizon of, for example, five to six years) of output growth, unemployment, and inflation, under the assumptions of appropriate monetary policy and the absence of new shocks to the economy. These longer-term projections will inform the public of the Committee participants'
estimates of the rate of growth of output and the unemployment rate that appear to be sustainable in the long run in the United States, taking into account important influences such as the trend growth rates of productivity and the labor force, improvements in worker education and skills, the efficiency of the labor market at matching workers and jobs, government policies affecting technological development or the labor market, and other factors. The longer-term projections of inflation may be interpreted, in turn, as the rate of inflation that FOMC participants see as most consistent with the dual mandate given to it by the Congress – that is, the rate of inflation that promotes maximum sustainable employment while also delivering reasonable price stability. This further extension of the quarterly projections should provide the public a clearer picture of FOMC participants' policy strategy for promoting maximum employment and price stability over time. Also, increased clarity about the FOMC's views regarding longer-term inflation should help to better stabilize the public's inflation expectations, thus contributing to keeping actual inflation from rising too high or falling too low.

Likewise, the Federal Reserve is committed to keeping the Congress and the public informed about its lending programs and balance sheet. For example, we continue to add to the information shown in the Fed's H.4.1 statistical release, which provides weekly detail on the balance sheet and the amounts outstanding for each of the Federal Reserve's lending facilities. Extensive additional information about each of the Federal Reserve's lending programs is available online. The Fed also provides bimonthly reports to the Congress on each of its programs that rely on the section 13(3) authorities. Generally, our disclosure policies are consistent with the current best practices of major central banks around the world. In addition, the Federal Reserve's internal controls and management practices are closely monitored by an independent inspector general, outside private-sector auditors, and internal management and operations divisions, and through periodic reviews by the Government Accountability Office.

All that said, recent developments have understandably led to a substantial increase in the public's interest in the Fed's balance sheet and programs. For this reason, we at the Fed have begun a thorough review of our disclosure policies and the effectiveness of our communication. Today I would like to mention two initiatives.

First, to improve public access to information concerning Fed policies and programs, in coming days we will unveil a new website that will bring together in a systematic and comprehensive way the full range of information that the Federal Reserve already makes available, supplemented by explanations, discussions, and analyses.

Second, at my request, Board Vice Chairman Donald Kohn is leading a committee that will review our current publications and disclosure policies relating to the Fed's balance sheet and lending policies. The presumption of the committee will be that the public has a right to know, and that the nondisclosure of information must be affirmatively justified by clearly articulated criteria for confidentiality, based on factors such as reasonable claims to privacy, the confidentiality of supervisory information, and the need to ensure the effectiveness of policy.

Conclusion

Extraordinary times call for extraordinary measures. Responding to the very difficult economic and financial challenges we face, the Federal Reserve has gone beyond traditional monetary policy making to develop new policy tools to address the dysfunctions in the

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3 For links and references, see Ben S. Bernanke (2009), “Federal Reserve Programs to Strengthen Credit Markets and the Economy,” testimony before the Committee on Financial Services, U.S. House of Representatives, February 10.
nation's credit markets. We have done so in a responsible way: The credit risk associated with our nontraditional policies is exceptionally low, and, by carefully monitoring our balance sheet and developing tools to drain bank reserves as needed, we will ensure that policy accommodation can be reversed at the appropriate time to avoid risks of future inflation.

We provide a great deal of information about our lending programs and our balance sheet to the Congress and the public. But, as I have discussed today, we will do more on this front, both expanding the information we provide and improving how we communicate that information. Increased transparency is the best way to demonstrate that the Federal Reserve's nontraditional policies are well conceived, well managed, and produce substantial public benefit.