This is a momentous time. During the past two and a half years, our nation has endured the worst global financial crisis since the Great Depression, a crisis that in turn helped cause a deep recession both here and abroad. During some of the worst phases of the crisis, a new depression seemed a real possibility.

Fortunately, today the financial crisis looks to be mostly behind us, and the economy seems to have stabilized and is beginning to grow again. But we are far from being out of the woods. Many Americans are still grappling with unemployment or foreclosure, or both. Cities and states are struggling to maintain essential services. And, although much of the financial system is functioning more or less normally, bank lending remains very weak, threatening the ability of small businesses to finance expansion and new hiring.

In my comments today, I will briefly describe the origins of the financial crisis and economic downturn, with a particular focus on the policy response of my institution, the Federal Reserve. I will then turn to some near-term and longer-term challenges facing our country.

Origins of the crisis

The financial crisis that began in the summer of 2007 was an extraordinarily complex event with multiple causes. Its immediate trigger was a downturn in the national housing market that followed a long period of rapid construction and rising home prices. The housing slump in turn brought to light some very poor lending practices, especially for subprime mortgages extended to less-creditworthy borrowers. Relative to the global financial system, the market for subprime mortgages was quite small, probably less than 1 percent of global financial assets. How, then, did problems in this market appear to have such widespread consequences? One important reason is that the subprime mortgage market was closely linked to a broader framework for credit provision that came to be known as the shadow banking system. That broader framework, at least as it was structured during the run-up to the crisis, proved deeply flawed.

The innovation underlying the shadow banking system was that it helped provide a wide range of borrowers indirect access to global credit markets. For example, originators of subprime mortgages did not typically retain the loans they made on their own books. Instead, the mortgages were packaged together in complex ways, sometimes with other types of loans, stamped with a seal of approval from one or more credit rating agencies, and sold to investors worldwide, thus – it was thought – broadly dispersing the underlying risks. Credit risks were further dispersed – again, at least in theory – through the use of derivative financial instruments such as credit default swaps. Importantly, residential mortgage markets were not the only markets caught up in the boom. In part because large flows of capital into the United States drove down the returns available on many traditional long-term investments, such as Treasury bonds, investors’ appetite for alternative investments – such as loans to finance corporate mergers or commercial real estate projects – increased greatly in the years leading up to the crisis. These securities too were packaged and sold through the shadow banking system.

As we now know, however, neither the investors, nor the rating agencies, nor the regulators, nor even the firms that designed the securities fully appreciated the risks that those securities
entailed. Nor were the risks as widely dispersed as thought: For example, many complex securities were held in off-balance-sheet vehicles financed by short-term loans. When investors lost confidence in the underlying securities and pulled their funding, many firms that sponsored the off-balance sheet vehicles found that they were bound by explicit or implicit promises to stand behind the securities. Together with other direct or indirect exposures to risky debt, these commitments left financial institutions dangerously exposed to rising losses.

These risks grew rapidly in the period before the crisis, in part because the regulators – like most financial firms and investors – did not fully understand or appreciate them. But significant gaps in the regulatory framework itself also contributed to the inadequate government response. For example, firms like the insurance giant American International Group (AIG), which sold credit insurance on large quantities of risky securities, or the investment bank Lehman Brothers, which speculated heavily in these securities, were not subject by law to strong consolidated supervision by federal regulators. Moreover, none of the federal regulators had a mandate or sufficient powers to evaluate and respond to the risks posed by large financial organizations to the financial system as a whole.

Thus, the stage was set for the unraveling that began in the summer of 2007 and continued throughout 2008. As house prices and the equity of homeowners fell, mortgage delinquencies and defaults soared. As I mentioned, investors – stunned by the resulting losses on mortgage-backed securities and other credit instruments they had believed to be safe – pulled back from a wide range of credit markets and financial institutions. As funding dried up, losses mounted, and confidence plummeted, a number of major financial firms, both here and abroad, came under severe pressure. In March 2008, the investment house Bear Stearns became the first major firm to come to the brink of failure, nearly collapsing before being purchased, with government assistance, by JPMorgan Chase. In August, the two largest players in the housing market, the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac, were taken into conservatorship. In September, the sharply intensifying panic hit the investment bank Lehman Brothers, and soon after, AIG. Much as in a traditional run on a bank, the creditors and counterparties of these companies raced to call in loans or demand extra collateral, ratcheting up the pressure on already shaky firms. Concerted government attempts to find a buyer for Lehman proved unavailing; lacking sufficient collateral to secure a Federal Reserve loan, the company's only option was bankruptcy.

In contrast to Lehman, AIG had sufficient assets to secure credit from the Federal Reserve and thus avoid imminent failure. I have said before that nothing made me angrier during the crisis than the irresponsible decisions at AIG that put our entire financial system and economy at grave risk and left the government with no good options. However, with the financial system already teetering on the brink of collapse, the disorderly failure of AIG, the world’s largest insurance company, would have undoubtedly led to even greater financial chaos and a far deeper economic slump than the very severe one we have experienced.

The rapidly worsening crisis soon spread beyond financial institutions into the money and capital markets more generally. Losses on Lehman’s commercial paper at a prominent money market mutual fund led to a run on that fund and many others; over the subsequent weeks, fearful money-fund investors withdrew more than $400 billion. Equity prices fell precipitously, large firms and banks hoarded cash, and short-term credit became available, if at all, only at very high interest rates and for very short terms.

As we now know, the financial turmoil dealt an economic body blow that spread worldwide. Businesses slashed production and payrolls, including in countries that had not thus far experienced much effect. International trade collapsed, and many nations dependent on trade experienced even sharper slides in economic activity than the United States.
The Federal Reserve’s policy response

As the crisis became global, the policy response became global as well. After watershed meetings in Washington of finance ministers and central bank governors on October 10–11, 2008, many countries, including the United States, announced comprehensive plans to stabilize their banking systems. They expanded deposit insurance, injected public capital into banks, guaranteed bank-issued debt, and increased access to funding from central banks.¹ This strong and unprecedented response – a sharp contrast to the failures of international cooperation that helped make the depression of the 1930s so devastating – proved broadly effective. During the subsequent months the risk of a global financial meltdown and economic collapse receded.

In support of these efforts to stabilize the financial system, and in its traditional central bank role as backstop liquidity provider, the Federal Reserve developed innovative programs to provide well-collateralized, mostly short-term credit to the financial system. Without this credit, otherwise sound financial institutions could have been forced to dump assets onto the market, further depressing prices, or even been driven into failure, intensifying the crisis. We provided this liquidity through a number of channels. To help stabilize banks of all sizes, we eased the terms of lending to banks through our regular short-term lending facility, known as the discount window, and auctioned fixed quantities of discount window credit. We also expanded access to our short-term lending to many securities firms, whose normal funding sources had been disrupted by the crisis. And we worked closely with the Treasury to develop programs that successfully ended the run on the money market mutual funds.

The Federal Reserve also acted to help restore normal functioning in key financial markets. We established a backstop commercial paper facility to help address severe strains in the commercial paper market, on which many firms rely to finance their operations. To improve the availability of credit more broadly, we created a facility to support the issuance of securities backed by a range of assets including small business loans, auto loans, credit card receivables, student loans, and commercial real estate. Additionally, after heavy foreign demand for dollar funding began to disrupt money markets and squeeze credit availability in the United States, we established cooperative programs with 14 foreign central banks to allow them to provide sufficient dollar funding to help calm markets in their own jurisdictions. Importantly, these programs – most of which have been deemed no longer necessary and shut down – not only helped stabilize financial conditions and restart the flow of credit to American families and businesses, they did so at no financial cost to taxpayers and with no credit losses.

Beyond its actions to help stabilize the financial system, the Federal Reserve also responded to the deepening recession with an aggressive monetary policy, in both conventional and less conventional forms. We lowered interest rates sharply, including, in October 2008, an unprecedented coordinated rate cut with five other major central banks. For the past 15 months, we have maintained our target short-term interest rate near zero. In a less conventional operation, we also purchased more than $1.7 trillion of Treasury securities and securities issued or guaranteed by the housing-related GSEs. These purchases contributed to a marked improvement in credit markets. In particular, they significantly lowered mortgage interest rates, which made housing more affordable and allowed millions of Americans to reduce their payments by refinancing.

Finally, the Federal Reserve also responded to the crisis in its capacity as a bank supervisor. Last spring we led a forward-looking, simultaneous evaluation of the financial conditions and capital positions of 19 of the largest bank holding companies in the United States, with the

¹ In addition, a number of foreign governments – including the United Kingdom, Ireland, Germany, Belgium, France, the Netherlands, Luxembourg, and Iceland – took steps to prevent the disorderly failures of distressed financial firms.
Treasury committing to provide public capital as needed. The goal of the Supervisory Capital Assessment Program – popularly called the stress test – was to ensure that these firms held sufficient capital, in both quantity and quality, to withstand worse-than-expected economic conditions over the subsequent two years and yet remain healthy and capable of lending to creditworthy borrowers.\(^2\) This exercise was unprecedented in scale and scope, as well as in the range of information we made public regarding the projected losses and revenues of the tested firms, which allowed private analysts to judge for themselves the credibility of the exercise. Markets responded favorably to the release of the stress test results, and many of the tested banks were able to raise substantial amounts of capital from investors and to repay government capital.

Overall, the policy actions implemented over the past two and a half years by the Federal Reserve and other agencies in the United States and abroad have helped stabilize key global financial markets: Short-term funding markets are essentially back to normal, corporate bond issuance has been strong, and stock prices have partially recovered. Bank lending remains constrained, as I will discuss in a moment, but critically, fears of financial collapse have lessened substantially. Most important, the economy has stabilized and is growing again, although we can hardly be satisfied when 1 out of every 10 U.S. workers is unemployed and family finances remain under great stress.

**Toward better financial regulation and supervision**

As I noted earlier, we found some of the choices that we faced during the financial crisis exceedingly distasteful. The Federal Reserve has always recognized the importance of allowing markets to work, and government oversight of financial firms will never be fully effective without the aid of strong market discipline. The decisions we took, in collaboration with the Treasury, to assist distressed firms during the height of the crisis thus ran strongly against the grain of our institution. However, as I said, our options under extremely difficult circumstances were bad and worse, as our ability to respond effectively was sharply limited by the lack of tools available to act in a crisis. In particular, the U.S. government lacked any workable means to address the potential disorderly failure of a large, systemically important firm in a way that protected the economy and taxpayers from severe collateral damage.

With the crisis largely behind us, we as a country must now turn to fixing structural weaknesses in the financial system, in particular in the regulatory framework. We need tough new rules to make financial institutions safer and to constrain excessive risk-taking, and we need a regulatory framework that gives the Federal Reserve and other agencies the ability to address risks to the financial system as a whole. Critically, so that we will never again face the unpalatable choice between bailouts and a disorderly bankruptcy that threatens to bring down our financial system, we must bring an end to the belief that some financial institutions are too big to fail. To do that, we urgently need a new resolution regime for large, complex, and interconnected financial firms, similar to that already established for banks. To end too-big-to-fail, the new regime should permit regulators to close a failing firm and impose losses on shareholders and creditors; indeed, I would argue that no financial instrument counted as regulatory capital should be allowed to receive any protection from losses. At the same time, regulators must have the tools necessary to minimize the associated disruption to the financial system and the broader economy.\(^3\)

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\(^3\) Because most large financial firms are multinational, the development of an effective regime will require consultation and collaboration with authorities abroad.
The Federal Reserve strongly supports ongoing congressional efforts to reform our financial regulatory framework, but we are not waiting for new legislation to make improvements. We have been working hard to strengthen our own oversight of financial institutions and to broaden our field of vision to include potential risks to the financial system as a whole as well as risks to individual firms. For example, we have played a key part in ongoing international efforts to ensure that systemically critical financial institutions hold more and higher-quality capital and have sufficient liquid assets on hand to be able to survive a market crisis. And we are leading the international and domestic initiative to push banking organizations of all sizes to ensure their compensation practices link pay to performance and do not encourage excessive risk-taking.

To make our supervision more effective and better able to identify risks to the financial system as a whole, we are also making fundamental changes to our daily operations. For example, we have adopted a more multidisciplinary approach that makes better use of the wide range of expertise and skills at the Federal Reserve – in economics, financial markets, payments systems, and other specialties, as well as bank supervision. We will be doing more cross-firm comparisons to better understand differences in the practices of different firms and the risks they face, and we will be complementing on-site examinations with off-site, quantitative analyses by experts in a range of disciplines. As we improve our supervision, we will be sure not to lose sight of the diversity of our banking system. Banks of all sizes, including regional and community banks, make critical contributions to our economy; thus, we must continue our efforts to ensure the stability and vitality of smaller banks as well as larger ones.

As we’ve been working to make our supervision more effective, we have also been taking care to ensure we do not inadvertently impede sound lending. Businesses need access to credit to maintain or expand their payrolls and make productive investments. Banks need to continue to lend to creditworthy borrowers to earn a profit and remain strong. If bankers become overly conservative in response to past lending mistakes – or if examiners force such behavior – it will hurt bankers’ own long-term interests and the economy in general. For this reason, we have joined with the other federal banking agencies to issue a series of policy statements to examiners: on the importance of bank lending to creditworthy borrowers, on small business lending, and on commercial real estate loan restructuring.4 We have followed up this formal guidance with training for examiners and outreach to the banking industry. Our message is a simple one: Institutions should strive to meet the needs of creditworthy borrowers, and the supervisory agencies should do all they can to help, not hinder, those efforts. We also must support sensible efforts to work with troubled borrowers to bring them back into good standing. To help us better understand what is going on in the banks we supervise and in the communities they serve, we continue to seek many views. For example, our Reserve Banks across the country are holding meetings with community bankers and others to talk about opportunities for and barriers to small business lending.

Additionally, the Federal Reserve continues to demonstrate its commitment to consumer protection in financial services. We have recently overhauled the regulations governing mortgage transactions and implemented enhanced protections for credit card accounts and

private student loans. We also have made new rules for overdraft protection programs and for gift cards. In addition, we have expanded our compliance program for enforcing consumer protection rules at nonbank subsidiaries of bank holding companies and foreign banking organizations.

In these and other areas, we at the Federal Reserve will continue to improve how we regulate and supervise financial firms while continuing to do all in our power to identify and mitigate risks that may endanger the financial system as a whole.

Economic challenges

Notwithstanding the progress that I’ve noted, critical challenges – both near term and longer term – remain. We have yet to see evidence of a sustained recovery in the housing market. Mortgage delinquencies for both subprime and prime loans continue to rise as do foreclosures. The commercial real estate sector remains troubled, which is a concern for communities and for banks holding commercial real estate loans.

Some of the toughest problems are in the job market. The unemployment rate has edged off its recent peak, but at 9.7 percent, it is still close to its highest level since the early 1980s. Although layoffs have eased in recent months, hiring remains very weak. More than 40 percent of the unemployed have been out of work six months or longer, nearly double the share of a year ago. I am particularly concerned about that statistic, because long spells of unemployment erode skills and lower the longer-term income and employment prospects of these workers.

That said, my best guess is that economic growth, supported by the Federal Reserve’s stimulative monetary policy, will be sufficient to slowly reduce the unemployment rate over the coming year. If economic conditions improve, as I expect, we should see increased optimism among consumers and greater willingness on the part of banks to lend, which in turn should aid the recovery. Meanwhile, for the near term, inflation appears to be well controlled. Productivity improvements have helped firms control costs, and little pricing power is evident. Inflation expectations, as measured in the financial markets or in surveys, appear stable.

What about the longer term? The economist John Maynard Keynes said that in the long run, we are all dead.5 If he were around today he might say that, in the long run, we are all on Social Security and Medicare. That brings me to two interrelated economic challenges our nation faces: meeting the economic needs of an aging population and regaining fiscal sustainability. The U.S. population will change significantly in coming decades with the combined effect of the decline in fertility rates following the baby boom and increasing longevity. As our population ages, the ratio of working-age Americans to older Americans will fall, which could hold back the long-run prospects for living standards in our country. The aging of the population also will have a major impact on the federal budget, most dramatically on the Social Security and Medicare programs, particularly if the cost of health care continues to rise at its historical rate. Thus, we must begin now to prepare for this coming demographic transition.6


The economist Herb Stein once famously said, “If something cannot go on forever, it will stop.” That adage certainly applies to our nation's fiscal situation. Inevitably, addressing the fiscal challenges posed by an aging population will require a willingness to make difficult choices. The arithmetic is, unfortunately, quite clear. To avoid large and unsustainable budget deficits, the nation will ultimately have to choose among higher taxes, modifications to entitlement programs such as Social Security and Medicare, less spending on everything else from education to defense, or some combination of the above. These choices are difficult, and it always seems easier to put them off – until the day they cannot be put off any more. But unless we as a nation demonstrate a strong commitment to fiscal responsibility, in the longer run we will have neither financial stability nor healthy economic growth.

Today the economy continues to operate well below its potential, which implies that a sharp near-term reduction in our fiscal deficit is probably neither practical nor advisable. However, nothing prevents us from beginning now to develop a credible plan for meeting our long-run fiscal challenges. Indeed, a credible plan that demonstrated a commitment to achieving long-run fiscal sustainability could lead to lower interest rates and more rapid growth in the near term.

Our economic challenges, both near term and longer term, are daunting indeed. Nonetheless, I remain optimistic that they can be met. History has demonstrated time and again the inherent resilience and recuperative powers of the American economy. Our country’s competitive, market-based system, its flexible capital and labor markets, its tradition of entrepreneurship, and its knack for innovation have ensured that the nation’s economy has surmounted difficult challenges in the past. I do not doubt that we can do so once again.

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