S. HRG. 112–8

FEDERAL RESERVE'S FIRST MONETARY POLICY REPORT FOR 2011

HEARING

BEFORE THE

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE

ONE HUNDRED TWELFTH CONGRESS

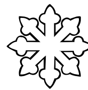
FIRST SESSION

ON

OVERSIGHT ON THE MONETARY POLICY REPORT TO CONGRESS PURSUANT TO THE FULL EMPLOYMENT AND BALANCED GROWTH ACT OF 1978

MARCH 1, 2011

Printed for the use of the Committee on Banking, Housing, and Urban Affairs



Available at: http://www.fdsys.gov/

U.S. GOVERNMENT PRINTING OFFICE

65–824 PDF WASHINGTON : 2011

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS

TIM JOHNSON, South Dakota, *Chairman*

JACK REED, Rhode Island
CHARLES E. SCHUMER, New York
ROBERT MENENDEZ, New Jersey
DANIEL K. AKAKA, Hawaii
SHERROD BROWN, Ohio
JON TESTER, Montana
HERB KOHL, Wisconsin
MARK R. WARNER, Virginia
JEFF MERKLEY, Oregon
MICHAEL F. BENNET, Colorado
KAY HAGAN, North Carolina

RICHARD C. SHELBY, Alabama
MIKE CRAPO, Idaho
BOB CORKER, Tennessee
JIM DEMINT, South Carolina
DAVID VITTER, Louisiana
MIKE JOHANNS, Nebraska
PATRICK J. TOOMEY, Pennsylvania
MARK KIRK, Illinois
JERRY MORAN, Kansas
ROGER F. WICKER, Mississippi

DWIGHT FETTIG, *Staff Director*
WILLIAM D. DUHNKE, *Republican Staff Director*

LYNSEY GRAHAM REA, *Chief Counsel*
LAURA SWANSON, *Professional Staff Member*

ANDREW J. OLMEM, JR., *Republican Senior Counsel*
MICHAEL PIWOWAR, *Republican Senior Economist*

DAWN RATLIFF, *Chief Clerk*
WILLIAM FIELDS, *Hearing Clerk*
SHELVIN SIMMONS, *IT Director*
JIM CROWELL, *Editor*

C O N T E N T S

TUESDAY, MARCH 1, 2011

Page

Opening statement of Chairman Johnson 1

Opening statements, comments, or prepared statements of:

Senator Shelby 2

WITNESS

Ben S. Bernanke, Chairman, Board of Governors of the Federal Reserve System 3

Prepared statement 43

Responses to written questions of:

Chairman Johnson 48

Senator Reed 50

Senator Akaka 53

Senator Merkley 56

Senator Vitter 60

Senator Wicker 69

Additional Material Supplied for the Record

Monetary Policy Report to the Congress dated March 1, 2011 75

FEDERAL RESERVE'S FIRST MONETARY POLICY REPORT FOR 2011

TUESDAY, MARCH 1, 2011

U.S. SENATE,
COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS,
Washington, DC.

The Committee met at 10:03 a.m., in room SH–216, Hart Senate Office Building, Hon. Tim Johnson, Chairman of the Committee, presiding.

OPENING STATEMENT OF CHAIRMAN TIM JOHNSON

Chairman JOHNSON. I would like to call this Committee to order.

I want to thank Chairman Bernanke for being here today to deliver the Semiannual Monetary Policy Report to the Congress. Chairman Bernanke, your reports to this Committee are a reminder of how far we have come in just a few short years, but it is also the challenges our Nation continues to face.

I am pleased that our economy continues to show positive signs of recovery. Two-point-eight percent growth in 2010 is a start. But I remain concerned about sustaining the recovery and being able to strike the right balance of positive growth, low inflation, increased employment, and long-term deficit reduction.

As Chairman of the Fed, you have strived to strike that balance, but not without some controversy. The Fed has taken unprecedented steps to minimize the negative impact of the financial crisis and get us back on track, including a second round of quantitative easing. While some critics have been very vocal, even going so far as to call for an end to the Fed's dual mandate, I believe that you should be commended for your work. As the economy continues to struggle to recover, we should be using every tool in the toolbox to create jobs and spur growth. Taking tools away from the Fed now is the wrong idea at the wrong time.

Clearly, there are many challenges ahead and the Fed has an important role to play. American consumption continues to be depressed, and without increased demand, businesses will be reluctant to expand, increase output, or hire new employees. It was encouraging to see the unemployment rate drop to 9.0 percent in December, but the duration of the average unemployment period has increased. While subprime mortgages made up the initial wave of the foreclosure crisis, we are now also seeing millions of families facing foreclosure because of unemployment. Even optimistic forecasters say it will take several years before the unemployment rate returns to precrisis levels, but it is going to require effective policies to jump-start hiring, production, and exports.

Congress has taken steps to spur growth, including measures to increase small business lending and to provide needed certainty and protection in the financial system. There is certainly more we as Congress can do and must do to ensure our economy is on solid ground, and only then can we turn our focus entirely to deficit reduction.

Chairman Bernanke, today, I am very interested in hearing your analysis of our current economic situation and what more Congress and the Fed can do to increase output, employment, and overall economic growth. I would also like to hear your thoughts on how we balance sustainable economic growth amid calls to cut Government spending and reduce the Nation's deficit. As a Nation, we face significant challenges and I appreciate your thoughts on these challenges today.

Ranking Member Shelby.

STATEMENT OF SENATOR RICHARD C. SHELBY

Senator SHELBY. Thank you. Thank you, Chairman Johnson. Chairman Bernanke, welcome again to the Committee.

Over the past year, the Fed's balance sheet has increased to $200 billion and now stands at over $2.5 trillion. In the upcoming months, the Federal Reserve's balance sheet is expected, Mr. Chairman, as I understand it, to balloon even further.

Last November, the Federal Open Market Committee, FOMC, announced its intent to purchase an additional $600 billion of Treasuries by the middle of this year. The second round of so-called quantitative easing, commonly referred to as QE2, means that the Fed will be purchasing the equivalent of all Treasury debt issued through June. Chairman Bernanke has said that the QE2 is necessary because of the high unemployment rate, low inflation rate, and near zero Federal funds rate.

QE2, however, has not been strongly embraced by all of the members of the Federal Open Market Committee. From the beginning, one Fed bank president has voted against QE2 because the purchase of additional securities could cause, he thinks, an increase in long-term inflationary expectations and thereby destabilize the economy. Three other members of the FOMC have publicly stated that an early end to QE2 may be required to help limit inflation pressures. And a fifth member has said that we are, quote, "pushing the envelope" with the QE2 purchases.

In addition, several prominent economists have publicly urged the Fed to discontinue QE2, stating that it risks sparking inflation and it is not helpful in addressing our fundamental economic problems.

These are serious questions, Mr. Chairman, of the QE2. After all, once price stability has been lost, as you well know, it is difficult and very costly to regain. I think we only need to remember the soaring interest rates and high unemployment that followed Chairman Volcker's efforts in the early 1980s to regain control over inflation.

In light of the risk that the Fed is taking with QE2, I believe it is appropriate that the Fed provide a more thorough explanation of what it hopes to accomplish with QE2. Is it an effort to reduce unemployment by tolerating a higher inflation rate? Is the purpose

to help the Administration out of its fiscal problems by monetizing Federal debt? Is the purpose to inflate our way out of our housing problems, or is it something else?

Additionally, the Fed has not yet clearly articulated the basis on which QE2 should be judged. For example, if inflation rises to 3 percent, is QE2 still deemed a success? If unemployment stays above 8 percent, is QE2 a success? If inflation falls to near zero, is QE2 a success?

These basic questions cannot be answered without clearer guidance from the Federal Reserve. Today, Mr. Chairman, I hope that you explain how the Fed will determine if QE2 is working and how the Fed believes QE2 should be evaluated. I hope to hear what indicators the Fed will use to determine if QE2 needs to be scaled back or expanded.

Make no mistake. We all know the Fed has had to respond to the worst economy in a generation. Unemployment stands at 9 percent. Home prices continue to decline. And the Federal deficit exceeds $1.3 trillion. Monetary policy is always a difficult task, but our fragile economy and perilous fiscal situation have presented new and difficult challenges for the Fed, Mr. Chairman, as you know.

However, I believe that the public, the American taxpayer, deserves to have clear measures by which it can easily evaluate Fed policy, especially extraordinary actions like QE2. Without clear metrics, the public cannot determine if QE2 was a success, nor can it hold the Fed accountable for failure or success.

Thank you, Mr. Chairman.

Chairman JOHNSON. Thank you, Senator Shelby.

I would like to briefly introduce our witness, the Honorable Ben S. Bernanke, Chairman of the Board of Governors of the Federal Reserve System, currently serving his second term, which began on February 1, 2010. Prior to becoming Chairman, Dr. Bernanke was Chairman of the President's Council of Economic Advisors from 2005 to 2006. In addition to serving the Federal Reserve System in a variety of roles, Dr. Bernanke was previously a Professor of Economics and Public Affairs at Princeton University.

I want to thank you again for being here today. Chairman Bernanke, you may begin your testimony.

STATEMENT OF BEN S. BERNANKE, CHAIRMAN, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Mr. BERNANKE. Thank you, Mr. Chairman. Chairman Johnson, Ranking Member Shelby, and other Members of the Committee, I am pleased to present the Federal Reserve's Semiannual Monetary Policy Report to the Congress. I will begin with a discussion of economic conditions and the outlook before turning to monetary policy.

Following the stabilization of economic activity in mid-2009, the U.S. economy is now in its seventh quarter of growth. Last quarter, for the first time in this expansion, our Nation's real GDP matched its precrisis peak. Nevertheless, job growth remains relatively weak and the unemployment rate is still high.

In its early stages, the economic recovery was largely attributable to the stabilization of the financial system, the effects of expansionary, monetary, and fiscal policies, and a strong boost to pro-

duction from businesses rebuilding their depleted inventories. Economic growth slowed significantly in the spring and early summer of 2010, as the impetus from inventory building and fiscal stimulus diminished and as Europe's debt problems roiled global financial markets.

More recently we have seen increased evidence that a self-sustaining recovery in consumer and business spending may be taking hold. Notably, real consumer spending has grown at a solid pace since last fall and business investment in new equipment and software has continued to expand. Stronger demand, both domestic and foreign, has supported steady gains in U.S. manufacturing output.

The combination of rising household and business confidence, accommodative monetary policy, and improving credit conditions seems likely to lead to a somewhat more rapid pace of economic recovery in 2011 than we saw last year. The most recent economic projections by the Federal Reserve Board members and Reserve Bank presidents, prepared in conjunction with the FOMC meeting in late January, are for real GDP to increase 3.5 to 4 percent in 2011, about one-half percentage point higher than our projections made in November. Private forecasters' projections for 2011 are broadly consistent with those of FOMC participants and have also moved up in recent months.

While indicators of spending and production have been encouraging on balance, the job market has improved only slowly. Following the loss of about eight-and-three-quarter million jobs from early 2008 through 2009, private sector employment expanded by only a little more than one million during 2010, a gain barely sufficient to accommodate the inflow of recent graduates and other entrants to the labor force.

We do see some grounds for optimism about the job market over the next few quarters, including notable declines in the unemployment rate in December and January, a drop in new claims for unemployment insurance, and an improvement in firms' hiring plans. Even so, if the rate of economic growth remains moderate, as projected, it could be several years before the unemployment rate has returned to a more normal level. Indeed, FOMC participants generally see the unemployment rate still in the range of 7.5 to 8 percent at the end of 2012. Until we see a sustained period of stronger job creation, we cannot consider the recovery to be truly established.

Likewise, the housing sector remains exceptionally weak. The overhang of vacant and foreclosed houses is still weighing heavily on prices of new and existing homes, and sales and construction of new single-family homes remain depressed. Although mortgage rates are low and house prices have reached more affordable levels, many potential home buyers are still finding mortgages difficult to obtain and remain concerned about possible further declines in home values.

Inflation has declined since the onset of the financial crisis, reflecting high levels of resource slack and stable longer-term inflation expectations. Indeed, over the 12 months ending in January, prices for all of the goods and services consumed by households, as measured by the Price Index or personal consumption expendi-

tures, increased by only 1.2 percent, down from 2.5 percent in the year earlier period.

Wage growth has slowed, as well, with average hourly earnings increasingly only 1.9 percent over the year ending in January. In combination with productivity increases, slow wage growth has implied very tight restraint on labor cost per unit of output.

FOMC participants see inflation remaining low. Most project that overall inflation will be about 1.25 to 1.75 percent this year, and in the range of one to 2 percent next year and in 2013. Private sector forecasters generally also anticipate subdued inflation over the next few years. Measures of medium- and long-term inflation compensation derived from inflation indexed Treasury bonds appear broadly consistent with these forecasts. Surveys of households suggest that the public's longer-term inflation expectations also remain stable.

Although overall inflation is low, we have seen significant increases in some highly visible prices, including those of gasoline and other commodities. Notably, in the past few weeks, concerns about unrest in the Middle East and North Africa and the possible effects on global oil supplies have led oil and gasoline prices to rise further. More broadly, the increases in commodity prices in recent months have largely reflected rising global demand for raw materials, particularly in some fast-growing emerging market economies, coupled with constraints on global supply in some cases. Commodity prices have risen significantly in terms of all major currencies, suggesting that changes in the foreign exchange value of the dollar are unlikely to have been an important driver of the increases seen in recent months.

The rate of pass through from commodity price increases to broad indexes of U.S. consumer prices has been quite low in recent decades, partly reflecting the relatively small weight of material inputs and total production costs, as well as the stability of longer-term inflation expectations. Currently, the cost pressures from higher commodity prices are also being offset by the stability in unit labor costs. Thus, the most likely outcome is that the recent rise in commodity prices will lead to a temporary and relatively modest increase in U.S. consumer price inflation, an outlook consistent with the projections of both FOMC participants and most private forecasters.

That said, sustained rises in the prices of oil or other commodities would represent a threat both to economic growth and to overall price stability, particularly if they were to cause inflation expectations to become less well anchored. We will continue to monitor these developments closely and are prepared to respond as necessary to best support the ongoing recovery in a context of price stability.

As I noted earlier, the pace of recovery slowed last spring to a rate that, if sustained, would have been insufficient to make meaningful progress against unemployment. With job creation stalling, concerns about the sustainability of the recovery increased. At the same time, inflation, already at low levels, continued to drift downward, and market-based measures of inflation compensation moved lower as investors appeared to become more concerned about the possibility of deflation, or falling prices.

Under such conditions, the Federal Reserve would normally ease monetary policy by reducing the target for its short-term policy interest rate, the Federal Funds Rate. However, the target range for the Federal Funds Rate has been near zero since December 2008 and the Federal Reserve has indicated that economic conditions are likely to warrant an exceptionally low target for an extended period.

Consequently, another means of providing monetary accommodation has been necessary since that time. In particular, over the past 2 years, the Federal Reserve has eased monetary conditions by purchasing longer-term Treasury securities, agency debt, and agency mortgage-backed securities on the open market. The largest program of purchases, which lasted from December 2008 through March 2010, appears to have contributed to an improvement in financial conditions and a strengthening of the recovery. Notably, the substantial expansion of the program announced in March 2009 was followed by financial and economic stabilization and a significant pick-up in growth in economic activity in the second half of that year.

In August 2010, in response to the already mentioned concerns about the sustainability of the recovery and the continuing declines in inflation to very low levels, the FOMC authorized a policy of reinvesting principal payments on our holdings of agency debt and agency MBS into longer-term Treasury securities. By reinvesting agency securities rather than allowing them to continue to run off, as our previous policy had dictated, the FOMC ensured that a high level of monetary policy accommodation would be maintained.

Over subsequent weeks, Federal Reserve officials noted in public remarks that we were considering providing additional monetary accommodation through further asset purchases. In November, the Committee announced that it intended to purchase an additional $600 billion in longer-term Treasury securities by the middle of this year. Large-scale purchases of longer-term securities are a less familiar means of providing monetary policy stimulus than reducing the Federal Funds Rate, but the two approaches affect the economy in similar ways.

Conventional monetary policy easing works by lowering market expectations for the future path of short-term interest rates, which in turn reduces the current level of longer-term interest rates and contributes to both lower borrowing costs and higher asset prices. This easing in financial conditions bolsters household and business spending and thus increases economic activity.

By comparison, the Federal Reserve's purchases of longer-term securities by lowering term premiums put downward pressure directly on longer-term interest rates. By easing conditions in credit and financial markets, these actions encourage spending by households and businesses through essentially the same channels as conventional monetary policy.

A wide range of market indicators supports the view that the Federal Reserve's recent actions have been effective. For example, since August, when we announced our policy of reinvesting principal payments and indicated that we were considering more securities purchases, equity prices have risen significantly, volatility in the equity market has fallen, corporate bond spreads have nar-

rowed, and inflation compensation as measured in the market for inflation indexed securities, has risen to historically more normal levels. Yields on 5- to 10-year nominal Treasury securities initially declined markedly as markets priced with respect to Fed purchases. These yields subsequently rose, however, as investors became more optimistic about economic growth and as traders scaled back their expectations of future securities purchases.

All of these developments are what one would expect to see when monetary policy becomes more accommodative, whether through conventional or less conventional means. Interestingly, these market responses are almost identical to those that occurred during the earlier episode of policy easing, notably in the months following our March 2009 announcement.

In addition, as I already noted, most forecasters see the economic outlook as having improved since our actions in August. Downside risks to the recovery have receded and the risk of deflation has become negligible. Of course, it is too early to make any firm judgment of how much of the recent improvement in the outlook can be attributed to monetary policy, but these developments are consistent with it having had a beneficial effect.

My colleagues and I continue to regularly review the asset purchase program in light of incoming information and we will adjust it, as needed, to promote the achievement of our mandate from the Congress of maximum employment and stable prices. We also continue to plan for the eventual exit from unusually accommodative monetary policies and the normalization of the Federal Reserve's balance sheet. We have all the tools we need to achieve a smooth and effective exit at the appropriate time.

Currently, because the Federal Reserve's asset purchases are settled through the banking system, depository institutions hold a very high level of reserve balances with the Federal Reserve. But even if bank reserves remain high, our ability to pay interest on reserve balances will allow us to put upward pressure on short-term market interest rates and thus to tighten monetary policy when required.

Moreover, we have developed and tested additional tools that will allow us to drain or immobilize bank reserves to the extent needed to tighten the relationship between the interest paid on reserves and other short-term interest rates. If necessary, the Federal Reserve can also drain reserves by seizing the reinvestment of principal payments on the securities it holds by selling some of these securities on the open market. The FOMC remains unwaveringly committed to price stability, and in particular to achieving a rate of inflation in the medium term that is consistent with the Federal Reserve's mandate.

The Congress established the Federal Reserve and set its monetary policy objectives and provided it with operational independence to pursue those objectives. The Federal Reserve's operational independence is critical, as it allows the FOMC to make monetary policy decisions based solely on the longer-term needs of the economy and not in response to short-term political pressures. Considerable evidence supports the view that countries with independent central banks enjoy better economic performance over time.

However, in our democratic society, the Federal Reserve's independence brings with it an obligation to be accountable and transparent. The Congress and the public must have all the information needed to understand our decisions, to be assured of the integrity of our operations, and to be confident that our actions are consistent with the mandate given to us by the Congress.

On matters related to the conduct of monetary policy, the Federal Reserve is one of the most transparent central banks in the world, making available extensive records and materials to explain its policy decisions. For example, beyond this Semiannual Monetary Policy Report that I am presenting today, the FOMC provides a postmeeting statement, a detailed set of minutes 3 weeks after each policy meeting, quarterly economic projections together with an accompanying narrative, and with a 5-year lag, a transcript of each meeting and its supporting materials. In addition, FOMC participants often discuss the economy and monetary policy in public forums, and Board members testify frequently before the Congress.

In recent years, the Federal Reserve has also substantially increased the information it provides about its operations and its balance sheet. In particular, for some time, the Federal Reserve has been voluntarily providing extensive financial and operational information regarding the special credit and liquidity facilities put in place during the financial crisis, including full descriptions of the terms and conditions of each facility, monthly reports on, among other things, the types of collateral posted and the mix of participants using each facility, weekly updates about borrowings and repayments at each facility, and many other details.

Further, on December 1, as provided by the Dodd-Frank Act, the Federal Reserve Board posted on its public Web site the details of more than 21,000 individual credit and other transactions conducted to stabilize markets and support the economic recovery during the crisis. This transaction-level information demonstrated the breadth of these operations and the care that was taken to protect the interest of the taxpayer. Indeed, despite the scope of these actions, the Federal Reserve has incurred no credit losses to date on any of the programs and expects no credit losses in any of the few programs that still have loans outstanding.

Moreover, we are fully confident that independent assessments of these programs will show that they were highly effective in helping to stabilize financial markets, thus strengthening the economy. Indeed, the operational effectiveness of the programs was recently supported as part of a comprehensive review of six lending facilities by the Board's independent Office of Inspector General.

In addition, we have been working closely with the GAO, the Office of the SIGTARP, the Congressional Oversight Panel, the Congress, and private sector auditors on reviews of these facilities as well as a range of matters relating to the Federal Reserve's operations and governance. We will continue to seek ways of enhancing our transparency without compromising our ability to conduct policy in the public interest.

Thank you for your attention. I would be very pleased to take your questions.

Chairman JOHNSON. Thank you, Mr. Chairman.

I will remind my colleagues that we will keep the record open for 7 days for statements, questions, and any other material you would like to submit, and I will ask the Clerk to put 5 minutes on the clock for each Member's questions. I will not cut you off midsentence, but I would appreciate it if you would begin winding down with the clock.

Mr. Chairman, have the bipartisan tax cuts enacted last December been a boost to economic growth, and to what extent does it complement the Fed's QE2 program short term?

Mr. BERNANKE. Yes, Mr. Chairman. Everything else equal, the additional tax cuts, including the payroll tax cut and the business expensing provisions, should add to aggregate demand and contribute somewhat to growth in 2011 and 2012. And so in that respect, it is complementary to the Fed's monetary policy actions.

I should say that in our projections and forecasts, we try to make an assessment of what we think is most likely in terms of fiscal policy and we had anticipated, as of November, that many of these provisions, including the UI and most of the tax cuts, would be extended, and so we had taken that into account in our analysis. That being said, there was some additional stimulus coming from the payroll tax cut, which we had not anticipated when we were looking in our forecast in November.

Chairman JOHNSON. What do you see as the impact of rising gasoline prices?

Mr. BERNANKE. Well, this is something we have to pay very close attention to because it affects both sides of our mandate. On the one side, it obviously directly affects the inflation rate, and to the extent that it raises inflation expectations or reduces confidence in the public in the maintenance of low inflation, it can be an inflation risk.

At the same time, higher gas prices take income out of the pockets of consumers and reduces their spending and their confidence, and so it can also be a problem for recovery, and so we have to look at it from both perspectives.

My sense is that the increases that we have seen so far, while obviously a problem for a lot of people, do not yet pose a significant risk either to the recovery or to the maintenance of overall stable inflation. However, we will just have to continue to watch, and if we see any significant additional increases, we will obviously have to take that very seriously.

Chairman JOHNSON. What is your perspective on how we can promote long-term growth in light of the need to reduce the size of the deficit? Are there particular policies or Government investments that will promote U.S. economic growth and our international competitiveness over the long term even as we work to reduce spending overall?

Mr. BERNANKE. Mr. Chairman, I spoke about this a bit in testimony before the Senate Budget Committee. The fiscal situation is very challenging, so on the one hand, it is clearly important and indeed a positive thing for growth to achieve long-term fiscal sustainability. That will help keep interest rates down. That will increase confidence. That will mean that future taxes will be lower than they otherwise would be, and that will be beneficial for growth.

At the same time, to the extent possible, I hope that Congress will not just look at the inflow and outgo but will also think about the composition of spending and the structure of the tax code. On the tax side, I think there is a good bit that could be done to make the tax code more efficient and also more fair and less difficult to comply with. On the spending side, I think attention should be paid to important areas like research and development, education, infrastructure, and other things that help the economy grow and provide a framework that allows the private sector to bring the economy forward.

So it is a double challenge. On the one hand, the need to control longer-term spending, on the other hand, not to lose sight of the importance of making sure that the money that is spent is spent effectively and with attention to long-term growth.

Chairman JOHNSON. Senator Shelby.

Senator SHELBY. Thank you. Thank you, Mr. Chairman.

Chairman Bernanke, how did the Federal Reserve initially determine that $600 billion was the appropriate amount for QE2 and that 8 months was the appropriate timeframe?

Mr. BERNANKE. Well, first, Senator, I want to emphasize that in last August or so when we were looking at this possibility, we were quite concerned about where the economy was. Inflation was declining and deflation risk was rising. Growth had slowed to a point where we were unsure that unemployment would even continue to decline. It might even begin to rise. And so there was a lot of talk about double-dip and that kind of thing. So we felt that we needed to take some action.

In terms of the $600 billion, we have tried through a number of methods to establish a correspondence between these purchases and what our normal interest rate policies would be, and a rule of thumb is that $150 to $200 billion in purchases seems to be roughly equivalent to a 25 basis point cut in the Federal Funds Rate in terms of the stimulative power for the economy. So $600 billion is roughly a 75 basis point cut in the policy rate in terms of its broad impact.

Seventy-five basis points in normal times would be considered a very strong statement, but not one outside of the range of historical experience. It would be one that would be taken at a period of concern and then we would observe the effect. So that was roughly the analysis that we did.

Senator SHELBY. In your testimony, you state, and I will quote you today, "The Federal Reserve's independence brings with it the obligation to be accountable and transparent." As I mentioned in my opening statement here, I believe that there needs to be a clear basis for judging if QE2 is a success or a failure. What specific metrics should the public use to evaluate your performance in achieving the goals of QE2? In other words, on what basis should we judge the success or failure of QE2?

Mr. BERNANKE. That is an excellent question, Senator, and a very fair question. First, there is the question of whether or not it actually works, whether it has effects——

Senator SHELBY. That is right.

Mr. BERNANKE. ——and some have claimed that it does not. As I talked about in my testimony, as we look at financial markets,

which is the way all monetary policy is transmitted to the real side of the economy, the movement of the wide variety of financial prices and returns are quite consistent with what you would expect to see with that 75 basis point cut in interest rates, and I mentioned the stock market spreads, inflation expectations, interest rates, and the like.

So our assessment of the effects of the policy are that it is providing stimulus through the usual mechanisms that monetary policy works and we can use our econometric tools to judge how important and how powerful that stimulus is.

Now, for the public, what they want to see is results, and I would argue that we have basically two objectives corresponding to the two sides of our mandate. The first is to stabilize inflation at a long-run normal rate, which is about 2 percent, which is consistent with international standards of where inflation should be to appropriately trade off the benefits of low inflation against the risks of being too close to a deflationary zone, and we are moving in that directly, and clearly, deflation risk has greatly declined.

On the other side, I think it is a little harder to be quantitatively specific, but I think the key here is that instead of unemployment stagnating or going up, that we see a sustainable recovery moving forward, and I think we are beginning to see that and over the next few months we will be able to make a judgment as to whether this economy now has enough momentum to move ahead on its own and, therefore, the additional support from policy can begin to be withdrawn.

Senator SHELBY. Over the past year, the total amount of public debt outstanding increased by about $1.7 trillion under the financial spending policy of the Administration. Over that same time period, the Fed increased its holdings of U.S. Treasury securities by $337 billion. In other words, the Fed alone was responsible for financing almost 20 percent of the massive increase in Government spending. How has the lack, Mr. Chairman, of fiscal discipline complicated the Fed's conduct of monetary policy, and when the Fed ends its large-scale purchases of Treasury debt, what impact will it have on the ability of the Treasury to finance our public debt?

Mr. BERNANKE. Well, the intent of the program first was to hold down interest rates or term premium relative to where they otherwise would be——

Senator SHELBY. Has that worked?

Mr. BERNANKE. That seems to be working, yes.

Senator SHELBY. A lot of people dispute that, but go ahead.

Mr. BERNANKE. Well, as I noted in my testimony, interest rates have gone up. The same thing happened in 2009 after our previous policy because interest rates depend on future expectations of growth as well as on policy actions.

But that being said, we certainly want to be sure to remove that stimulus at the appropriate time, so I am at least as concerned as you, Senator, about inflation. We want to be sure we do not have an inflationary effect. So we must remove that at an appropriate time.

We learned in the first quarter of last year when we ended our previous program that the markets had anticipated that adequately and we did not see any major impact on interest rates, and

so I do not expect, when the time comes for us to end the program, that we will see a big impact. I think it is really the total amount of holdings rather than the flow of new purchases that affects the level of interest rates.

Now, all that being said, you asked whether the fiscal policy was a problem. I think the long-term unsustainability of our debt is a significant problem because it threatens higher interest rates, less confidence, and it could have impact on the current recovery. And so I had been urging Congress to address these problems, not just in the current fiscal year, but looking over a longer timeframe, because it is over the next 10 or 20 years that these problems are going to be extraordinarily pressing.

Senator SHELBY. Is that our number one problem, as you see it, is our unsustained—I mean, our continued spending and our accumulation of the debt?

Mr. BERNANKE. It is—yes, I would say it is——

Senator SHELBY. The number one economic problem facing this country?

Mr. BERNANKE. Over the longer term, and it is certainly something that must be addressed to get us back on a sustainable path. Now, that cannot all be done next week, but we need to look over the next 5, 10, 15 years about how we are going to get back on a sustainable path.

Senator SHELBY. Thank you. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Reed.

Senator REED. Thank you very much, Mr. Chairman.

Chairman Bernanke, I assume you are familiar with two recent reports by Moody's Analytics and Goldman Sachs which talked about the proposed House Republican budget. Their conclusion is that, if passed without modification, there could be as much as a 2-percent decrease in the growth next year going forward and as many as 700,000 jobs lost because of the contraction of spending at the Federal level. Do you agree with that analysis?

Mr. BERNANKE. If that is referring to a $60 billion cut, obviously, that would be contractionary, to some extent. But our analysis does not give a number that high——

Senator REED. Well, the proposed cut——

Mr. BERNANKE. ——gives us a smaller number.

Senator REED. ——this year is $100 billion in the House.

Is that what you used for your projection report?

Mr. BERNANKE. We are assuming 60 this year and 40 next year, which would be the $100 billion over the fiscal year. We also assume a normal spend-out. The impact is not immediate, but it is spent out over time. The reduction is effective over time. And we get a smaller impact than that. I am not quite sure where that number——

Senator REED. What is your impact?

Mr. BERNANKE. Several tenths on GDP.

Senator REED. And jobs?

Mr. BERNANKE. I do not have that number, but it would be certainly much less than 700,000.

Senator REED. And that is—I just want to understand what the—the assumed cut would be in this year, because some of the

things we have heard in the House proposal, it is a $100 billion cut for this year——

Mr. BERNANKE. This year.

Senator REED. ——which would be $40 billion larger than you would—that you are using as a parameter?

Mr. BERNANKE. Well, then I would multiply it by one time, two-thirds greater. I am happy to send you our analysis, Senator, but I, 2 percent is an enormous effect. Two percent of the GDP is $300 billion right there, so assuming a multiplier of one, $60 to $100 billion is not sufficient to get to that level. But it would have the effect of reducing growth on the margin, certainly.

Senator REED. It would have the effect of reducing growth, which would—again, the question is how much, which would be contradicting or at least a countervailing force to your stimulus effect of QE2, is that——

Mr. BERNANKE. To some extent, that is right, and that is why I have been trying to emphasize, and I know that this Congress will be looking at this, the need to think about the budget issue not as a current year issue, because whatever can be done, $60 billion is not going to have much impact on the long-run imbalances in our economy in fiscal policy. I think it is much more effective both in terms of its short-term effects on the economy, but also in terms of longer-term sustainability and confidence to address the budget deficits over at least a 5- to 10-year window, not simply within——

Senator REED. Well, I agree with you——

Mr. BERNANKE. ——the next quarters.

Senator REED. ——but the issue that confronts us is this year's budget and next year's budget. That is an issue du jour, literally.

Mr. BERNANKE. Right.

Senator REED. Again, my presumption is the last quarter of GDP was originally estimated about 3.2 percent, downgraded to about 2.8 percent. Is that your rough understanding, Chairman?

Mr. BERNANKE. That is what the Bureau of Economic Analysis said, yes.

Senator REED. And their conclusion was a lot of that was a result of contraction and spending at the State and local governments.

Mr. BERNANKE. That is correct.

Senator REED. So I am just wondering here, if we contract spending at the Federal level, which has a ripple effect at the local level very quickly, because many of the programs that we support are really run by and delegated to and staffed by State and local employees, you do not anticipate a fall-off, a significant fall-off in growth?

Mr. BERNANKE. It would have a negative impact, but again, I would like to see their analysis. It just seems like a somewhat big number relative to the size of the cut.

Senator REED. And you are, again, just for the record, you are assuming in this year's budget a reduction of $60 billion from the President's proposal?

Mr. BERNANKE. Yes, that is right.

Senator REED. That is right?

Mr. BERNANKE. Yes.

Senator REED. And we have heard from the Republican side, the House side, $100 billion. So there is a $40 billion which you have not factored into your estimates.

Mr. BERNANKE. Is it $100 billion in calendar year 2011?

Senator REED. It is the fiscal year 2011, I believe.

Mr. BERNANKE. Well, that goes into next calendar year, so——

Senator REED. June 30.

Mr. BERNANKE. So talking about——

Senator REED. Excuse me——

Mr. BERNANKE. Talking about calendar year 2011——

Senator REED. No, we are talking fiscal year 2011.

Mr. BERNANKE. Well, in terms of growth numbers, it would be an effect this year of a tenth or two, and then it would be an additional effect in 2012, assuming that those cuts continued and also that the effects of them spread out over time beyond the fiscal year itself.

Senator REED. Thank you.

Chairman JOHNSON. Senator Crapo.

Senator CRAPO. Thank you, Mr. Chairman, and Mr. Chairman, thank you for being with us.

I would like to follow up on that line of questioning for just a minute because we get into these constant debates here whenever we try to reduce spending at the Federal level, about whether that is going to cost jobs or whether it is going to cause a decrease in the economy. But do you not believe that at some point, Congress has to start paring back the spending?

Mr. BERNANKE. Certainly, and I have said so many times. But again, we do not have a single-year problem. We have a long-term problem and it needs to be addressed on a long-term basis.

Senator CRAPO. Several economists talked to the President's Fiscal Commission about this fact, and they were talking about the long-term commitment that is needed. They indicated that one of the best things we could do for our economy was to, as a Congress, adopt a long-term plan that made sense and that would show the world economies that we were committed to dealing with our fiscal problems. Would you agree with that?

Mr. BERNANKE. Yes, Senator. I was the first witness for the Fiscal Commission and I made basically that point. And to the extent that we can address the longer-term trajectory, which currently is not sustainable, we could ensure lower interest rates, greater confidence, and it would, at a minimum, be helpful to the current recovery, but more importantly, it would protect us from fiscal or financial crisis down the road.

Senator CRAPO. And I would just add as a comment—you do not need to comment on this unless you would like to—I would just add that Congress budgets on a 1-year at a time basis, and so, frankly, we have to look at the year we are dealing with as we move forward. And so although I agree that we have to look long term, we do not adopt long-term budgets here, at least historically, and some of us are going to try to get us to do that. Thank you very much for your involvement in that process.

In the context of the transparency issues that you have discussed with us, I would like to focus for a minute on the GSE reform, Fannie Mae and Freddie Mac, in particular, because I am one who

believes that it is imperative that Congress grapple with the need to deal with Fannie Mae and Freddie Mac and to determine how we will proceed. And I have my opinions on how we should proceed in that context, but at least a start, I think it is important that we begin what I consider to be honest accounting with regard to the Federal obligations represented by Fannie Mae and Freddie Mac.

In a January 2010 CBO report, it was concluded that Fannie Mae and Freddie Mac have effectively become Government entities in the way that they are now managed and their operations should be included in the Federal budget. Do you agree with that CBO report in that context, in the—in other words, whether the debt obligations of Fannie Mae and Freddie Mac should be included in our Federal budget?

Mr. BERNANKE. Well, I am not an accountant. I defer to those with better knowledge on that point. But I would just say that if you do that you would add to the Federal debt, but you would also have to offset that, to some extent, with the assets that Fannie and Freddie hold. So whether you consolidate or whether you simply take as a charge the obligations that the Government has to support Fannie and Freddie, you would still have the same net effect on the Government's fiscal position overall.

Senator CRAPO. Yes. At a minimum, it seems to me that we ought to acknowledge the taxpayer is on the hook for the debt and we ought to let the American public know what that is, and I fully agree that if we also need to show the assets, so be it. But right now, the American public is on the hook for the debt, We are not necessarily going to be able to obtain access to the assets. It is going to be very interesting to see how Congress moves forward to deal with this.

Another question, just shifting subjects for a minute, is do you believe that an explicit inflation target would help to promote the credibility of the Federal Reserve by being explicit about its objectives and help it to anchor inflation expectations?

Mr. BERNANKE. Well, I have supported this idea for many, many years, and the subtlety is helping everyone understand that by giving a number which would help clarify what the Fed is trying to achieve and would help, we hope, anchor expectations more firmly, that we would not be abandoning in any sense the other part of the Congressional mandate to maximum employment. We have moved partway in that direction in that we provide information in our projections about what the Committee individually thinks is the best long-run inflation outcome, and that currently is somewhere between 1.5 and 2 percent on the PCE price index, but we have not gone all the way to a formal inflation target. Again, the communication issue here is to make people understand that this is a way of improving communication in general without necessarily abandoning the other side of our mandate.

Senator CRAPO. Thank you. I see my time has expired.

Chairman JOHNSON. Senator Menendez.

Senator MENENDEZ. Thank you, Mr. Chairman. Thank you, Chairman Bernanke, for your service.

You know, my main goal every day is how do we grow this economy and how do we get people back to work, certainly from my home State of New Jersey and, for that fact, every American. It

was my hope that the quantitative easing that the Fed was in the midst of would produce more jobs, more exports, more investments, and ultimately a smaller budget deficit by obviously generating profits that would go into the Treasury's coffers. But as we expand this balance sheet and buy Treasuries and buy from entities like Goldman Sachs and expect that these ultimately get deposited in banks or that those banks would ultimately lend, I have to be honest with you, I am not quite sure—and this is where I am headed in terms of my question, I'd like to get a grasp from you—I do not see that lending still taking place, and I hear it all over my State.

I see food prices rising. I see gas prices rising, even before what was happening in North Africa, although that certainly is an exacerbating reality. Tuition rates rising. And so while we are worried about deflation, I just see a combination of rising prices for the average family, of the lack of investment that I hoped would take place here, and so would you give me your view of how the first and second rounds of quantitative easing are working?

Mr. BERNANKE. I think they are working well. The first round in March 2009 was almost the same day as the trough of the stock market, and since then, the market has virtually doubled. The economy was going from total collapse at the end of the first quarter of 2009 to pretty strong growth in the second half of 2009, and as I said, it is now in the seventh quarter of expansion. So I think that was clearly a positive.

The current QE, as it is called, appears to have had the desired effects on markets in terms of creating stimulus for the economy, and I cited not just Federal Reserve forecasts, but private sector forecasts which have almost uniformly been upgraded since August, since November, suggesting that private sector forecasters are seeing more growth and more employment this year than they had previously expected. And so I think it is having benefits for growth and employment.

On the inflation side, as I have said before, I think the bulk of the commodity price movements are not resulting from Federal Reserve policy but are resulting from global supply and demand factors. For example, in the case of food, there have been major crop failures and weather issues and things around the world which have affected supply. And on the demand side, you have emerging market economies which are growing very quickly and creating extra demand for raw materials, and that is what is happening there.

Even with that increase in commodity prices, overall inflation, as I mentioned, still remains quite low in the United States and we are determined to make sure that higher gas prices and food prices do not become imbedded in the overall inflation——

Senator MENENDEZ. I appreciate the market going up. We are thrilled to see that. But to be honest with you, if you talk to an average family in New Jersey and you say, what is your food bill, what is your gas price, what is your tuition rising, they are not going to tell you there is deflation. And so in a real context, I am wondering how this macroeconomic policy is going to get to the average person in a way that changes their lives in a more positive way. Certainly, the market is a nice indicator in one sense, but it is not for everybody in their lives.

And that brings me to the question, how will you decide how to tighten monetary policy? How do you know when you have reached the point where that is wise, and what type of considerations are you going to take into account?

Mr. BERNANKE. Well, monetary policy works with a lag, and therefore, we cannot wait until we get to full employment and the target inflation rate before we start to tighten. We have to think in advance, which means we have to use our models and our other forms of analysis and market indicators and so on to try to project where the economy is heading over the next 6 to 12 months. Once we see the economy is in a self-sustaining recovery and employment is beginning to improve and labor markets are improving, and meanwhile that inflation is stable at approaching roughly 2 percent or so, which, I think, is where you want to be in the long term in inflation, at that point, we will need to begin withdrawing.

I just want to emphasize, it is not at all different from the problem that central banks always face, which is when to take away the punch bowl, and the only way you can do that is by making projections of the economy and moving sufficiently in advance that you do not stay too easy too long. And we are quite aware of this issue and quite committed to price stability and we will continue to analyze our models and our forecasts and move well in advance of the time that the economy is completely back to full employment.

Senator MENENDEZ. Well, thank you, Mr. Chairman. My time is up, and I look forward, maybe off of the hearing, to pursue some of this with you.

Mr. BERNANKE. Certainly.

Chairman JOHNSON. Senator Corker.

Senator CORKER. Thank you, Mr. Chairman, and Mr. Chairman, thank you for your testimony and your service.

I appreciate your comments regarding the Goldman report. I know a lot of people may not have seen it, but 47 economists came out quickly thereafter to basically say the Goldman report regarding cutting spending was way off base and the thing we can do to get our country moving ahead is to begin having some fiscal discipline. I agree with you, we need a long-term plan. It cannot all happen in 1 year. But we have to begin at some point, and we are working together, I hope, to put Congress in a straightjacket so that over the course of the next 10 years, we will have the discipline we need.

You talked a little bit with Senator Crapo about inflation and an explicit target and you now have a dual mandate, unlike the European Central Banks, unlike the Bank of England. What policy rubs does that create internally or perception issues, having the dual mandate that you now have?

Mr. BERNANKE. Well, it means that we have to look at both sides of the mandate in making our policy decisions. Sometimes that causes a conflict in a stagflationary situation where unemployment is too high but inflation is also too high. Currently, there is not really that much of a conflict because inflation and employment have been quite low, and so accommodative policy has been appropriate in any case.

Senator CORKER. I guess at rare times, you have high inflation and high unemployment, and I think that is what people are concerned about possibly happening now. That would create a conflict with that dual mandate, is that correct?

Mr. BERNANKE. It would pose a very difficult situation. I think we have learned that there is no way to have sustained economic growth with high and variable inflation. So keeping inflation low and stable is, whatever your mandate, is absolutely essential and we are committed to doing that.

Senator CORKER. Would it give the Fed greater credibility if you had the single mandate, since, in essence—I know we have had a lot of conversations—price stability, I think by most people, is the thing that helps create maximum employment more than anything else. Would it help if we clarified that for you?

Mr. BERNANKE. Well, we have been functioning under the dual mandate. We think it is appropriate and we are not right now seeking any change. Congress can certainly discuss that issue and we will do whatever Congress tells us to do.

Senator CORKER. But it does create a policy rub from time to time, or can, to have a bipolar mandate.

Mr. BERNANKE. It can, but on the other hand, there may be circumstances when a monetary policy can be constructive on the employment side and would we want to ignore that.

Senator CORKER. You are lauded for being a great student of the Great Depression. As we have gone through hopefully three-quarters of what it is we are dealing with—again, hopefully—what is it about that model that is relevant to what we have been dealing with over the last couple of years and what is not?

Mr. BERNANKE. Well, I have done a lot of work on the Depression and thought about it quite a bit. There are two basic lessons that I personally took from my studies of the Depression. The first had to do with monetary policy. The Federal Reserve and other countries were very, very passive on monetary policy, and as a result permitted a deflation of actually about 10 percent a year for several years, which was highly destructive to the economy. This was a point that Milton Friedman made in his history of the monetary history of the United States, and he argued that that was the primary cause of the Great Depression. The Federal Reserve, in this particular episode, was more proactive and aggressive in terms of easing monetary policy to ensure that we did not have deflation risk and excessively tight monetary policy.

The other lesson I take is that financial instability can be extremely costly to the economy. We had in the fall of 2008 a financial crisis which was, in many ways, as big or bigger than anything they saw in the 1930s. But we know that in the 1930s, the collapse of a big Austrian bank and a number of other problems, including the failure of about a third of the banks in the United States, was a major blow to credit extension, to confidence, and to prices, and was a big source of the Depression. And so for that reason, we were very aggressive, working with the Treasury and others, to try to stabilize the financial system as quickly as possible. Even so, the impact on the economy was quite substantial.

Senator CORKER. I see my time is up and I thank you for your testimony.

Chairman JOHNSON. Senator Bennet.

Senator BENNET. Thank you, Mr. Chairman.

Chairman Bernanke, it is nice to see you again. Thank you for your testimony.

You talked a little bit in your remarks about the importance of not just talking about cutting, not just talking about what the composition of the spending looks like, what the comprehensive approach to taxation looks like, but your view, I think, is more nuanced than the headlines that come out of this place and I appreciate it very much.

I wanted to ask you in that context how you evaluate the product of the Fiscal Commission. What do you think about their suggestions about their mixes of cuts versus—cuts to spending versus revenue? Do you think it should be weighted one way or another? I realize you are here to talk about monetary policy, not fiscal policy, but you testified there. Senator Crapo was on the Committee, took a courageous vote to support the Commission report. So I wonder if you would spend a few minutes sharing your views on it.

Mr. BERNANKE. What I think is impressive about the Deficit Commission is that it highlighted the size of the problem. Second, it, made a set of proposals that, while obviously painful, would address the problem. I say that for the most part, because in some areas they kind of punted. Like on health care spending, which is really the biggest single issue, they just sort of assumed that cuts would be made and they did not give many details.

So I appreciate that it was a bipartisan effort and I think it was very successful in the sense that it gave a sense of the magnitude of the response that is needed and showed at least one path forward to addressing the problem. And some other commissions, like the Rivlin Commission and others, have done similar things.

I would not want to tie myself down too much to the details of that commission, I am sorry, because I think there are many different ways that you could address it. And ultimately, fiscal priorities are the Congressional prerogative, not the Federal Reserve's.

But certainly one element is the importance of addressing the long-term entitlement issues, which are going to become bigger and bigger and need somehow to be managed in a way that will provide essential services, but will be affordable to the country.

Senator BENNET. I appreciate you not wanting to endorse the specifics of the plan. I guess, directionally—let me try it this way. We are at a place right now where we have a $1.5 trillion, roughly, deficit, $14 trillion of debt. The Fed's balance sheet has expanded dramatically in order to deal with this crisis. And one of the things that I worry about is that if the capital markets decide 1 day that they do not want to buy our debt at the price that they are now buying it, that the result of that is going to be catastrophic, and because of the position we are in today with your balance sheet and with the Federal Government's balance sheet, that there is no room for a policy response at that point.

So while you talked about how painful some of the suggestions are from the Commission report, I wonder if you could tell the Committee a little bit how painless that would seem compared to the pain we would go through in the scenario that I just described.

Mr. BERNANKE. No, there, I am in complete agreement. I think the thing to understand is that the long-term imbalances are not just a long-term risk. They are a near and present danger.

Senator BENNET. Right.

Mr. BERNANKE. To the extent that markets lose confidence in the Congress' ability to make tough choices, and they are going to be tough, there is the risk of an increase in interest rates, which would just make things worse because it would increase the deficit because of higher interest payments.

So I think the sooner that a long-term plan is put in place to make significant and credible reductions in the path of the deficit, the better it will be and it would actually have benefits in the near term, not just 20 years from now.

Senator BENNET. Right. I think that is very important, because earlier, there was some discussion about 10 years or 20 years. I just want to underscore and underline your observation that this is actually a near and present danger and that the sooner that we get after it, the less painful it is actually ultimately going to be, and the more likely we are to protect ourselves. You said financial instability is extremely costly to the economy. I would argue that the financial instability that would come in the scenario I was talking about actually would be more costly than what we have just been through. I wonder if you have got a view on that.

Mr. BERNANKE. No. That is very possible. It would create both a fiscal crisis and require a scramble by the Congress to try to find any kind of cut or tax increase to address the problem. But a spike in interest rates would have also very adverse effects on a lot of institutions and portfolios and could create a financial panic, as well. So it is really a very worrisome situation.

Now, fortunately, the markets to this point seem to have a lot of confidence that we will address the problem, and I hope we can make that confidence—that we can meet that expectation.

Senator BENNET. Thank you. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Vitter.

Senator VITTER. Thank you, Mr. Chairman. Thank you, Mr. Chairman, for your work and your testimony.

I want to build on some of the discussion we have been having about the fiscal situation. I think you have said we are on—fiscally, we are on an unsustainable path. That challenge is a long-term challenge. However, it can have very immediate consequences. Who knows when it can break in terms of the consequences if we do not start to deal with it. Is that a fair summary of some of the things you have said?

Mr. BERNANKE. Yes, Senator.

Senator VITTER. In that context, I am wondering the following. We are coming up on a big deadline—several big deadlines. Probably the biggest is our reaching our debt limit as a Nation sometime between late March and May. What do you think it would do to the viewpoint on all of this, on our seriousness about correcting our fiscal situation, if Congress increased that debt limit without at the same time passing some meaningful budget reform?

Mr. BERNANKE. Well, Senator, as I hope I have made clear, I think it is extremely important that you address this issue. So in no way am I disagreeing with your basic premise that you have to

address this long-term budget issue. I am just worried about using the debt limit as the vehicle. The reason being that if it were even a possibility that the Government would default on its existing debt, not pay the interest and principal on existing debt, some of the financial crisis issues that Senator Bennet mentioned would immediately happen because currently there is absolute confidence that the U.S. Government will pay its bills. If you do not do that, it would have very negative effects on financial markets and on our economy, and for a very long afterwards, the U.S. would have to pay higher interest rates in the market and that would make our deficit problems even more intractable.

So again, I very strongly support efforts to address the long-term deficit problem, but I am a little nervous about taking the chance that we would not be paying the interest and principal on our debt.

Senator VITTER. Let me ask the same question in a different way. Would it be better to increase the debt limit and go along our merry way on the present fiscal path, or would it be better to increase the debt limit and at the same time pass meaningful budget reform?

Mr. BERNANKE. Well, clearly, the latter. You want to make sure that the debt is paid, interest is paid. Meaningful budget reform is highly desirable. I am just concerned that there be a significant probability that we would not raise the debt limit and that would cause real chaos. So I am completely with you, Senator, on the need for budget reform and I hope that Congress will be able to come together and make some tough decisions.

Senator VITTER. Well, again, let me go back to my first point. I understand your concerns about the consequences of not raising the debt limit. However, that event is so big, it seems to me if we do it and do not do any meaningful budget reform, that is a very clear, very strong negative signal about how serious we are about correcting our fiscal path. That is my point. Would you disagree with that?

Mr. BERNANKE. I guess I draw a distinction between not increasing the debt limit and maybe even shutting down the Government, those sorts of things. Not increasing the debt limit is like saying we are going to solve our family's financial problems by refusing to pay our credit card bills. These are bills that have already been accrued, as opposed to cutting up the credit card and saying we are not going to do any more spending. But these are—this is money we have already borrowed. These are commitments we have already made to contractors, to senior citizens, and so on, and what we are saying here is we are not going to make these payments that we promised. So I would rather that we be forward-looking and say we are going to restrict new spending or new commitments until we have reform.

Senator VITTER. Well, maybe you misunderstood me. I was not suggesting not acting on the first. I was just suggesting that we should act on both together, because if we do not, I think that is a very strong negative signal about our lack of commitment to changing our fiscal path.

Mr. BERNANKE. I really support a program to improve the long-term fiscal sustainability.

Senator VITTER. Thank you.

Chairman JOHNSON. Senator Merkley.

Senator MERKLEY. Thank you, Mr. Chair, and thank you, Mr. Chairman.

You commented that our deficit is not a single-year problem, but a long-term problem, our deficit, our debt. The Budget Committee plan from last year sought to essentially stop digging the hole any deeper after about 4 years, but to avoid driving us into a double-dip recession, a more serious recession, in the short term. When you are talking about a long-term problem, and as we wrestle with the short-term impacts, is that type of framework, where within a couple of years you are getting to a point you do not dig the hole any deeper, and then from that point you are reducing it, is that kind of the type of profile you are talking about in terms of the long-term, short-term tradeoffs?

Mr. BERNANKE. Well, one criterion which is very useful is looking at the primary budget deficit, which is the deficit less interest payments, and you need to get the primary budget deficit down to zero in order to avoid increases in the debt-to-GDP ratio. Currently, under current CBO projections, the primary budget deficit is 2 percent in 2015 and 3 percent in 2020, of GDP. That gives a sense of the kind of cuts we would like to see over the next 10 years—that would help stabilize that debt-to-GDP ratio over that period, and so that is the kind of criterion I would be looking for, over the next 5 to 10 years, reducing the structural deficit by 2 to 3 percent.

Senator MERKLEY. Thank you. Now let me switch to energy policy. There is a lot of discussion now about the impact of foreign oil price shocks and the possibility that oil at $125 or higher might trigger a real challenge. Does it make sense for us to have a national strategy to radically reduce our dependence on foreign oil?

Mr. BERNANKE. I think that anything we can do to diversify our energy sources is probably helpful. We want to make sure what we do is economic, but it is true that oil does bring with it geopolitical risks and uncertainties that other forms of energy might not have and that probably should be taken into account as we think about the range of energy sources. I think the recent developments in natural gas here in the United States and the increased supply of that is a very good development. It is going to be very helpful. I know that some people are supporting additional nuclear powered utilities, energy producing. So, yes, I think some attention to diversifying the energy sources that we use is a good idea to avoid some of these risks.

Senator MERKLEY. I will keep jumping topics here, given the short time I have, but commercial lending has been in a real challenging position, with a lot of balloon mortgages, 7- to 10-year mortgages coming due and banks reluctant to relend because of the declining value of the buildings. The Fed was involved in the Term Asset-Based Securities Loan Facility, or TALF, which helped in the short term, and then they kind of pulled back from that. Where are we now in terms of commercial lending being a major structural challenge for our economy?

Mr. BERNANKE. Well, the TALF was about stimulating the commercial mortgage-backed securities market, and there was a story in the paper this morning to the effect that the CMBS market, not

in a big way but in a modest way, is coming back, at least for the better properties. So that is a positive development.

The Fed has also worked with banks, providing guidance about how to rework, restructure CRE loans, which seems to be having some beneficial effects, as well.

We had a Fed testimony by Pat Parkinson recently on this topic and I would say, overall, that some of the worst fears about commercial real estate seem not to be coming true, that there is some stabilization of vacancy rates and prices and so on in this market. That being said, there is still a lot of properties that are going to have to be refinanced and probably some losses that banks are still going to have to take. So it is still certainly a risk to the financial system, but it does seem to be looking at least marginally better than we were fearing 6 months ago.

Senator MERKLEY. Thank you.

Chairman JOHNSON. Senator Johanns.

Senator JOHANNS. Mr. Chairman, thank you, and Mr. Chairman, good to see you again.

As I was listening to the discussion about QE2, which you know I have been a critic of that, I am not supportive of what you are doing, but having said that, it occurred to me that maybe we are focusing on consequences and not focusing enough on the reasons that maybe got you to that decision point. So let me, if I might, offer a thought about that, and I would like your reaction to it.

Never in the history of this country has there been a greater need for people, foreign countries, whoever, to buy our debt than now. In fact, nothing comes close to it. It is kind of breathtaking in its magnitude. Just week after week after month after month, somebody has to be out there buying this massive amount of debt.

I look at what has happened to commodity prices, which have been so very strong. I look at what has happened to the Dow and the NASDAQ, and that also has been strong. It has been quite a run. There is so much competition out there. So as the economy improves, there is more reason to be in those investments than getting less than a percent return on a 2-year Treasury or, I do not know, 2 percent-plus on a 10-year Treasury.

So it just occurs to me, Mr. Chairman, that part of what is driving this is the real, genuine, *bona fide* worry that in order to attract people to buy Treasuries, the Government would have to entice them with higher yields. And eventually, heaven forbid, good Lord forbid, there is a day at which there just is not an appetite to buy more paper, because those who are in that marketplace look at the U.S. Government and say, you know, you have so detached the joy of spending from the pain of taxation that you do not have a fiscal plan.

And then I look at the impact on real people, like there was talk, well, we do not have to do anything about Social Security. Well, that assumes that we can keep borrowing, because there is no trust fund. It is just paper, again. And if we are not able to borrow more money, we cannot even pay current beneficiaries.

So it seems with those kinds of weighty issues, all of which I think are accurate, if I am reading this correctly, you almost had no choice. You have got to be in this marketplace to keep interest rates low to start out with. And you have become a big player in

buying our debt, and you must lay awake at night wondering, if I exit this marketplace, what happens? Tell me where I am wrong in that thinking.

Mr. BERNANKE. Well, that was not our motivation for getting into this. Our motivation was the state of the economy, which as of last summer and fall, we had significant concerns that the recovery was going to stall, that growth was not sufficiently fast to bring down unemployment, and that inflation was moving down and down and down to where we were getting closer and closer to the deflation zone. So that was the reason we took the action and we felt, although there are admittedly risks with the QE2 program, that there were also very significant risks to not taking the action. So we did it for the same reasons that monetary policy is always used, which is to try to meet our dual mandate for employment and inflation.

Our policies affect interest rates in two ways. One is as we promote growth, that is causing interest rates to rise for the reasons you were describing, because other investments become attractive, but also it is important for us to keep inflation low and well under control because inflation also affects the level of nominal interest rates.

So we were not motivated by anything related to the deficit or the debt and I do not—and I would make two points. One is that when we stop buying, whenever that may be, our previous experience suggests that the market takes it in stride because the market anticipates at some point that the purchases will stop. And then we are not monetizing the debt because we will be returning our balance sheet to a more normal level ultimately.

I think what it all comes down to is that what the markets are looking at is the long-term fiscal discipline of the U.S. Government, and whether or not interest rates will spike or whether they will remain reasonable depends far more on Congress' decisions about long-term fiscal planning than anything the Fed is going to do.

Senator JOHANNS. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Hagan.

Senator HAGAN. Thank you, Mr. Chairman. I am honored to be on this Committee. Thank you so much.

Chairman Bernanke, in your last Monetary Policy Report to Congress, you touched on housing finance when you noted that, on balance, interest rates on fixed-rate mortgages decreased over the first half of 2010. But you also acknowledged that despite falling mortgage rates, the availability of mortgage finance continued to be constrained.

I hear time and time again from constituents throughout my State in North Carolina that they are having difficulty taking advantage of the low rates that are out there. As you know, one of my biggest priorities during the consideration of the Dodd-Frank Act was to include a qualified residential mortgage standard in the bill. I worked with Senator Landrieu and Senator Isakson and we worked to include a standard that would provide access to safe, stable, and affordable home loans for creditworthy borrowers. I understand that risk retention might serve as a deterrent to types of excessive risk taking, but I am concerned that risk retention could impose significant costs and reduce liquidity in the mortgage mar-

ket. As a result, we tried to fashion an amendment that addressed the primary causes of the problem directly and yet also provided an incentive for lenders to originate safe, stable, and affordable mortgages.

I was hoping you could speak a little bit more today about the state of the mortgage market and the impact that the qualified residential mortgage definition that is currently being written will have on housing finance. Are we going to continue to see constrained credits, and if regulators were to draw too narrow an exemption, for example, if they required a 20 percent down payment, as advocated by some, would credit further be constrained? I am really concerned that if loans do not meet the qualified residential mortgage standards and lenders have to set aside the extra capital to meet this risk retention requirement, we are going to see constrained credit going forward.

Mr. BERNANKE. Well, Senator, we are working very hard on the QRM in conjunction with the FDIC and other agencies and we expect to have some rules available for comment very shortly. We have been discussing in particular to what extent servicing requirements should be attached to the QRM. So the goal there is to have a definition of mortgages that are of sufficiently high quality and meet sufficiently high underwriting standards that the risk retention is not necessary, and so that would reduce the cost of those mortgages.

So on the one hand, I understand you do not want it to be too narrow or too tough, but on the other hand, you want this to be a good mortgage. You want it to be one that will be safe, well underwritten, and that investors will be happy to buy even without the risk retention. So we are trying to balance those two issues.

Unfortunately, in terms of the mortgage market, most of the mortgage market is still Fannie and Freddie at this point, and so we know directly what is happening there, which is that they are continuing to keep pretty tight standards in terms of a *de facto* 20 percent down, pretty high FICO scores. So terms and conditions for getting a mortgage are quite tight, particularly relative to the excessively loose terms that were in play before the crisis.

My own guess is that improving the economy will cause lenders to be a little bit less restrictive, but on the other hand, as we move toward a fully privatized market, as the GSEs become less and less important, the private sector may decide to keep terms moderately tight.

So currently, the terms are pretty tight. That is a problem for the housing market. I expect some modest improvement, but probably not anything dramatic in the near term. We continue to work on the QRM, and I think that will be a constructive addition to the housing finance programs that we have.

Senator HAGAN. Well, I am sure you will continue to be hearing from us. We are really concerned about not making it so restrictive that we cannot have as many well-qualified loans as possible, obviously recognizing that there does need to be a good definition of that.

Mr. BERNANKE. OK. Thank you.

Senator HAGAN. Also, the FOMC has used unconventional monetary policy tools since late 2008 to promote economic recovery and

price stability. Most recently, as you have been talking about, quantitative easing and the purchase of Government bonds with the newly printed money has made monetary policy more complicated. We still do not know the long-term effects this policy may have, and more importantly, what effects unwinding these policies may have.

I understand that these tools, especially the asset purchases, will take time to unwind and that economic conditions will dictate much of the decision making. A recent study by a group of Federal Reserve Board economists constructed a baseline scenario for unwinding the large-scale asset purchases that would see the Fed's $2.6 trillion balance sheet normalize in size and composition by 2017. Do you agree with this baseline trajectory? What are the factors that will influence this trajectory toward balance sheet normalization? Will the price stability or maximum employment drive the decision making?

Mr. BERNANKE. Well, Senator, we had had earlier discussions about the pace of normalization and one concern we had was not to sell off our securities so quickly that it would disrupt the market. And so the sense was that it would be a relatively slow process and one that would be clearly announced in advance so that markets would be able to anticipate.

What I need to emphasize here is that that does not mean that QE will continue until 2017 or easy money will continue until 2017. We have tools that will allow us to tighten monetary policy in more or less the normal way even if the balance sheet remains large.

For example, we have the authority to pay interest on reserves. By raising the rate that we pay on reserves to banks, we can effectively raise the short-term money market rate and that will work through the financial system just pretty much the same way that a higher Federal funds rate target will work.

So there are different ways for us to unwind. Obviously, as Senator Shelby has pointed out, it is important for us to get back to a more normal size of our balance sheet and we will do so, but the pace at which we do that does not constrain us from tightening monetary policy at the appropriate time. And as I was trying to explain also to Senator Shelby, we want to be sure that price stability is maintained, that inflation remains low and stable, and in doing that, we will have to look ahead to where inflation is going, not just where it has been, but also to the extent that is consistent with that, we want to make sure that recovery is self-sustaining, that the private sector is leading the recovery so that the artificial support from the Fed and from fiscal authorities and so on can be withdrawn and let the private economy lead the recovery.

Senator HAGAN. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Wicker.

Senator WICKER. Am I next?

Chairman JOHNSON. Yes.

Senator WICKER. Thank you. Let me see if I understand an answer that I believe you gave Senator Merkley. You said the commercial mortgage-backed security market is coming back to a small extent.

Mr. BERNANKE. Correct.

Senator WICKER. And I assume that is a good thing.

Mr. BERNANKE. Yes, because that is an important source of finance for commercial real estate, and given that banks are not expanding their balance sheets and we need alternative sources of finance.

Senator WICKER. Right. And I got information from CRS yesterday that with regard to residential mortgage-backed securities, that market is virtually dead, is that correct?

Mr. BERNANKE. Yes.

Senator WICKER. Would it be a good thing if that came back?

Mr. BERNANKE. Well, I would think so, although it is important to remember that a lot of bad lending took place through that market and helped contribute to the crisis. But conditional on underwriting standards or other oversight that makes the loans created through that process of sufficiently good quality, then again, it would be good to have multiple sources of financing for the housing market.

Senator WICKER. OK, and that is what my question is sort of directed toward, as to what standards you might recommend in that regard. You know, most of us have had to go to school since 2008 on this whole issue of mortgage-backed securities and what we learned is that as they were leading up to 2008, they were outside many of the SEC's regulatory structures because they were privately placed transactions. And so with regard to the definition of delinquency or being in default or the classification of the mortgages or how those mortgages are worked out when they get in trouble, there were not those standards in place because generally they were considered transactions involving the big boys.

So would it be helpful, and what suggestions would you have in this regard about having standards, greater disclosures, and structural reforms put in place to perhaps revive the private mortgage-backed security market and bring back more private mortgage capital into the residential market?

Mr. BERNANKE. Well, there are a number of steps taken in the Dodd-Frank Act to try to address this. For example, one of the problems in the crisis was conflicts of interest or shopping around for credit ratings, and so there are some new regulations, regulatory authorities at SEC to reduce those conflicts of interest and the credit rating agencies have been reworking their models for securitized products. What we saw in the crisis, where firms would take a whole bunch of lousy mortgages and then use financial engineering to make them into triple-A securities, that should not be possible anymore if the credit rating agencies are forced to meet certain standards.

Second, the——

Senator WICKER. Let me interject here.

Mr. BERNANKE. Sure.

Senator WICKER. Did we adequately address that issue in Dodd-Frank, or is there really a need to——

Mr. BERNANKE. Well, before I can answer that question, I would like to see the full panoply of steps that the SEC takes. But I know they are serious about trying to address particularly the shopping around problem, where a securitizer would try different agencies until they found one who gave them the rating they wanted. So more disclosures on that, for example, would be helpful.

Then I was just talking to Senator Hagan about the QRM, the qualified residential mortgage, which would set some standards for high-quality mortgages, and mortgages that did not meet that would have to have a skin-in-the-game credit risk retention element that is provided by Dodd-Frank. I think that supervisors will be paying more attention to this in the future and we should pay more attention to it.

And finally, one thing that the Federal Reserve is very interested in, and we have been talking about this with Congress and with other agencies, is to have national servicing standards, because that turns out to be an important part of the process of making sure that people who do run into trouble are able to get restructured mortgages and a chance to keep their home. So there are a number of things in the bill, but I think as we go forward, we will want to make sure that we have sufficient oversight that we can assure that the mortgages are of good quality.

I think that as the GSEs begin to pull back, as they inevitably will, that we will see private label mortgage-backed securities coming back into the market, but it is pretty limited right now.

Senator WICKER. OK. Well, my time has expired. Would you take for the record the question of some recommendations about how to go further on structural changes that might make the mortgage-backed security market more viable with regard to residences?

Mr. BERNANKE. Certainly.

Senator WICKER. Thank you, sir.

Chairman JOHNSON. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman, and Mr. Chairman, it is good to see you again, as well.

I think one of the comments you made earlier, we all need to bear in some level of mind. While you have had to take some extraordinary actions, when we reflect back on where we were in the spring of 2009 and how deep a ditch we were in and the prognostications at that point, while clearly employment numbers are not where we would like, some of the other recovery has been, frankly, more dramatic than I think many of us would have even predicted.

One thing—I have got two issues I want to raise in my short time, and I will try to be quick about it because I want to follow up on Senator Bennet's question. But before I get there, one of the things I think, and hopefully we will have a wise way to avoid a Government shutdown right now, but I do think at times within the public, there is some confusion between these issues around shutdown and an issue that we will have to address in the next few months around the debt ceiling limit. And as we have heard from your testimony, and I absolutely believe we need to put in place a long-term plan to deal with our debt and deficit and I am proud of the bipartisan work that is being done on that.

But as we are still kind of in this hopefully strengthening recovery, can you, in as plain of language as a central banker can, make clear what the ramifications would be, maybe to an average American or to our economic recovery, if we were to default and not raise that debt ceiling limit and the ramifications that would have toward our recovery to an average American family, two or three examples.

Mr. BERNANKE. Well, it would be an extremely dangerous and very likely recovery-ending event. First, it would almost certainly create a new financial crisis as firms that rely on receiving their interest and principal do not receive it and they are unable to make payments, and so that problem would cascade through the financial markets. Then there would be a massive loss of confidence in the U.S. Treasury securities, which are the deepest, most liquid market in the world. Interest rates would spike, and that would, in turn, affect many other assets, as well as Treasuries.

So the near-term effect would almost certainly be a very sharp resumption of the kinds of instabilities we saw in 2008. Even if we were able to avoid those kinds of effects, the interest rate that lenders would demand of the U.S. to finance our debt going forward would be higher, reflecting the greater riskiness and uncertainty associated with funding the U.S. Government, and that would make our fiscal problems all the more severe because interest payments are part of the deficit. So it means that cuts would have to be sharper and tax increases larger and those things themselves would also be a negative for the recovery.

So, broadly speaking, it would be, a very, very bad outcome for the U.S. economy.

Senator WARNER. So it would be safe to say that 2 years of extraordinary actions, many of them politically unpopular, could all be washed away and whatever recovery we have got could all be put in jeopardy if we, as Members of Congress and the American public, does not realize that there is a major distinction between the questions around the debt ceiling limit and equally important questions around Government shutdown. But Government shutdown compared to messing with the debt ceiling limit could have dramatically different ramifications.

Mr. BERNANKE. We have never had a failure to raise the debt limit. We have had a number of Government shutdowns and they have created problems, but they have not been as destructive as a debt limit failure would be.

Senator WARNER. All right. Well, being sensitive to those of us on the end who have been waiting a while, I will try to get my last question in and observe the time limit. One of the things I know, as much as Senator Bennet tried to pin you down on the Deficit Commission report, you will not go on the specifics, but I would like to ask, because there are many folks here who feel that we can solve this crisis simply on the spending side. There are some on our side that want to do it only on the revenue side, or revenue side with the exclusion of entitlements.

But the nature and size of this challenge is so great, do you believe that we can really get there without having an open mind on both sides of the balance sheet?

Mr. BERNANKE. Well, I hope there will be an open mind. I hope there will be plenty of discussion about all possible ways forward. So certainly, I cannot disagree with that.

Senator WARNER. But both spending and revenues have to be part of this discussion if we are going to be able——

Mr. BERNANKE. I hope there will be an open mind and that there will be discussion of all options, including reforms of the tax code, including restructuring of spending and the like, yes.

Senator WARNER. I wish I had had another 30 seconds.

Chairman JOHNSON. Senator Moran.

Senator MORAN. Mr. Chairman, thank you very much. Chairman Bernanke, thank you for the opportunity to question and make comments.

Mr. Menendez asked earlier about, I think, at least from my perspective, the crux of his point was that despite significant monetary policy changes designed to put additional dollars into the banking system, loans are not being made. Credit is not being extended to the degree that we need to increase the economy. And I am interested in knowing whether that is accurate. Are we still trying to—I assume our goal is still try to increase loan demand. And do you think that the regulatory environment that particularly community banks face has a consequence in the fact that credit is not being extended and is there something we should do?

Mr. BERNANKE. Well, first, the QE2 is not intended to work primarily through banks. It is intended to work through broader markets and we have seen, very open corporate bond markets, in part because of the monetary policy actions we have taken. So that is not the direct object of the QE2 and what we have seen is easier, broader credit conditions as opposed to bank lending specifically.

We have tried to address the bank lending issues in different ways from a supervisory perspective, and I do not want to take all your time, but we have a long list of steps we have taken in terms of guidance, in terms of examiner trading, in terms of outreach, to try to make banks appreciate and make our own examiners appreciate that what we are looking for here is an appropriate balance. On the one hand, we do not want banks making bad loans, but on the other hand, it is good for everybody if they make loans to creditworthy borrowers, and we are encouraging that and encouraging our examiners to encourage that.

My sense is that although credit conditions are still tight, that they are improving. I mentioned that in my testimony. We have seen in our surveys of banks that terms and conditions have stopped tightening and in some cases have begun to loosen a bit. Many banks have introduced new programs like second-look programs for looking at small business loans. My sense is that this year will see some improvement, not anything like what we saw before the crisis, and that is, in fact, probably a good thing, but we will see some improvement in bank lending and we are going to continue to follow that carefully. It is a very high priority for us.

Senator MORAN. I raised this topic in your last appearance with other regulators before our Committee and I again would tell you that bankers continue to suggest that the ability to make loans is significantly hampered by the regulatory environment, and in most instances, the suggestion, at least, is that those regulations are not keeping them from making bad loans. They are keeping them from making good loans. And so again, I would encourage the Fed to pursue what you outline as your current course of action in a more significant or strenuous way.

Often, your policy is criticized on QE2, and in doing so, the comparison is made to Japan, and I would like to know your thoughts about the correlation between what has occurred in the Japanese economy and its central bank's response and yours in our economy.

And then you indicated earlier that, long-term, our deficits are not sustainable, and you have had some conversation with my colleagues here on the Committee about not extending the debt ceiling, for example. What are the precipitating factors that you are concerned about? I know every central banker has got to portray confidence, but what are the things that are out there that may make this, when you say long term not sustainable, that long term becomes a significantly a shorter term? What are the things in the world economy that we ought to keep our eye on that may change the timeframe in which we have to operate?

Mr. BERNANKE. First, let me say on your bank issue that we do have an ombudsman, and I would encourage any bank that has concerns about Federal Reserve examiners to get in touch with us and we will try to follow through on that.

Senator MORAN. Thank you.

Mr. BERNANKE. On Japan, the Japanese did a lot of things earlier because they had a bubble and a collapse earlier than we did, but, one important difference is that, instead of simply focusing on bank reserves, which have not been lent out very much, we do not want it to be excessively lent out in the sense that we want it to be controlled. Otherwise, it would tend to create higher money supply and pose an inflation risk. What we have done instead is focus on longer-term securities, taking duration out of the market, and that has the effect of pushing investors into other types of investments and, again, making the corporate bond market more attractive, making the stock market stronger, and the like.

So our approach has been somewhat different than what the Japanese took, but we have faced the same concern that following a financial crisis, recovery can be quite slow and deflation can be a risk, and we saw those things happening last summer and that is why we decided to take additional steps as we have.

On terms of what could bring the fiscal crisis into the present, it is very hard to know. There is no way, to judge when markets will change their mind. Currently, 10-year bonds are still 3.5 percent, and currently, they seem to still have the confidence of the bond markets.

I think what would be a real problem would be if investors saw not so much the economic capacity, but the political capacity of the United States as being inadequate to address these problems. If it became clear that these problems were not going to be adequately addressed because we were just in a perpetual gridlock, I think that would raise significant concerns and would risk bringing these problems forward into the present.

Senator MORAN. Mr. Chairman, thank you. I think we often in Congress tend to criticize the Fed when so much of this, as you said earlier, is determined by decisions made here on spending, deficits, and revenues. Thank you, Mr. Chairman.

Mr. BERNANKE. Thank you.

Chairman JOHNSON. Senator Schumer.

Senator SCHUMER. Thank you, Mr. Chairman, and thank you, Mr. Chairman.

My first question relates to concentration limits in competitive in your role as a member of the FSOC group. Section 622 prohibits any firms whose total liabilities are greater than 10 percent of all

financial firms' liabilities from merging with or acquiring another company. I am concerned, the way those numbers are calculated could put U.S. companies at a competitive disadvantage. That is because for U.S. companies, the number in the numerator includes all their liabilities worldwide, but for non-U.S. companies, only their U.S. liabilities. That means if a U.S. company and a Swiss company simultaneously bought a Brazilian bank, the concentration ratio for the U.S. company would go up and the ratio for the Swiss company would go down. As I understand it, the FSOC committee has the ability to change that and make it fairer. What are your thoughts, and what should FSOC do?

Mr. BERNANKE. Well, I fully agree with your concern. It is unfair in the sense that a foreign bank that has operations in the U.S. could purchase a domestic U.S. bank where a U.S. bank of the same size could not buy that bank, and that is an issue——

Senator SCHUMER. Or a foreign bank of the same size.

Mr. BERNANKE. Or a foreign bank. I may be mistaken, but my understanding is that we did not have discretion——

Senator SCHUMER. You do.

Mr. BERNANKE. Well, I will look at that——

Senator SCHUMER. OK. Good.

Mr. BERNANKE. ——because I do think it is a problem.

Senator SCHUMER. OK. The FSOC the statute says FSOC can, *A,* take competitiveness into account, and *B,* that any rules are subject to the recommendations of FSOC. So you have some discretion and I hope you will.

Second issue, you have persistently, wisely, in my view, you defer to Congress on taxing and spending, but I want to ask you a more general question about the "when" of deficit reduction rather than the "how," about the timing of our efforts to reduce the deficit. Last month when you were testifying before the House Budget Committee, you said the following, and I am quoting, "This very moment is not time to radically reduce our spending or raise our taxes because the economy is still in a recovery mode and needs that support."

Now, private economists seem to agree. Mark Zandi yesterday in his report said too much cutting too soon would be counterproductive and would be taking an unnecessary chance with recovery. Do you agree with those sentiments?

Mr. BERNANKE. Yes, if I may add a small qualification, only that——

Senator SCHUMER. No, do not do that.

[Laughter.]

Mr. BERNANKE. Thank you, Senator. Only that it is important to be showing progress, and therefore, I hope that we will take a long-term perspective and do things that will be persuasive to the market, and that over time——

Senator SCHUMER. Yes.

Mr. BERNANKE. ——we are committed to——

Senator SCHUMER. I do not disagree with that caveat, at all. I mean, that is a fair caveat. But in the short term, we had better be careful not to snuff out this nascent recovery by doing too much cutting, in the words of Zandi. That is correct, in your opinion?

Mr. BERNANKE. Yes.

Senator SCHUMER. OK. Do you also agree—he said that cuts, significant cuts could cause job loss. Those cuts would create job loss. I do not mean overall job loss, macro, but those cuts could. Do you agree with that?

Mr. BERNANKE. That cuts would presumably lower overall demand in the economy, would have some effect on growth and employment.

Senator SCHUMER. Good. So the answer is yes?

Mr. BERNANKE. Yes.

Senator SCHUMER. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Kirk.

Senator KIRK. Thank you, Mr. Chairman.

I would just like to briefly comment for you on the work, This Time is Different, by Reinhart and Rogoff. What do you think?

Mr. BERNANKE. Well, Ken Rogoff is one of my long-term colleagues and friends and I have great respect for both him and for Ms. Reinhart and I think it is a very interesting piece of work. It is particularly instructive because it uses a lot of historical episodes, data, as opposed to a purely theoretical approach to the problem.

Senator KIRK. I think it is an important piece of work. You were effusive in your praise, at least on Amazon, I saw, and I thought it was—the title is important, because every central banker or economic official says, this time is different, and yet the basic themes of debasing a currency, inflation, lack of spending discipline, Reinhart and Rogoff highlight the similarity of poor action by bankers and governments to destroy their economy through a lack of discipline, and it is an important lesson for us.

We have a report from the National Council of State Legislators that talk about financial stress now in 12 American States. Just recently, the State of Illinois borrowed another $3.7 billion, paying 50 basis points more to borrow than corporate debt at the lowest investment grade.

You and I talked earlier about the potential of States posing a systemic risk to our economy. Do you feel that they could pose a systemic risk?

Mr. BERNANKE. It is possible, but currently, while States are facing very tough financial conditions, at least as long as the recovery continues, they are seeing higher tax revenues and that will at least be helpful to some of them in trying to address these problems. But obviously this is something we have to watch carefully.

Senator KIRK. Certainly a panic in the State and municipal bond market could trigger a systemic risk, in your view?

Mr. BERNANKE. If it was sufficiently severe, yes.

Senator KIRK. Yes. You have expressed opposition to any Federal bailout of the States, is that correct?

Mr. BERNANKE. I think that it is a Congressional, Federal matter. It is not a Federal Reserve matter. The Federal Reserve is not going to be involved in that. If Congress wants to address it, that is——

Senator KIRK. What would your view be to accelerate Federal borrowing to give money to the States?

Mr. BERNANKE. Again, I think that is a Congressional decision. If you are going to be increasing borrowing, obviously, that bears its own risks.

Senator KIRK. Right, I think tremendous. Would you regard the proposal to defer State payments of principal and debt on loans made from the Federal Government as a State bailout?

Mr. BERNANKE. Well, to some extent, it has fiscal implications for the Federal Government.

Senator KIRK. I would think so. Also, maybe we could use language that is more clear. In your testimony on page five, you talked about we are considering providing additional monetary accommodation through further asset purchases. In November, the committee announced that it intended to purchase an additional $600 billion in longer-term Treasury securities in the middle of this year. In more layman's terms, you are talking about lending money to the U.S. Government, correct?

Mr. BERNANKE. Well, not exactly, because we are buying these securities on the secondary market. So somebody has already lent the money directly, but yes, we are holding Government debt.

Senator KIRK. Yes, my point exactly. Section 14 of the Federal Reserve Act legally prevents you from—well, this would say from buying newly issued securities, which in a more layman's term would be lending directly to the U.S. Government.

Mr. BERNANKE. And that is why we are not doing that.

Senator KIRK. Right. But instead, what you do is others lend to the U.S. Government and then you buy their loans.

Mr. BERNANKE. Well, we do that all the time, even in most normal conditions.

Senator KIRK. Correct. The CRS says, in modern times, the Fed has always held Treasury securities as part of normal operations, but now under QE2, it is a $600 billion commitment.

But the CRS goes on to say, nonetheless, the effect of the Fed's purchase of Treasury securities on the Federal budget is similar to monetization, whether the Fed buys securities on the secondary market or directly from Treasury. When the Fed holds Treasury securities, Treasury must pay interest to the Fed as it would to any private investor. These interest payments after expenses become part of the profits of the Fed. The Fed, in turn, remits 95 percent of the profits to the Treasury, where it is added to the general revenues. CRS concludes, in essence, the Fed has made an interest-free loan to the Treasury because almost all of the interest paid by the Treasury to the Fed is subsequently sent back to the Treasury. Would you agree with that?

Mr. BERNANKE. Yes, we have remitted $125 billion to the Treasury in the last 2 years. So it is important to understand that what we are doing is not fiscal spending. It is, in fact, purchasing securities which we will then sell back to the market.

Senator KIRK. So because of Section 14 of the Act, maybe the simple way of saying it is others are lending money to the Federal Government. You are purchasing those loans, and then the interest payments being made to you because you are now the holder of the—or you are the official maker of the loan—are then remitted back to the Treasury. So maybe in layman's terms, this is one part of the Government lending another part of the Government money,

which would not lead to long-term confidence once the American people understood the basics a little bit better.

Mr. BERNANKE. Well, it should be added that we also have a funding cost, and as interest rates go up, we will have a liability cost as well as an asset cost. So it may or may not be a return to the Treasury.

Monetary policy, even in most normal times, as the CRS says, involves buying and selling Treasury securities. We could not have currency outstanding if we did not have securities to back them up.

Senator KIRK. Although I would say, we had a currency for many parts of our history without any Federal debt.

Mr. BERNANKE. When was that?

Senator KIRK. Under the Jackson administration.

Mr. BERNANKE. So this was before the Civil War. This was during the period where individual banks issued currency. We did not have a national currency.

Senator KIRK. I just might say that it is possible for a country to have a currency without a trillion-dollar debt.

Mr. BERNANKE. Yes.

Senator KIRK. Thank you.

Chairman JOHNSON. Senator Kohl.

Senator KOHL. Thank you, Mr. Chairman.

Chairman Bernanke, I would like to ask you two questions. The first question will be about rising oil prices. The second question will be about interchange fees. First, Mr. Chairman, we all agree that the rising price of oil will slow the economic recovery. To me, one of the most anticompetitive forces in the world, which raises the price of oil, are the price-fixing activities of the 12 member nations of OPEC oil cartel.

I have a bill, Mr. Chairman, called NOPEC that would, for the first time, make the actions of OPEC subject to U.S. antitrust law. This bipartisan bill passed the Senate 4 years ago with 70 votes. Mr. Chairman, if this price-fixing cartel did not exist, wouldn't the market function better and wouldn't oil prices be lower? I would like your comment after I make my second question to you.

Interchange fees. The issue of interchange fees is very controversial, as you know. In the recent Wall Street Reform Bill, Congress exempted small banks and credit unions so that they would not be impacted by any attempt to regulate interchange fees. But small banks are still worried that they will be discriminated against.

Now, you and your staff are smart people, so can you see that the interests of small banks and credit unions are protected when you write the interchange rule?

Mr. BERNANKE. Senator, on the first one, on OPEC, it is difficult to tell how much impact on the price OPEC has. It is a global market and there are non-OPEC producers. What OPEC does try to do is set production quotas, that are restrictive, but they are violated to some extent, you know, because it is very hard to monitor them. So I do not honestly know how big an affect OPEC has on oil prices.

On the interchange fees, we are following the law and we are certainly exempting the small banks and credit unions from the limits and other restrictions on the interchange fees that they can

charge. Whether or not there will be any effect on the interchange fees charged by small banks remains to be seem.

There are really, two issues. One is whether the networks, which are not required to differentiate in their payments to small banks and to others, whether they do have a two-tier pricing system or whether they find it, for one reason or another, inconvenient or uneconomic to do so.

The other factor which may affect the interchange fees for smaller institutions is the fact that with the route with the network competition that is required by the bill, there may be some general downward pressure on interchange fees just coming from the fact that there is more competition in the marketplace and that may affect small banks to some extent.

So I think there are some things we cannot fully control. That being said, we are certainly trying to write the rule in a way that will achieve Congress' intention and provide exemptions for banks under 10 billion and for the other kinds of debit cards that receive the exemption.

Senator KOHL. Can you say to us that that goal that you are trying to hard to achieve when you write the rule is something that you are going to exert tremendous effort and energy on in order to see to it that you do meet that goal?

Mr. BERNANKE. We will do everything we can, but there are certain areas where we do not have control. For example, we cannot dictate the pricing policies of the networks, and it was part of the goal of the bill to put competitive pressure on interchange fees in general, and Congress chose not to exempt smaller institutions from that particular provision. So they are still subject to the competitive pressures arising from multiple networks.

But again, we understand the intent of Congress and we will do everything that has been given to us via the statute to try to achieve that objective.

Senator KOHL. Thank you so much. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator DeMint.

Senator DEMINT. Thank you, Mr. Chairman.

Mr. Chairman, thank you for being here. Just a quick follow-up on Senator Kirk's question. Can you tell us absolutely that there will be no quantitative easing for States and no buying of State debt by the Federal Reserve?

Mr. BERNANKE. I can say that, yes.

Senator DEMINT. OK, good. Thank you. There are a lot of different economic and political philosophies here in the Congress, and I think oftentimes, we may look to you to help provide some consensus, so I have got a couple of just general questions.

Do you generally agree that the private sector is a more efficient allocator of resources than the Government?

Mr. BERNANKE. In most spheres. There are a few areas where the Government plays an important role, like defense.

Senator DEMINT. Sure. But so generally, a dollar left in the private sector provides a greater economic multiplier than a dollar taken by Government and spent?

Mr. BERNANKE. Again, there are some areas where the Government plays an important role.

Senator DEMINT. Sure. But just generally, could we generally conclude that the Government taxing and spending is not as an effective stimulus to the economy as money that is kept and spent and invested in the private sector?

Mr. BERNANKE. It sounds like the conclusion of your argument is that taxes should be zero and I would not argue that.

Senator DEMINT. No, no, but generally, as far as—I mean, I am not talking about essential services like military, but as we are looking at raising taxes versus cutting spending in the debates we are going through now, I mean, I think a basic underlying economic philosophy is the private is the more efficient allocator of resources. Building a consensus here is very difficult and we are often talking about effects rather than true causes. But I will move on from there just to ask a couple of other questions.

Government spending and debt and borrowing obviously tightens credit, and that brings about—forces your hand to some degree with the quantitative easing. Is that a simple way to explain it? If we were not in debt, you would not need to do the QE, right?

Mr. BERNANKE. I am not sure about that. The recession was tied primarily to the financial crisis, which drove the economy into a deep recession, and that in turn led to inflation falling toward the deflation zone, and the weakness of the economy and the deflation risk were the things that motivated us.

Senator DEMINT. But if there was no debt problem, then you would be looking at other ways to stimulate the economy than actually buying Federal Reserve notes; is that right? I mean, excuse me, Treasury notes.

Mr. BERNANKE. Well, if there were no debt to buy, we would have to find some other way to do it.

Senator DEMINT. Right. What I am trying to get at is, when is enough enough as far as what the Federal Reserve will do with quantitative easing in the future? If we continue on our path, or even cut the projected deficits in half, do you expect to continue to buy more and more Treasury notes?

Mr. BERNANKE. Well, first, if you were able to do that, I think it would be helpful for the economy. It would probably lower interest rates. It would probably increase confidence. So I urge you to continue to address the fiscal issue. Our quantitative easing policy, which is just another form of monetary policy, is trying to address the recovery of the economy right now, which is still underway.

As I said in my testimony, it looks like a self-sustaining recovery is beginning to take place, so that is encouraging. But what we will be looking at is the state of the economy. Our mandate from Congress is to look at inflation and employment, so those are the things that we will be looking at as we determine how to withdraw or maintain our policy.

Senator DEMINT. The quantitative easing, monetizing of debt, or however we term that, has caused some concern about our currency, the long-term value of our currency, and it has caused a lot of us to look at ways to create a more substantial or more soundness and stability to our monetary policy. In 1981, former Chairman Greenspan, wrote in the *Wall Street Journal* about an idea of using 5-year notes payable in gold that the Federal Reserve would issue—excuse me—the Treasury Department, payable in gold or

dollars to create some standard, as just a test. A lot of folks are talking about some form of standard, some way to create some boundaries for our monetary policy.

Have you given any thought to the idea of a gold standard or ways like that, issuing bonds payable in gold that would begin to create some standard for our currency?

Mr. BERNANKE. Well, first, I would just say that the Federal Reserve is not debasing the currency; that the dollar's value is roughly the same as it was before the crisis in foreign exchange markets; that inflation is low and that is the buying power of the dollar. So I think those concerns are somewhat overstated, in fact, way overstated.

On the gold standard, I have done a lot of study of that and it did deliver price stability over very long periods of time, but over shorter periods of time, it caused wide swings in prices related to changes in demand or supply of gold. So I do not think it is a panacea. And there are also other practical problems like the fact that we do not have enough gold to support our money supply.

Senator DEMINT. The question is about just the bond. That is what Greenspan was talking about. Is that something that you have given any thought to?

Mr. BERNANKE. I really have not analyzed that, that particular point. I do not think that a full-fledged gold standard would be practical at this point.

Senator DEMINT. OK. I realize I am out of time. I apologize, Mr. Chairman. Thank you.

Chairman JOHNSON. Senator Toomey.

Senator TOOMEY. Thank you, Mr. Chairman, and thank you, Chairman Bernanke, for your patience. I think I am last, so that must be a bit of a relief.

I would like to very briefly, if we could, go back to this discussion that we had earlier about the debt limit, because I think it is a huge mistake and factually incorrect for some to suggest that failure to immediately raise the debt limit is equal to a default on our debt. I am not accusing you of saying that, but I know others have.

I am sure that you are well aware that the total fraction of projected Government spending next year that would be necessary to service our debt is about 6 percent. Even if the debt limit were not raised, ongoing tax revenue amounts to nearly 70 percent of the projected spending.

So as much as I acknowledge that it would be extremely disruptive, and so I am hoping that we will have an appropriate and timely increase in the debt limit, given that there is so vastly much more in revenue than what is necessary to honor our debt obligations, it seems to me that a Treasure Secretary would have to willfully choose to default on our bonds. It is unfathomable to me that any Treasury Secretary would make such an imprudent decision.

And so, I guess my brief question, if I could—I'd like to get on to monetary policy is, would you acknowledge that markets understand the difference between an unfortunate and temporary delay in a payment to a vendor, which they have seen before, on the one hand, versus failure to make an interest or a principal payment on our Treasury securities, which we have never done before?

Mr. BERNANKE. My concern is not necessarily just a question of willful decision. There are technical problems associated with making payments, including the fact that notwithstanding the facts, the data that you gave, that on a day-to-day basis, the amount of principal and interest which is due might exceed the free cash that the Treasury has. So I am worried about this. I am worried about the assurance that we would not risk failing to pay the debt.

Senator TOOMEY. Well, I want to get back to this point, but as a former bond trader who earned a living trading fixed income securities and derivatives, I have to tell you, the market knows the difference between delaying a payment to the guys who cut the grass on the Mall, and failure to make a bond payment. It is a huge difference and I really do not think we should be even pretending that there is any equivalence between those two.

On the QE2, and let me just preface by saying, I thought that many of the extraordinary measures that you guys took in 2008, did not agree with all of them, but I felt that—I did agree with many and I recognize that they were decisions being made during a crisis.

But we are not in a financial crisis now. We are in a subpar economic recovery, way subpar in terms of job growth, and we are all disappointed by it. But what concerns me is that the problems that I perceive affecting our economy are not fundamentally monetary in nature. It does not seem to me that we have a lack of money supply, that we have a lack of liquidity that is driving the biggest problems that we have.

And when I look at some of the conventional ways of looking at monetary policy, whether you look at the Taylor Rule or whether you look at growth by some measures of money supply, or whether you look at commodity prices, the breadth and scope of which has been, I think, stunning, you look at all of these things and many of them suggest that at a minimum, we are planting the seeds of serious inflation down the road.

I also worry that excessive expansion of the money supply creates the illusion of growth, but not real growth. So I guess my concern is, if the economy remains weak, are there any—you know, what measures of inflation? Are there any changes in asset prices that would cause you to decide that despite a weak economy, we need to pull back on this quantitative ease?

Mr. BERNANKE. Well, first, I think that many of the monetary or nominal indicators that somebody like Milton Friedman would look at did suggest the need for more monetary stimulus. For example, nominal GDP has grown very slowly. I am not talking about the reserves held by banks, which are basically idle, but if you look at M–1 and M–2, those have grown pretty slowly.

The Taylor Rule suggests that we should be, way below zero in our interest rate, and therefore, we need some method other than just normal interest rate changes to——

Senator TOOMEY. Do you know if Mr. Taylor believes that?

Mr. BERNANKE. Well, there are different versions of the Taylor Rule, and there is no particular reason to pick the one he picked in 1993. In fact, he preferred a different one in 1999, which if you use that one, gives you a much different answer.

Senator TOOMEY. My understanding is that his view of his own rule is that it would call for a higher Fed funds rates than what we have now.

Mr. BERNANKE. There are many ways of looking at that rule, and I think that ones that look at history, ones that are justified by modeling analysis, many of them suggest that we should be well below zero, and I just would disagree that that is the only way to look at it. But anyway, I think there is some basis for doing that.

I am sorry. The last part of your question was?

Senator TOOMEY. Whether there are——

Mr. BERNANKE. Yeah, I am sorry.

Senator TOOMEY. What, in a context of even unfortunately slow economy growth should that persist? What kind of inflation indication would cause you to——

Mr. BERNANKE. Sir, we are committed. A few economists have suggested temporarily raising inflation above normal levels as a way of trying to stimulate the economy. We have rejected that approach and we are committed to not letting inflation go above sort of the normal level of around 2 percent in the medium term.

So we are looking very carefully at indicators of inflation, including actual inflation, including commodity prices, including the spreads between nominal and index bonds, which is a measure of inflation compensation, looking at surveys, business pricing plans, household inflation expectations. We look at a whole variety of things and I just want to assure you, we take the inflation issue very, very seriously and we do not have the illusion that allowing inflation to get high is, in any way, a constructive thing to do and we are not going to do that.

Senator TOOMEY. I see my time is expired. Thank you, Mr. Chairman.

Chairman JOHNSON. Thank you. Senator Shelby has a couple additional questions.

Senator SHELBY. Thank you for your indulgence, Mr. Chairman.

In a recent article, Dr. Martin Feldstein, who is well known, former president of the National Bureau of Economic Research, asked an important question about QE. And he says, Does the artificial support for the bond market, inequities from QE2 mean that we are looking at asset price bubbles that may come to an end before the year is over?

Chairman Bernanke, what data do you examine to calculate the risk of creating asset bubbles within QE2? Is that a real concern?

Mr. BERNANKE. It is something, Senator, that we pay a great deal of attention to. We have created a new office called the Office of Financial Stability——

Senator SHELBY. OK.

Mr. BERNANKE. ——which is providing regular reports and data to the FOMC as well as to the supervisors. If you look at most indicators of equity markets, bond markets, and the like, while of course nobody can know for sure, there seems little evidence of any significant bubbles. Where there have been concerns, a few people have noted the increase in farmland prices.

We have been following that carefully and we have been in substantial contact with the agricultural banks that lend to the farmers to make sure that they are appropriately managing that risk.

So we are very attentive to that and I do not believe that there is a dangerous bubble in U.S. financial markets.

Senator SHELBY. Shifting over to Basel 3 capital standards, your counterpart at the Bank of England, Governor Mervyn King, recently gave a speech in which he stated that the new Basel 3 capital standards are, quote, insufficient to prevent another crisis. He went on to say that capital requirements should be several orders of magnitude higher.

Do you agree with Governor King's view that the Basel 3 capital standards are insufficient to prevent another crisis, or do we not know yet?

Mr. BERNANKE. Several orders of magnitude would mean 700 percent capital.

Senator SHELBY. It would be a lot.

Mr. BERNANKE. The capital under Basel 3 is a multiple of what it was under Basel 2 and also of higher quality, because it is common equity.

Senator SHELBY. It is a big improvement, isn't it?

Mr. BERNANKE. It is a substantial improvement. In addition, the risk weights against which capital is calculated on the assets held by the banks are much more sensitive to risk and less liberal than in the earlier version of Basel.

So there has been a substantial improvement in the amount of capital and quality of capital that banks have. In addition, as required both by the Basel agreement and by Dodd-Frank, to have additional capital for systemically significant banks, and we are looking at how best to do that.

We agreed with the consensus of about 7 percent high quality capital in Basel based on looking at worst case losses to banks over the last 50 years, and it was our assessment that that amount of capital would have prevented any banks from failing in the crisis that we just suffered through.

So although there is more to be done in terms of adding some additional capital to the most systemically significant banks, I do think that we have made a lot of progress and I do not agree with the view that this is likely to lead to another crisis.

Senator SHELBY. Do you believe that it is very important for— and you are a regulator, too—that any bank with strong regulators, strong capital, and good strong management will generally survive?

Mr. BERNANKE. Yes, except in the worst economic conditions. We have also, I should add, we have added a leverage ratio which will now be international, not just for the United States.

Senator SHELBY. How would that work?

Mr. BERNANKE. Well, there is a leverage ratio which will apply to risk weighted assets and it is currently in an observation period. But the previous situation was one in which only United States banks were required to have a minimum amount of capital as a fraction of total assets, and now all banks, including European and other competitors, will have to have that.

The other thing we are doing is adding liquidity requirements. In the crisis, a lot of the problems arose when banks that were technically solvent were unable to meet their short-term liquidity demands and we want to address that as well. So I think these will be much stronger than we had before overall.

Senator SHELBY. Thank you, Mr. Chairman.

Chairman JOHNSON. Thanks again to my colleagues and Chairman Bernanke for being here today. Economic growth is one of this Committee's top priorities and we will do all we can to formulate policies that help support us——

Senator Corker, do you have additional questions?

Senator CORKER. Are you wrapping it up? I will submit it in writing.

Chairman JOHNSON. ——that helps us support a sustainable economic recovery. I will remind my colleagues that we will leave the record open for the next 7 days for Members to submit their questions for Chairman Bernanke. This hearing is adjourned.

Mr. BERNANKE. Thank you.

[Whereupon, at 12:26 p.m., the hearing was adjourned.]

[Prepared statements, responses to written questions, and additional material supplied for the record follow:]

PREPARED STATEMENT OF BEN S. BERNANKE

CHAIRMAN, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

MARCH 1, 2011

Chairman Johnson, Ranking Member Shelby, and other Members of the Committee, I am pleased to present the Federal Reserve's semiannual Monetary Policy Report to the Congress. I will begin with a discussion of economic conditions and the outlook before turning to monetary policy.

The Economic Outlook

Following the stabilization of economic activity in mid-2009, the U.S. economy is now in its seventh quarter of growth; last quarter, for the first time in this expansion, our Nation's real gross domestic product (GDP) matched its precrisis peak. Nevertheless, job growth remains relatively weak and the unemployment rate is still high.

In its early stages, the economic recovery was largely attributable to the stabilization of the financial system, the effects of expansionary monetary and fiscal policies, and a strong boost to production from businesses rebuilding their depleted inventories. Economic growth slowed significantly in the spring and early summer of 2010, as the impetus from inventory building and fiscal stimulus diminished and as Europe's debt problems roiled global financial markets. More recently, however, we have seen increased evidence that a self-sustaining recovery in consumer and business spending may be taking hold. Notably, real consumer spending has grown at a solid pace since last fall, and business investment in new equipment and software has continued to expand. Stronger demand, both domestic and foreign, has supported steady gains in U.S. manufacturing output.

The combination of rising household and business confidence, accommodative monetary policy, and improving credit conditions seems likely to lead to a somewhat more rapid pace of economic recovery in 2011 than we saw last year. The most recent economic projections by Federal Reserve Board members and Reserve Bank presidents, prepared in conjunction with the Federal Open Market Committee (FOMC) meeting in late January, are for real GDP to increase 3½ to 4 percent in 2011, about one-half percentage point higher than our projections made in November.[1] Private forecasters' projections for 2011 are broadly consistent with those of the FOMC participants and have also moved up in recent months.[2]

While indicators of spending and production have been encouraging on balance, the job market has improved only slowly. Following the loss of about 8¾ million jobs from early 2008 through 2009, private-sector employment expanded by only a little more than 1 million during 2010, a gain barely sufficient to accommodate the inflow of recent graduates and other entrants to the labor force. We do see some grounds for optimism about the job market over the next few quarters, including notable declines in the unemployment rate in December and January, a drop in new claims for unemployment insurance, and an improvement in firms' hiring plans. Even so, if the rate of economic growth remains moderate, as projected, it could be several years before the unemployment rate has returned to a more normal level. Indeed, FOMC participants generally see the unemployment rate still in the range of 7½ to 8 percent at the end of 2012. Until we see a sustained period of stronger job creation, we cannot consider the recovery to be truly established.

Likewise, the housing sector remains exceptionally weak. The overhang of vacant and foreclosed houses is still weighing heavily on prices of new and existing homes, and sales and construction of new single-family homes remain depressed. Although

[1] Forecast ranges here and below refer to the central tendencies of the projections of FOMC participants, as presented in the "Summary of Economic Projections" released with the minutes of the January FOMC meeting, available at *www.federalreserve.gov/monetarypolicy/fomcminutes20110126ep.htm.*

[2] For example, both the Survey of Professional Forecasters (*see,* the first quarter 2011 survey released by the Federal Reserve Bank of Philadelphia on February 11, available at *www.philadelphiafed.org/research-and-data/real-time-center/survey-of-professional-forecasters*) and the Blue Chip forecasting panel (*see,* the February 10, 2010, issue of Blue Chip Economic Indicators (New York: Aspen Publishers)) now project real GDP growth of about 3½ percent from the fourth quarter of 2010 to the fourth quarter of 2011, about one-half percentage point higher than the corresponding projections made in August. Looking further ahead, most FOMC participants project that economic growth will pick up a bit more in 2012 and 2013, whereas private forecasters tend to see the expansion proceeding fairly steadily over the next few years. (Note: Blue Chip Economic Indicators and Blue Chip Financial Forecasts are publications owned by Aspen Publishers. Copyright © 2009 by Aspen Publishers, Inc. All rights reserved; *www.aspenpublishers.com.*)

mortgage rates are low and house prices have reached more affordable levels, many potential homebuyers are still finding mortgages difficult to obtain and remain concerned about possible further declines in home values.

Inflation has declined, on balance, since the onset of the financial crisis, reflecting high levels of resource slack and stable longer-term inflation expectations. Indeed, over the 12 months ending in January, prices for all of the goods and services consumed by households (as measured by the price index for personal consumption expenditures (PCE)) increased by only 1.2 percent, down from 2.5 percent in the year-earlier period. Wage growth has slowed as well, with average hourly earnings increasing only 1.9 percent over the year ending in January. In combination with productivity increases, slow wage growth has implied very tight restraint on labor costs per unit of output.

FOMC participants see inflation remaining low; most project that overall inflation will be about 1¼ to 1¾ percent this year and in the range of 1 to 2 percent next year and in 2013. Private-sector forecasters generally also anticipate subdued inflation over the next few years.[3] Measures of medium- and long-term inflation compensation derived from inflation-indexed Treasury bonds appear broadly consistent with these forecasts. Surveys of households suggest that the public's longer-term inflation expectations also remain stable.

Although overall inflation is low, since summer we have seen significant increases in some highly visible prices, including those of gasoline and other commodities. Notably, in the past few weeks, concerns about unrest in the Middle East and North Africa and the possible effects on global oil supplies have led oil and gasoline prices to rise further. More broadly, the increases in commodity prices in recent months have largely reflected rising global demand for raw materials, particularly in some fast-growing emerging market economies, coupled with constraints on global supply in some cases. Commodity prices have risen significantly in terms of all major currencies, suggesting that changes in the foreign exchange value of the dollar are unlikely to have been an important driver of the increases seen in recent months.

The rate of pass-through from commodity price increases to broad indexes of U.S. consumer prices has been quite low in recent decades, partly reflecting the relatively small weight of materials inputs in total production costs as well as the stability of longer-term inflation expectations. Currently, the cost pressures from higher commodity prices are also being offset by the stability in unit labor costs. Thus, the most likely outcome is that the recent rise in commodity prices will lead to, at most, a temporary and relatively modest increase in U.S. consumer price inflation—an outlook consistent with the projections of both FOMC participants and most private forecasters. That said, sustained rises in the prices of oil or other commodities would represent a threat both to economic growth and to overall price stability, particularly if they were to cause inflation expectations to become less well anchored. We will continue to monitor these developments closely and are prepared to respond as necessary to best support the ongoing recovery in a context of price stability.

Monetary Policy

As I noted earlier, the pace of recovery slowed last spring—to a rate that, if sustained, would have been insufficient to make meaningful progress against unemployment. With job creation stalling, concerns about the sustainability of the recovery increased. At the same time, inflation—already at very low levels—continued to drift downward, and market-based measures of inflation compensation moved lower as investors appeared to become more concerned about the possibility of deflation, or falling prices.[4]

Under such conditions, the Federal Reserve would normally ease monetary policy by reducing the target for its short-term policy interest rate, the Federal funds rate. However, the target range for the Federal funds rate has been near zero since December 2008, and the Federal Reserve has indicated that economic conditions are likely to warrant an exceptionally low target rate for an extended period. Consequently, another means of providing monetary accommodation has been necessary since that time. In particular, over the past 2 years the Federal Reserve has eased monetary conditions by purchasing longer-term Treasury securities, agency debt, and agency mortgage-backed securities (MBS) on the open market. The largest program of purchases, which lasted from December 2008 through March 2010, appears

[3] The Survey of Professional Forecasters projects PCE inflation to run at about 1½ percent in 2011 and to subsequently rise gradually to nearly 2 percent by 2013. The corresponding projections from the Survey of Professional Forecasters for Consumer Price Index (CPI) inflation are about 1¾ percent this year and about 2 percent next year and in 2013. Blue Chip forecasts for CPI inflation stand at about 2 percent for both 2011 and 2012.

[4] For example, deflation probabilities inferred from prices of certain inflation-indexed bonds increased during this period.

to have contributed to an improvement in financial conditions and a strengthening of the recovery. Notably, the substantial expansion of the program announced in March 2009 was followed by financial and economic stabilization and a significant pickup in the growth of economic activity in the second half of that year.

In August 2010, in response to the already-mentioned concerns about the sustainability of the recovery and the continuing declines in inflation to very low levels, the FOMC authorized a policy of reinvesting principal payments on our holdings of agency debt and agency MBS into longer-term Treasury securities. By reinvesting agency securities, rather than allowing them to continue to run off as our previous policy had dictated, the FOMC ensured that a high level of monetary accommodation would be maintained. Over subsequent weeks, Federal Reserve officials noted in public remarks that we were considering providing additional monetary accommodation through further asset purchases. In November, the Committee announced that it intended to purchase an additional $600 billion in longer-term Treasury securities by the middle of this year.

Large-scale purchases of longer-term securities are a less familiar means of providing monetary policy stimulus than reducing the Federal funds rate, but the two approaches affect the economy in similar ways. Conventional monetary policy easing works by lowering market expectations for the future path of short-term interest rates, which, in turn, reduces the current level of longer-term interest rates and contributes to both lower borrowing costs and higher asset prices. This easing in financial conditions bolsters household and business spending and thus increases economic activity. By comparison, the Federal Reserve's purchases of longer-term securities, by lowering term premiums, put downward pressure directly on longer-term interest rates. By easing conditions in credit and financial markets, these actions encourage spending by households and businesses through essentially the same channels as conventional monetary policy.

A wide range of market indicators supports the view that the Federal Reserve's recent actions have been effective. For example, since August, when we announced our policy of reinvesting principal payments on agency debt and agency MBS and indicated that we were considering more securities purchases, equity prices have risen significantly, volatility in the equity market has fallen, corporate bond spreads have narrowed, and inflation compensation as measured in the market for inflation-indexed securities has risen to historically more normal levels. Yields on 5- to 10-year nominal Treasury securities initially declined markedly as markets priced in prospective Fed purchases; these yields subsequently rose, however, as investors became more optimistic about economic growth and as traders scaled back their expectations of future securities purchases. All of these developments are what one would expect to see when monetary policy becomes more accommodative, whether through conventional or less conventional means. Interestingly, these market responses are almost identical to those that occurred during the earlier episode of policy easing, notably in the months following our March 2009 announcement. In addition, as I already noted, most forecasters see the economic outlook as having improved since our actions in August; downside risks to the recovery have receded, and the risk of deflation has become negligible. Of course, it is too early to make any firm judgment about how much of the recent improvement in the outlook can be attributed to monetary policy, but these developments are consistent with it having had a beneficial effect.

My colleagues and I continue to regularly review the asset purchase program in light of incoming information, and we will adjust it as needed to promote the achievement of our mandate from the Congress of maximum employment and stable prices. We also continue to plan for the eventual exit from unusually accommodative monetary policies and the normalization of the Federal Reserve's balance sheet. We have all the tools we need to achieve a smooth and effective exit at the appropriate time. Currently, because the Federal Reserve's asset purchases are settled through the banking system, depository institutions hold a very high level of reserve balances with the Federal Reserve. Even if bank reserves remain high, however, our ability to pay interest on reserve balances will allow us to put upward pressure on short-term market interest rates and thus to tighten monetary policy when required. Moreover, we have developed and tested additional tools that will allow us to drain or immobilize bank reserves to the extent needed to tighten the relationship between the interest rate paid on reserves and other short-term interest rates.[5]

[5] These tools include the ability to execute term reverse repurchase agreements with the primary dealers and other counterparties, which drains reserves from the banking system; and the issuance of term deposits to depository institutions, which immobilizes bank reserves for the period of the deposit.

If necessary, the Federal Reserve can also drain reserves by ceasing the reinvestment of principal payments on the securities it holds or by selling some of those securities in the open market. The FOMC remains unwaveringly committed to price stability and, in particular, to achieving a rate of inflation in the medium term that is consistent with the Federal Reserve's mandate.

Federal Reserve Transparency

The Congress established the Federal Reserve, set its monetary policy objectives, and provided it with operational independence to pursue those objectives. The Federal Reserve's operational independence is critical, as it allows the FOMC to make monetary policy decisions based solely on the longer-term needs of the economy, not in response to short-term political pressures. Considerable evidence supports the view that countries with independent central banks enjoy better economic performance over time.[6]

However, in our democratic society, the Federal Reserve's independence brings with it the obligation to be accountable and transparent. The Congress and the public must have all the information needed to understand our decisions, to be assured of the integrity of our operations, and to be confident that our actions are consistent with the mandate given to us by the Congress.

On matters related to the conduct of monetary policy, the Federal Reserve is one of the most transparent central banks in the world, making available extensive records and materials to explain its policy decisions. For example, beyond the semiannual Monetary Policy Report I am presenting today, the FOMC provides a postmeeting statement, a detailed set of minutes 3 weeks after each policy meeting, quarterly economic projections together with an accompanying narrative, and, with a 5-year lag, a transcript of each meeting and its supporting materials. In addition, FOMC participants often discuss the economy and monetary policy in public forums, and Board members testify frequently before the Congress.

In recent years the Federal Reserve has also substantially increased the information it provides about its operations and its balance sheet. In particular, for some time the Federal Reserve has been voluntarily providing extensive financial and operational information regarding the special credit and liquidity facilities put in place during the financial crisis, including full descriptions of the terms and conditions of each facility; monthly reports on, among other things, the types of collateral posted and the mix of participants using each facility; weekly updates about borrowings and repayments at each facility; and many other details.[7] Further, on December 1, as provided by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, the Federal Reserve Board posted on its public Web site the details of more than 21,000 individual credit and other transactions conducted to stabilize markets and support the economic recovery during the crisis. This transaction-level information demonstrated the breadth of these operations and the care that was taken to protect the interests of the taxpayer; indeed, despite the scope of these actions, the Federal Reserve has incurred no credit losses to date on any of the programs and expects no credit losses in any of the few programs that still have loans outstanding. Moreover, we are fully confident that independent assessments of these programs will show that they were highly effective in helping to stabilize financial markets, thus strengthening the economy. Overall, the operational effectiveness of the programs was recently supported as part of a comprehensive review of six lending facilities by the Board's independent Office of Inspector General.[8] In addition, we have been working closely with the Government Accountability Office, the Office of the Special Inspector General for the Troubled Asset Relief Program, the Congressional Oversight Panel, the Congress, and private-sector auditors on reviews of these facilities as well as a range of matters relating to the Federal Reserve's oper-

---

[6] *See,* for example, Alberto Alesina and Lawrence H. Summers (1993), "Central Bank Independence and Macroeconomic Performance: Some Comparative Evidence", *Journal of Money, Credit and Banking,* vol. 25 (May), pp. 151–162; or, more recently, Christopher Crowe and Ellen E. Meade (2008), "Central Bank Independence and Transparency: Evolution and Effectiveness", *European Journal of Political Economy,* vol. 24 (December), pp. 763–777. *See,* Ben S. Bernanke (2010), "Central Bank Independence, Transparency, and Accountability", at the Institute for Monetary and Economic Studies International Conference, Bank of Japan, Tokyo (May 25), for further discussion and references.

[7] *See,* the reports available on the Board's webpage, "Credit and Liquidity Programs and the Balance Sheet", at *www.federalreserve.gov/monetarypolicy/bst_reports.htm.*

[8] *See,* Board of Governors of the Federal Reserve System, Office of Inspector General (2010), "The Federal Reserve's Section 13(3) Lending Facilities To Support Overall Market Liquidity: Function, Status, and Risk Management" (Washington: Board of Governors OIG, November), *www.federalreserve.gov/oig/files/FRS_Lending_Facilities_Report_final-11-23-10_web.pdf.*

ations and governance. We will continue to seek ways of enhancing our transparency without compromising our ability to conduct policy in the public interest.

Thank you. I would be pleased to take your questions.

RESPONSES TO WRITTEN QUESTIONS OF CHAIRMAN JOHNSON FROM BEN S. BERNANKE

Q.1. Recognizing the critical need to reduce our structural deficit to avert the problems you were discussing with Senator Bennet, and given the importance of continuing to make selective investments in R&D, education and infrastructure, would defunding those areas now hurt the recovery and damage long term U.S. growth?

A.1. The costs and risks to the U.S. economy will rise if the Federal budget persistently runs large structural deficits. If global financial market participants were to lose confidence in the United States' ability to manage its fiscal policy, the historical experience of countries that have faced fiscal crises should warn us that interest rates could increase suddenly and quickly, which would impose substantial costs on our economy. The threat from our currently unsustainable fiscal policies is real and growing, which should be sufficient reason to put in place a credible plan to place fiscal policy on a sustainable path over the medium and longer term. Acting now to develop a credible program to reduce future structural deficits would not only enhance economic growth in the longer run, these policy actions would likely also yield near-term economic benefits from lower long-term interest rates and increased consumer and business confidence. Moreover, the sooner a credible fiscal plan is established, the more time affected individuals would have to adjust to the necessary policy changes, which would probably make those changes less painful and more politically feasible.

That said, economic growth is affected not only by the levels of spending and taxes, but also by their composition and structure. Changes in the Government's tax policies and spending priorities could be made that not only reduce the deficit but also enhance the long-term growth potential of the economy—for example, by reducing disincentives to work and to save, by encouraging investment in the skills of our workforce as well as new machinery and equipment, by promoting research and development, and by encouraging and providing necessary infrastructure. In the current fiscal environment, policy makers will want to intensively review the effectiveness of all spending and tax policies and be willing to make changes in order to provide necessary programs more efficiently and at lower cost. These policy choices will certainly be difficult and will require tradeoffs to be made, but a more productive economy will ease the tradeoffs that we face.

Q.2. Following up on Senator Moran's question to you at the hearing, what can the Federal Reserve do to help encourage, or direct banks to, increase lending to small businesses on Main Street that are responsible for so much job growth?

A.2. During the past few years, we have frequently received reports that small businesses are facing difficulty in obtaining credit. We share the Senator's concerns about the effect that tight credit conditions can have on Main Street and in response have taken several steps to foster access to loans by creditworthy businesses. Early in the crisis, the Federal Reserve and the other banking agencies recognized the possibility that bankers and examiners could overcorrect for underwriting standards that had become too

lax and issued guidance to instruct examiners to take a measured and balanced approach to reviews of banking organizations and to encourage efforts by these institutions to work constructively with existing borrowers that are experiencing financial difficulties. The Federal Reserve subsequently conducted significant training for its examiners on this guidance to ensure that it was carefully implemented. In addition, we continue to strongly reinforce the guidance with our examiners and are focusing on evaluating compliance with the guidance as part of our regular monitoring of the examination process, which includes local management vettings of examination findings in the district Reserve Banks, review of a sample of examination reports in Washington, and investigation of any specific instances of possible undue regulatory constraints reported by members of the public.

Our monitoring to date suggests that examiners are appropriately considering the guidance in evaluating supervised institutions. However, to the extent that a banking organization is concerned about supervisory restrictions imposed by Federal Reserve examiners, we have encouraged them to discuss their concerns with Reserve Bank or Federal Reserve Board supervisory staff. Bankers also have been advised that they can confidentially discuss these concerns with the Federal Reserve Board's Ombudsman, who works with bankers and supervisory staff to resolve such issues.

In addition to our efforts to encourage careful implementation of the interagency guidance, the Federal Reserve last year also completed a series of more than 40 meetings with community leaders from across the country to gather information to help the Federal Reserve and others better respond to the credit needs of small businesses. Emerging themes, best practices, and common challenges identified by the meeting series were discussed and shared at a conference held at the Federal Reserve Board in Washington in early July and are described in a summary report posted on the Federal Reserve's Web site at: *http://www.federalreserve.gov/events/conferences/12010/sbc/downloads/small__business__summary.pdf* The agenda for this meeting and remarks that address our plans for following-up on our findings are also available on the Federal Reserve's Web site.

More recently, the Federal Reserve has been working with staff at the U.S. Treasury and the other banking agencies to implement the Small Business Lending Fund created by the Small Business Jobs Act of 2010. This fund is intended to facilitate lending to creditworthy borrowers by providing affordable capital support to community banks that lend to small businesses.

Q.3. We also want to ensure that individuals have appropriate access to credit. Is the Federal Reserve considering how its policies (both regulatory and monetary) impact consumer access to credit? If there is a negative impact on access to credit, what steps will the Federal Reserve take?

A.3. In the context of both monetary and regulatory or supervisory policy, the Federal Reserve regularly analyzes data and other information about the availability of credit to consumers. The availability of credit is a key factor pertaining to the outlook for consumer spending, which is, itself, a major component of aggregate

demand in the U.S. economy. Therefore, when determining the appropriate stance of monetary policy, the Federal Open Market Committee considers consumers' access to credit along with many other factors that shape the macroeconomic outlook.

The Federal Reserve also considers the potential effects of its regulatory or supervisory policies on the availability of consumer credit. A recent example of this is the Comprehensive Capital Analysis and Review (CCAR) that was completed by the Federal Reserve on March 18, 2011. One element of the study of the capital plans of the 19 largest bank holding companies in the CCAR was to ascertain each firm's ability to hold sufficient capital to maintain access to funding, to continue to serve as credit intermediaries, to meet their obligations to creditors and counterparties, and to continue operations, even in an adverse macroeconomic environment. In other words, a key element of the review was to evaluate the capital plans of large bank holding companies in the context of their ability to support lending to consumers, even in an adverse macroeconomic environment.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR REED FROM BEN S. BERNANKE

Q.1. In your testimony you described an apparent willingness on the part of banks to lend. However, we continue to hear that small businesses are still having trouble obtaining needed lending. Considering that small businesses take the leading role in job creation, what are you doing to ensure that creditworthy small businesses have access to lending?

A.1. We are also aware of reports that some small businesses are facing difficulty in obtaining loans and are concerned about the impact on job creation. As a result, we have taken a number of steps to try to improve small businesses' access to credit in the time since the recent financial crisis began. Initially, the Federal Reserve and the other banking agencies recognized the possibility that bankers and examiners could overcorrect for underwriting standards that had become too lax in the run-up to the crisis and unnecessarily constrain access to credit by creditworthy borrowers. In order to address this possibility, they issued guidance to instruct examiners to take a measured and balanced approach to reviews of banking organizations and to encourage efforts by these institutions to work constructively with existing borrowers that are experiencing financial difficulties. The Federal Reserve subsequently conducted significant training for its examiners on this guidance to ensure that it was carefully implemented. Currently, we continue to strongly reinforce the guidance with our examiners and are focusing on evaluating compliance with the guidance as part of our regular monitoring of the examination process.

Our monitoring to date suggests that examiners have been appropriately considering the guidance in evaluating supervised institutions. However, to the extent that a banking organization is concerned about supervisory restrictions imposed by Federal Reserve examiners, we have encouraged them to discuss their concerns with Reserve Bank or Federal Reserve Board supervisory staff or, if they prefer to raise their concerns confidentially, to raise them with the

Board's Ombudsman, who works with bankers and supervisory staff to resolve such issues. In addition, last year the Federal Reserve conducted a series of more than 40 meetings with community leaders from across the country to gather information to help the Federal Reserve and others better respond to the credit needs of small businesses. Emerging themes, best practices, and common challenges identified by the meeting series were discussed and shared at a conference held at the Federal Reserve Board in Washington in early July 2010 and are described in a summary report posted on the Federal Reserve's Web site at: *http://www.federalreserve.gov/events/conferences/2010/sbc/downloads/small_business_summary.pdf*.

There are several initiatives currently underway to address issues identified through these meetings. Most recently, the Federal Reserve has been working with staff at the U.S. Treasury and the other banking agencies to implement the Small Business Lending Fund created by the Small Business Jobs Act of 2010. This fund is intended to facilitate lending to creditworthy borrowers by providing affordable capital support to community banks that lend to small businesses.

Q.2. During this economic crisis the length of time workers have remained unemployed has increased substantially. The longer someone remains outside the workforce, the harder it becomes to find employment and contribute to economic growth. What can policy makers do to get people back to work as soon as possible? What actions can be taken to help the long-term unemployed so we can make sure they do not lose the ability to reenter the workforce?

A.2. Although the economy recovery appears to be on firmer footing, unemployment remains a significant concern in the United States. The recent declines in the unemployment rate are encouraging, but the level of unemployment is still very high, and it is likely to be some time before the unemployment rate returns to a more normal level. In addition, more than 40 percent of the unemployed have been out of work for 6 months or more. As you indicate, long-term unemployment is a particularly serious problem because it erodes the skills of those workers and may cause lasting damage to their future employment and earnings prospects.

Given the current situation in which unemployment is high and inflation is low, the Federal Open Market Committee has maintained the target range for the Federal funds rate at 0 to ¼ percent. In addition, the Committee decided in November 2010 to expand its holdings of securities, with the intention of purchasing $600 billion of Treasury securities by the end of the second quarter of 2011. The Committee believes that its policies will promote a stronger pace of economic recovery and anticipates a gradual return to higher levels of resource utilization in a context of price stability. The Federal Reserve also continues to provide guidance to banks to ensure that creditworthy borrowers, including small businesses and other potential employers, have access to credit. Finally, as I indicated in my recent testimony, I believe that efforts to address the Nation's longer-run fiscal challenges could also help to promote the economic recovery. In particular, the adoption of a credible program to reduce future deficits would not only enhance

economic growth and stability in the long run, but could also yield substantial near-term benefits in terms of lower long-term interest rates and increased consumer and business confidence. All of these policies should help to reduce unemployment over time.

With regard to other actions that might be taken to help the long-term unemployed, it seems to me that policies targeted towards providing those workers with the resources they need to upgrade their skills and find new jobs as the economy continues to recovery can be helpful. For example, community college and other adult education programs have been effective in helping workers who have lost their jobs to obtain new skills that strengthen their qualifications for available jobs. Similarly, innovative workforce development programs can play an important role in anticipating future job market demands, and it might be fruitful to couple these programs with job search assistance that channeled search and training toward the most promising areas. Unfortunately, however, long-term unemployment is a complex problem and there are no simple or guaranteed solutions.

Q.3. What steps is the Federal Reserve taking toward establishing macroprudential tools that will assist it in identifying and responding to future asset bubbles that have the potential of igniting another financial crisis?

A.3. The Federal Reserve is taking steps to identify and respond to emerging asset bubbles. Macrostress tests of financial institutions—such as those recently performed by Federal Reserve as part of the Comprehensive Capital Analysis and Review (CCAR) of large bank holding companies (BHCs)—are an important macroprudential tool. The macro stress tests help to identify the threats to financial stability from BHCs that would be posed by adverse economic conditions and large falls in asset prices. In addition, enhanced supervision and prudential standards required under the Dodd-Frank Act will make large BHCs and nonbank institutions determined to be systemically important subject to more stringent requirements on capital, leverage, and liquidity, as well as tighter limitations on their single-counterparty credit exposures. These enhanced standards should help to make the financial sector more resilient to asset price adjustments and thus would diminish the cost to the real economy. Finally, the Federal Reserve is working closely with other member agencies of the Financial Stability Oversight Council (FSOC) to identify threats to the financial stability of the United States, which could include emerging asset bubbles, and, moreover, to respond preemptively to such threats. Because the FSOC's mandate is to focus on the stability of the U.S. financial system as a whole, this focus should reduce the possibility of undetected regulatory gaps which could, left unmonitored, fuel asset bubbles.

Q.4. In a recent speech you explained the role played by global imbalances in encouraging the asset bubbles that led to the financial crisis. If this was a contributing factor to the crisis, what actions should be taken to address these global imbalances so that they do not destabilize the global financial system again in the future?

A.4. The primary cause of the boom and bust in the housing market was the poor performance of the financial system and financial

regulation, including misaligned incentives in mortgage origination, underwriting, and securitization; risk-management deficiencies among financial institutions; conflicts of interest at credit rating agencies; weaknesses in the capitalization and incentive structures of the Government-sponsored enterprises; gaps and weaknesses in the financial regulatory structure; and supervisory failures. Global imbalances and the capital flows associated with them likely played a role in helping to finance the housing bubble and thus setting the stage for its subsequent bust. But it was the interaction between strong capital inflows and weaknesses in the domestic financial system that proved so injurious to financial stability.

The appropriate response to the concerns posed by global imbalances is not to try to reverse financial globalization, which has conferred considerable benefits overall. Rather, we need to pursue reforms that promote financial stability in the context of an increasingly globalized financial arena. First, countries must work together to create an international system that more effectively supports the pursuit of internal and external balance: Countries with excessive and unsustainable trade surpluses will need to allow their exchange rates to better reflect market fundamentals and increase their reliance on domestic demand, while countries with large trade deficits must encourage higher national saving, including by strengthening their fiscal positions. Second, the United States must continue to work with its international partners to increase the efficiency, transparency, and resiliency of our national financial systems and to strengthen financial regulation and oversight.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR AKAKA FROM BEN S. BERNANKE

Q.1. Chairman Bernanke, as you know, I am most concerned with the well-being of consumers. In the current economic climate, consumers are confronted with difficult financial decisions. This is the case in Hawaii, where many homeowners face possible foreclosure and the average credit card debt of a resident is the second highest in the country.

Last week was America Saves Week. We highlighted the importance of personal savings and teach consumers how to increase their financial security through better money management. By saving, individuals can help protect themselves during economic downturns and unforeseen life events.

And yet, we also know that our slow economic recovery is partially due to low consumption or consumer spending.

Chairman Bernanke, my question to you is about these two different motivations. How can we continue our efforts to promote economic recovery? And, how do we at the same time encourage responsible consumer behavior and financial decision making?

A.1. The Federal Reserve System is strongly committed to promoting consumer financial education through research, community outreach and a wide range of information on issues related to personal finance that we make available to the public. One objective of our consumer and community activities is to foster informed and prudent financial decision making of the type promoted by the

America Saves campaign. Indeed, the Federal Reserve Board is a member of the America Saves National Advisory Committee.

The exercise of sound judgment in personal financial affairs is not inconsistent with a healthy growing economy. Quite the contrary. As the events of the past several years have shown, outsized debt accumulation can leave many households vulnerable to great distress if collateral values drop sharply or income is disrupted, which leads to cutbacks in aggregate demand, production and employment. These cutbacks can lead to further financial distress and income disruptions and associated declines in production and employment. However, sound household decision making can lay the foundations for sustainable economic growth. Looking forward, a combination of rising business confidence, accommodative monetary policy, and improving credit conditions seems likely to lead to continued gains in production and employment. These gains, in turn, should boost incomes and provide the wherewithal for households to increase their spending without taking on excessive debt, which helps to further support increases in production and employment in a virtuous cycle.

Q.2. Chairman Bernanke, because of the high number of recent foreclosures, an alarming number of Americans face the extremely difficult task of placing themselves back on sound financial footing. They are especially vulnerable to nontraditional and predatory financial products and services.

What can be done to help these individuals overcome foreclosure and restore their financial well-being?

A.2. The Federal Reserve has been working at various levels to support consumers and communities struggling with the impact of the foreclosure crisis since 2007. Through the 12 Federal Reserve Banks, the System works with financial institutions, local leaders, and community groups to provide relevant research, and data through a broad range of programs and activities. The Board of Governors provides guidance and support to the Reserve Banks' efforts, offering a national perspective on various policy issues and programs that help provide further understanding of the mortgage market and the options available to stabilize neighborhoods and assist borrowers struggling with the impacts of foreclosure. A comprehensive overview of these efforts undertaken by the Federal Reserve in response to the foreclosure crisis is provided in "Addressing the Impact of the Foreclosure Crisis: Federal Reserve Mortgage Outreach and Research Efforts." This report is available online. [1]

The Federal Reserve also has a centralized call center, the Federal Reserve Consumer Help (FRCH), to accept consumer complaints against financial institutions, including consumers experiencing difficulty with their mortgages or who experience communication issues with the financial institution regarding their mortgage. Consumers can contact FRCH for assistance and information. [2] Complaint specialists are trained in responding to consumers' mortgage and foreclosure issues and to direct them to addi-

[1] For "Addressing the Impact of the Foreclosure Crisis . . . " report, see *www.chicagofed.org/digital assets/others/in_focus/foreclosure_resource_center/more_report_final.pdf.*

[2] For additional information about the Federal Reserve Consumer Help center, see *www.federalreserveconsumerhelp.gov/index.cfm.*

tional assistance as their circumstances require. The FRCH Web site provides one-stop shopping for resources and links to Government and nonprofit organizations that offer foreclosure assistance. In addition, each of the Federal Reserve banks and the Board of Governors has established a Web site where consumers can access online Federal and local resources designed to help homeowners with foreclosure prevention and assist their efforts to recover from financial difficulties.[3] For example, the Federal Reserve Bank of St. Louis' Foreclosure Resource Center includes a "Foreclosure Mitigation ToolKit" that identifies steps that community leaders can take to address foreclosures in their neighborhoods, including outreach to those consumers at risk of losing their homes and for developing postforeclosure support systems.[4]

The Board has also issued a number of supervisory guidances to the banks on policies and procedures that are essential to ensuring they work with consumers struggling with their mortgages and comply with appropriate consumer protection laws and regulations that relate to foreclosure and loss mitigation. In 2007, the Board, in concert with other banking supervisory agencies, issued guidance letters specifically related to working with borrowers struggling with their mortgages, as well as guidance in 2009 on tenants' rights when landlords fall into foreclosure.[5] Most recently, the Board announced formal enforcement actions requiring 10 banking organizations to address patterns of misconduct and negligence related to deficient practices in residential mortgage loan servicing and foreclosure processing. A copy of the press release and the accompanying publication that documents the supervisory agencies' findings, Interagency Review of Foreclosure Policies and Practices, can be found online on the Board of Governors' public Web site.[6]

Q.3. Chairman Bernanke, I know that we share an interest in remittances. During difficult economic times, individuals who normally remit money to their relatives overseas are under greater financial pressure. At the same time, they also are under greater pressure to provide assistance to their families abroad.

I know that the Federal Reserve is working hard to implement the remittance protection provisions of the Dodd-Frank Act. It requires more meaningful disclosures for remittance transactions. It also establishes an error resolution process for consumers.

Please update us on what progress has been made to implement the remittance protections in the Dodd-Frank Act.

A.3. On May 12, 2011, the Federal Reserve Board requested public comment on a proposed rule that would create new protections for consumers who send remittance transfers to recipients located in a

[3] Board of Governors, Consumer Information web page, *www.federalreserve.gov/consumerinfo/foreclosure.htm.*

[4] For additional information, see Federal Reserve Bank of St. Louis, Community Development, Foreclosure Resource Center at *www.stlouisfed.org/community__ development/foreclosure/mitigation-l.cfm.*

[5] Federal Reserve Board, Supervision, Consumer Affairs Letters, 2007, CA 07-01, "Working with Mortgage Borrowers", and "Statement on Loss Mitigation Strategies for Servicers of Residential Mortgages". In 2009, CA 09-05, "Information and Examination Procedures for the 'Protecting Tenants at Foreclosure Act of 2009'" and CA-13,"Mortgage Loan Modifications and Regulation B's Adverse Action Requirement".

[6] For the Board of Governors' enforcement actions and the report, "Interagency Review of Foreclosure Policies and Practices", see *http://www.federalreserve.gov/newsevents/press/enforcement/20110413a.htm.*

foreign country. The press release and related information can be found on the Board's public Web site at: *www.federalreserve.gov/newsevents/press/bcreg/20110512a.htm.*

The proposed rule would require that remittance transfer providers make certain disclosures to senders of remittance transfers, including information about fees and the exchange rate, as applicable, and the amount of currency to be received by the recipient. In addition, the proposed rule would provide error resolution and cancellation rights for senders of remittance transfers. The proposed model disclosure forms were developed with the use of extensive consumer testing to ensure that they presented the information that consumers of remittance products need to make informed decisions regarding fees and features across providers.

The public comment period will end on July 22, 2011, and all comment letters will be transferred to the Consumer Financial Protection Bureau which will have responsibility for issuing the final rules.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR MERKLEY FROM BEN S. BERNANKE

Q.1. *Federal Reserve Audit.* During the debate over the Dodd-Frank Act, the Federal Reserve argued that revealing the names of borrowers from its emergency lending facilities would imperil the financial institutions and other borrowers and chill the use of those emergency facilities that may be necessary to stabilize the economy. Yet, as mandated by the Dodd-Frank Act, the Federal Reserve on December 1, 2010 revealed the names of many of the borrowers from its emergency lending facilities during the 2008 financial crisis.

What lessons can be drawn from this experience? Does this experience suggest that the Federal Reserve can be more transparent regarding its borrowers during or soon after a crisis?

A.1. As you note, the Federal Reserve published the names of the borrowers from its emergency lending facilities, as well as details on the loans extended, on December 1, 2010. The publications added to the large volume of information that the Federal Reserve had made available in weekly and monthly reports on its emergency lending throughout the financial crisis. In addition, as required by the Dodd-Frank Act, any borrowers at future emergency credit facilities would be identified 1 year after the emergency facility was closed, and borrowers at the Federal Reserve's normal discount window would be identified 2 years after borrowing. It is difficult to assess the effect of these disclosures on the effectiveness of Federal Reserve lending programs that may put in place to address a future financial crisis and support credit availability to U.S. businesses and households. Financial firms may be less willing to participate in such programs because they will anticipate that their names will be disclosed and will remain concerned about the possible effects of that disclosure on the behavior of their creditors and counterparties in some circumstances. Indeed, some firms have publicly stated that they no longer intend to access the discount window.

We think that an effective discount window can be an important source of backup liquidity for the banking system, and we will monitor carefully the discount window borrowing of depository institutions.

Q.2. *Commodities.* Financial experts have noted that speculative booms in commodities, especially oil, tend to immediately precede recessions in the U.S. Are you concerned at all that commodities are getting out of hand? If monetary policy ought to be focused on the big risks to the U.S., such as from housing, are there other tools that can be applied to the commodities markets to ensure we don't have a speculative bubble and bust? For example, both the U.S. and European financial regulators have new authorities to impose position limits. Please share your views regarding the use of these.

A.2. The prices of oil and other commodities can have important implications for U.S. economic growth and price stability. Accordingly, the Federal Reserve closely monitors developments in these markets. Broad movements in commodity prices have been in line with developments in the global economy. These prices rose throughout most of the past decade while global growth was strong and supply was constrained, they collapsed with the onset of the global recession, and they subsequently rebounded amid the economic recovery. The increases in commodity prices in recent months have largely reflected rising global demand, particularly in some fast-growing emerging market economies, coupled with constraints on global supply in some cases. In particular, political unrest in the Middle East and North Africa has led to further increases in oil prices, and adverse weather has boosted prices of some important food commodities.

Some have argued that speculative activities on the part of financial investors have been responsible for the extreme swings in commodity prices. Notwithstanding considerable study, however, conclusive evidence of the role of speculators remains elusive. If conclusive evidence emerged that commodity markets were not performing their price discovery and allocative role effectively, changes in regulatory policies might be appropriate. Policy makers should be cautious and careful in proposing changes to the regulation of commodity markets, so as to not excessively shrink market liquidity, impede the price discovery process, or interfere with the ability of commodity producers and consumers to manage their risks.

Q.3. *Foreign Exchange.* We have heard some argue that foreign exchange markets performed well during the crisis, that those markets did not need to be bailed out, and that as a result "foreign exchange swaps" ought to be exempt from Dodd-Frank swaps regulation (as permitted if the Secretary of the Treasury makes the finding required under Dodd-Frank Act). Please refresh the Committee on how the foreign exchange markets, especially the markets in these foreign exchange swaps, performed during the crisis.

- Did they freeze up at any point such that firms would not enter into transactions with each other?

- Did some firms place trades betting that currencies would decline and then suffer losses when their counterparties were unable to repay?
- What role did the Federal Reserve's central bank foreign exchange swap lines—which in December of 2008 reached nearly $600 billion in outstanding lending, or 25 percent of the Fed's assets—play in those ensuring the functioning of these "foreign exchange swap" markets?

A.3. All financial markets experienced some stress during the crisis. However, foreign exchange markets were arguably more resilient than many other wholesale money markets. In particular, unlike some dollar funding markets—such as markets for commercial paper, asset-backed commercial paper, repurchase agreements, and Eurodollars—which essentially seized up during the crisis, the foreign exchange market continued to function. Liquidity in the market for spot foreign exchange was only slightly impaired. The market for dollar-related foreign exchange swaps, which is used by some financial institutions to acquire dollar funding, exhibited more strains because of its tighter links with dollar funding markets more generally. However, trading in the foreign exchange swap market for dollars was not affected as much as trading in some of the other market segments. And nondollar foreign exchange swap markets were relatively unaffected.

Some firms may have taken directional positions in currencies during the crisis, as part of their standard business activity, but we did not hear of any significant troubles with failures to repay in the swap or forward market for foreign exchange.

The Federal Reserve's swap operations were not done in the private market with private-market counterparties. They were done with other central banks, so there was no direct support provided by these operations to the foreign exchange swap market. The Federal Reserve's swap operations with other central banks provided the other central banks with dollar liquidity that they in turn could lend to private financial institutions in their jurisdictions. The dollar transactions of the foreign central banks in their local markets were nearly all in the form of repurchase agreements or other collateralized lending operations. Such operations were not in direct support of the market for foreign exchange swaps. Nonetheless, because the operations of the foreign central banks did help relieve pressures in dollar funding markets more generally, these operations had an indirect impact on the functioning of the dollar foreign exchange swap market, too.

Q.4. *Housing Risks.* The Case-Schiller housing price index fell by 3.9 percent from November to December 2010, and was down 4.1 percent year on year. As you know, declining housing prices in the U.S. expose families and financial institutions to a great deal of hardship and risk. And while employment appears to be improving in some places, many people continue to be out of work, especially in my home State of Oregon.

What risk to the economy do you see from falling or stagnant housing market, with an inventory of distressed properties constituting a large proportion of the homes for sale? What monetary or

supervisory tools does the Federal Reserve have to manage such risks? What role can fiscal and other Government policy play?

A.4. In many markets across the country, housing activity remains weak and home prices remain depressed. Weakness in real estate markets is an important headwind for economic growth and represents a key risk to macroeconomic performance in the period ahead.

Against this backdrop and in the context of low overall rates of resource utilization, subdued inflation trends, and stable inflation expectations, earlier this month, the Federal Open Market Committee has maintained the target range for the federal funds rate at the historically low level of 0 to ¼ percent and continued its existing policy of reinvesting principal payments from its securities holdings and of purchasing additional longer-term Treasury securities through the end of the second quarter of 2011. Should the Committee determine it to be necessary, the overall size and pace of the Federal Reserve's asset-purchase program can be adjusted as needed to best foster maximum employment and price stability.

The Federal Reserve also has a variety of supervisory tools at its disposal to help manage risks stemming from weakness in real estate markets. Indeed, to improve both the Federal Reserve's consolidated supervision and our ability to identify potential risks to the financial system, such as those posed by weakness in housing markets, we have made substantial changes to our supervisory framework. In particular, we have augmented our traditional approach to supervision, which focuses on examinations of individual firms in isolation, with greater use of horizontal reviews that simultaneously examine risks across a group of firms, to identify common sources of risks and best practices for managing those risks. To supplement information gathered by examiners in the field, we have also enhanced our quantitative surveillance program to use data analysis and modeling to help identify vulnerabilities at both the firm level and for the financial sector as a whole.

A recent example of this improved supervisory framework is the Comprehensive Capital Analysis and Review (CCAR) that was completed by the Federal Reserve on March 18, 2011. One element of the forward-looking evaluation of the internal capital planning processes of the large, complex banking organizations in the CCAR was to ascertain each firm's ability to hold sufficient capital to maintain access to funding, to continue to serve as credit intermediaries, to meet their obligations to creditors and counterparties, and to continue operations, even in an adverse macroeconomic environment. The "supervisory stress scenario" that was part of the CCAR included a deterioration in real estate markets resulting in a significant further decrease in home prices nationwide.

Regarding fiscal policy and other governmental policy, the Congress could, in principle, decide to pursue a range of responses to weakness in housing markets. However, the Congress would, of course, have to weigh the potential benefits of such policy responses in the context of the overall Federal budget situation and a number of competing demands on scarce resources.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR VITTER FROM BEN S. BERNANKE

Q.1. When are you going to get out of the ultra-low interest rates policies of near zero interest rates? What specific metrics will guide your decision? What will you look at in terms of factors that will influence your decision as to when to increase rates off of zero?

A.1. The Federal Reserve conducts monetary policy to foster its statutory objectives of maximum employment and stable prices. Consistent with these objectives, the Federal Reserve eased monetary policy aggressively over the course of 2008 in response to the financial crisis and the associated steep economic downturn. By late 2008, the Federal Open Market Committee (FOMC) had reduced its target for the Federal funds rate to a range of 0 to ¼ percent. It also had begun large-scale purchases of agency debt and agency-guaranteed mortgage-backed securities in order to provide additional monetary policy accommodation. Subsequently, the Federal Reserve also purchased longer-term Treasury securities with the same objective. As the FOMC noted in its most recent statement, recent data suggest that the economic recovery is proceeding at a moderate pace and labor market conditions are improving gradually. Nonetheless, the unemployment rate remains elevated, and measures of underlying inflation continue to be somewhat low, relative to levels that the FOMC judges to be consistent, over the longer run, with its dual mandate. Based on this outlook, the FOMC decided at its most recent meeting that it was appropriate to maintain its accommodative stance of monetary policy.

As the economy recovers further, the FOMC will eventually need to remove the current degree of policy accommodation so that the stance of monetary policy remains consistent with the FOMC's dual mandate. The FOMC monitors a wide range of indicators in order to assess progress toward its dual objectives and hence the appropriate stance of policy. In particular, the FOMC has noted factors that are important in its assessment of the appropriate level of the Federal funds rate in the current environment including low rates of resource utilization, subdued inflation trends, and stable inflation expectations.

Q.2. Mr. Chairman, as you are well aware, since the Federal Reserve lowered the Federal Funds rate to "0 to ¼ percent" the FOMC statement has included the following statement, the Fed "continues to anticipate economic conditions . . . are likely to warrant exceptionally low levels of the federal funds rate for an extended period of time."

As I'm sure you are aware Kansas City Federal Reserve Bank President Hoenig cast dissenting votes on the Federal Open Market Committee 8 times throughout 2010 because he felt that "continuing to express the expectation of exceptionally low levels of the Federal funds rate for an extended period was no longer warranted because it could lead to the buildup of financial imbalances and increase risks to longer-runmacroeconomic and financial stability."

At what point, Mr. Chairman, would it be warranted not to increase the Federal funds rate, but to simply remove that phrase: "likely to warrant exceptionally low levels of the Federal funds rate for an extended period of time?" Can you give this Committee a

time frame on when that might happen? If not, can you describe the metrics you will use to make that decision?

A.2. The FOMC regularly evaluates all aspects of the current stance of policy and its statement in light of the evolution of the economic outlook. The phrase noted is intended to provide market participants with greater clarity about the FOMC's expectations for the path of the Federal funds rate given its assessment of the economic outlook. Importantly, this so-called "forward guidance" for the funds rate is explicitly conditional on the economic outlook. As a result, any changes in the forward guidance will depend on the evolution of the outlook for economic activity and inflation. As the economy continues to recover, policy accommodation will eventually need to be removed so that the stance of monetary policy remains consistent with the Federal Reserve's dual mandate to foster maximum employment and stable prices. The FOMC monitors a wide range of indicators in order to assess progress toward its dual objectives and hence the appropriate stance of policy. The FOMC has noted some of the important metrics that form the basis for its current forward guidance regarding the funds rate target. In particular, the FOMC statement notes that low rates of resource utilization, subdued inflation trends, and stable inflation expectations are some of the key factors supporting its judgment that exceptionally low levels of the funds rate are likely to be warranted for an extended period.

Q.3. In a speech last year, Mr. Hoenig advocated a policy that remains accommodative but slowly firms as the economy itself expands and moves toward more balance. He advocated dropping the "extended period" language from the FOMC's statement and removing its guarantee of low rates. This tells the market that it must again accept risks and lend if it wishes to earn a return. The FOMC would announce that its policy rate will move to 1 percent by a certain date, subject to current conditions. At 1 percent, the FOMC would pause to give the economy time to adjust and to gain confidence that the recovery remains on a reasonable growth path. At the appropriate time, rates would be moved further up toward 2 percent, after which the nominal Fed funds rate will depend on how well the economy is doing. Are you aware of this proposal? Have you considered it?

A.3. The FOMC reviews its policy stance at every FOMC meeting, and meeting participants regularly offer their views about a range of policy options. President Hoenig expressed his views at FOMC meetings, and they were noted in the minutes of the meetings. (*See, for example,* the minutes to the September 2010 meeting at *http://www.federalreserve.gov/monetarypolicy/fomcminutes20100921.htm.*)

As noted above, the FOMC will eventually need to remove policy accommodation in order to maintain an overall stance of monetary policy that is consistent with the statutory objectives of maximum employment and stable prices. Currently, the unemployment rate remains elevated, and measures of underlying inflation continue to be somewhat low, relative to levels that the FOMC judges to be consistent, over the longer run, with its dual mandate. At its most recent meeting, the FOMC again judged that it was appropriate to

maintain the current 0 to ¼ percent target range for the Federal funds rate to foster its dual mandate. In addition, the FOMC again continued to anticipate that economic conditions—including low rates of resource utilization, subdued inflation trends, and stable inflation expectations—were likely to warrant exceptionally low levels for the Federal funds rate for an extended period.

Q.4. What specific metrics will guide your decision for ending QE2?

A.4. The FOMC's decision last fall to undertake a second round of large scale asset purchases reflected its judgment that, while the economic recovery was continuing, progress toward meeting the FOMC's dual mandate of maximum employment and price stability had been disappointingly slow. Moreover, members generally thought that such progress was likely to remain slow. While incoming economic and financial data since that time has suggested some improvement in the economic outlook, that improvement has been fairly gradual, and the FOMC has judged that the current program of purchases remains appropriate.

The FOMC regularly reviews the pace of its securities purchases and the overall size of the asset purchase program in light of incoming information and will adjust the program as needed to best foster its statutory goals of maximum employment and price stability. In considering the appropriate stance of policy, including the decision for ending the asset purchase program, the FOMC must be forward-looking because changes in monetary policy affect the economy with a lag. In making its assessment of the likely trajectory for the economy and the risks around that trajectory, the FOMC monitors a wide range of economic and financial indicators, including measures of spending and production in various sectors of the economy, labor market indicators across sectors and regions, measures of price and wage developments, and financial variables that shed light on the financing conditions faced by businesses and households, as well as overall conditions in the financial system.

Q.5. Mr. Chairman, you and the Federal Reserve have said repeatedly that QE2 related purchase will end in June. Do you still plan for that to be the case—for QE2 to definitely end in June? What factors would dissuade you from pursuing that course?

A.5. Yes, at its most recent meeting, the FOMC announced that the Federal Reserve will complete purchases of $600 billion of longer-term Treasury securities by the end of the current quarter. Of course, going forward, the FOMC will continue to monitor a wide range of economic and financial indicators and assess their likely implications for the achievement of its objectives.

Q.6. There are long term risks and short term benefits associated with the policy of QE2. How do you appropriately balance the short term benefits the long term risk?

A.6. The main benefit the FOMC saw to the new asset purchase program was that by providing additional monetary accommodation, the purchases would help to support the attainment of the Federal Reserve's statutory goals of maximum employment and price stability. As I noted earlier, the FOMC's decision last fall to undertake a second round of large scale asset purchases reflected its judgment that, while the economic recovery was continuing,

progress toward meeting the FOMC's dual mandate of maximum employment and price stability had been disappointingly slow. Moreover, in the absence of additional policy stimulus, there was a risk that further adverse shocks to the economy could lead to deflation—that is, to falling prices and wages—and a protracted period of economic weakness.

However, as you note, the benefits of the asset purchase program need to be weighed against the associated risks. One risk was that, given our relative lack of experience with this policy tool, we did not have very precise knowledge of the quantitative effect of changes in our holdings of longer-term securities on financial conditions and on the economy. This uncertainty about the quantitative effect of securities purchases increased the difficulty of calibrating and communicating the policy response, and it made a flexible, conditional approach to the new purchases attractive. As a result, the FOMC, while noting its intent to purchase $600 billion of Treasury securities by the end of the second quarter of 2011, emphasized that it would regularly review the pace of its securities purchases and the overall size of the asset purchase program in light of incoming information and adjust the program as needed to best foster its statutory goals of maximum employment and price stability. Ultimately, the FOMC decided to complete the program as originally announced.

Another concern associated with our securities purchases is that substantial further expansion of the Federal Reserve's balance sheet might reduce public confidence in the ability of the Federal Reserve to execute a smooth exit from its accommodative policies at the appropriate time. Even if unjustified, such a reduction in confidence might lead to an undesired increase in inflation expectations. However, the Federal Reserve has expended considerable effort in developing the tools needed to ensure that the exit from highly accommodative policies can be smoothly accomplished when appropriate, and I am confident that those tools are ready for use when needed. By providing clarity to the public about the methods by which the FOMC will exit its highly accommodative policy stance—which we have done through speeches and testimonies by FOMC members—the Federal Reserve can help to anchor inflation expectations and so help to foster our dual mandate.

Q.7. One thing that I am deeply concerned about is how the Federal Reserve will deal with inflationary pressure. The Fed's extraordinary response to the financial crisis has exposed itself to potential losses that would be exacerbated by any attempt of the Federal Reserve to fight inflation—with the average cost of gas already on the rise ($3.19/gallon last week)—is something you will have to address in the very short term. How do you, Mr. Chairman, plan to fight inflation without increasing the losses you would take on interest rate sensitive assets the Fed now owns because of your previous actions?

A.7. The Federal Reserve is unwaveringly committed to carrying out its dual mandate to promote price stability and maximum employment. Although increases in energy prices over recent months have boosted headline inflation in the near term, inflation is likely to moderate substantially over the intermediate term given that

measures of underlying inflation are subdued and long-run inflation expectations remain stable. At the same time, the unemployment rate is quite high and seems likely to return to a more normal level at a very gradual pace. Based on this outlook, the FOMC decided at its most recent meeting that it was appropriate to maintain its very accommodative stance of monetary policy. However, if the inflation outlook were to worsen appreciably, the Federal Reserve has the will and the tools to remove monetary accommodation as needed on a timely basis. As discussed in more detail below in response to Question 10, the removal of policy accommodation could result in some losses on sales of securities. However, we expect that any such losses would be more than offset by interest income generated by the Federal Reserve's securities portfolio. In all cases, the Federal Reserve's monetary policy decisions will be guided solely by its statutory mandate to foster maximum employment and price stability.

Q.8. On January 6, 2011, the Federal Reserve quietly announced a significant change to its accounting rules. Reuters reported that rule change "was tucked quietly into the Fed's weekly report on its balance sheet and phrased in such technical terms that it was not even reported by the financial media when originally announced on January 6."

The change itself was buried in footnote 15 of supplemental table number 10. The footnote states: "15. Represents the estimated weekly remittances to the U.S. Treasury as interest on the Federal Reserve Notes or, in those cases where the Reserve Bank's net earnings are not sufficient to equate surplus to capital paid-in, the deferred asset for interest on Federal Reserve notes. The amount of any deferred asset, which is presented as a negative amount in this line, represents the amount of the Federal Reserve Bank's earnings that must be retained before remittances to the U.S. Treasury resume. The amounts on this line are calculated in accordance with the Board of Governors policy, which requires the Federal Reserve Banks to remit residual earnings to the U.S. Treasury as interest on Federal Reserve notes after providing for the costs of operations, payment of dividends, and the amount necessary to equate surplus with capital paid-in."

Does accounting change mean that Treasury, and therefore the U.S. taxpayer, is now in a first-loss position should the Fed become book-value insolvent as a result of potential losses that might be incurred on asset sales as part of its efforts to absorb the excess liquidity the Federal Reserve has injected into the financial system?

A.8. The financial relationship between the Federal Reserve and U.S. Treasury was not affected by this accounting change. Instead, the accounting change was made to present that financial relationship in the weekly release more clearly and similarly to how it is presented in the Federal Reserve Banks' annual audited financial statements.

As noted in the footnote to which your question refers, the Board requires the Reserve Banks to remit excess earnings to the Treasury as interest on Federal Reserve notes after providing for the costs of operations, payment of dividends, and reservation of an

amount necessary to equate surplus with capital paid-in. This practice has been in effect since 1964 and has not changed. The Board requires these remittances to be made by each Reserve Bank weekly unless that Reserve Bank's earnings are less than the total of these three elements. In those cases, remittances are suspended until earnings again exceed the three elements. The U.S. Treasury and the taxpayer have always been the beneficiaries of Reserve Bank earnings.

The accounting change implemented in January essentially requires Reserve Banks to record their obligation to remit excess earnings to the U.S. Treasury as a liability each day, rather than only at year-end. This accounting treatment is consistent with generally accepted accounting principles and more clearly presents each Reserve Bank's obligation to remit earnings to the Treasury. Previously, unremitted earnings were reflected on the Reserve Bank balance sheets as "other capital" pending ultimate reclassification at year-end to the appropriate surplus and liability accounts. The accounting change ensures that the Reserve Banks' weekly balance sheets clearly reflect the capital position of each Reserve Bank and the amount of that ReserveBank's earnings yet to be remitted to the Treasury.

Your question related to the possibility that a Reserve Bank's liability for remittances to the Treasury would be negative and represented as a deferred asset. This occurs when earnings are less than the three elements noted above and remittances have been suspended. Just as Reserve Bank earnings above those elements create a liability for the amount to be remitted, earnings less than those elements create a deferred asset for the amount of future earnings that will be retained before remittances will resume.

Q.9. Do these accounting changes really prevent the Federal Reserve from being bankrupt? Is it appropriate that the Federal Reserve is allowed to make this sort of dramatic change to how it keeps its book without any oversight or approval from anyone?

A.9. The accounting changes have no bearing on the fundamental financial condition or solvency of the Reserve Banks. As stated previously, the accounting change made in January aligned our weekly accounting practices with our year-end accounting practices and generally accepted accounting principles. The Reserve Banks continue to receive clean annual audit opinions from the external auditors. The accounting for the distribution of excess earnings is designed to be transparent and show clearly the economic substance of the distribution policy each week. The change has no impact on the financial operations of the Reserve Banks.

Q.10. Mr. Chairman, were these changes made because of the increasingly significant exposure to interest rate risk, through the acquisition of mortgage-backed-securities and long-term Treasuries due to Fed actions during the financial crisis and QE2?

A.10. No. The changes to Federal Reserve accounting policy were made to provide greater transparency regarding Federal Reserve income and remittances to the U.S. Treasury. Regarding the Federal Reserve's interest rate risk, the Federal Reserve's System Open Market Account (SOMA) portfolio currently has an overall unrealized gain position of about $70 billion. An increase in inter-

est rates and a decline in the market value of the securities in the portfolio could result in unrealized losses for the portfolio. However, the Federal Reserve does not realize losses on its portfolio unless a security is sold. As a result, even if the securities in the SOMA portfolio were to decline in value, there would be no implication for Federal Reserve earnings unless the assets are sold. Moreover, we currently expect that any realized losses on any potential sales of securities would be more than offset by the substantial interest income that the Federal Reserve earns, and is expected to continue to earn, on the SOMA portfolio. If interest rates were to rise more than is implied by current market rates, or if the Federal Reserve were to sell assets relatively rapidly, realized losses would be higher than expected, reducing the Federal Reserve's net income. While there may be scenarios in which asset sales could lead to realized losses that exceed net interest income, those scenarios seem very unlikely. Moreover, any reduction in Federal Reserve net income resulting from realized losses on securities holdings would most appropriately be viewed in the context of the very sizable Reserve Banks remittances to the Treasury over the past few years, much of which reflects the large-scale asset purchases that have been pursued by the FOMC to foster the goals of monetary policy.

Q.11. Mr. Chairman, this time last year you were asked about your thoughts about the GSEs—Fannie Mae and Freddie Mac—and what sort of time frame we [Congress] should try to come up with a solution—6 months? 9 months? End of the year?

In response, you said, "Well, the sooner you get some clarity about where the ultimate objective is, the better."

Here we are a year later and the administration has just released its plan—which is more of a menu of options than a plan. Do you think the lack of clarity from Congress on the future direction of the economy is having an adverse impact on the housing finance market?

A.11. Greater clarity from the Congress on the direction of housing finance in the United States would have a positive effect on mortgage markets. Market participants would be better able to plan for the future if they knew what institutions and policies were likely to be important in coming years.

Q.12. As you know between FHA and Fannie Mae and Freddie Mac the Government is originating roughly 95 percent of new loans in the market today. Do you think Congressional action on GSE reform could help reinvigorate the private mortgage lending sector?

A.12. Congressional action on GSE reform could help reinvigorate the private mortgage lending sector. As described in the recent Department of the Treasury Report to the Congress on "Reforming America's Housing Finance Market," the Administration lays out three options for moving forward with the reform of Fannie Mae and Freddie Mac. These options are reasonable and feasible approaches for reforming mortgage finance. By presenting these options, the report appropriately leaves to Congress the question of the extent of Government involvement in mortgage markets. By settling on an approach for managing future Government involvement in mortgage markets, Congress would also provide the pri-

vate mortgage sector with important information about its future role in housing finance.

Q.13. Some have criticized the Obama administration for suggesting that the Government should be completely removed from the housing finance market. One industry group (the National Association of Realtors) has said, "The Obama administration and some members of Congress want to turn the clock back on the housing market to the 1930s, turning us into a Nation of renters and making home ownership something that only the rich can afford." Do you think that is a fair criticism or is that hyperbole from people who are addicted to the current system of subsidy for housing?

A.13. The Administration's housing finance reform proposal rejects privatization of the housing markets. As its states, "Complete privatization would limit access to, and increase the cost of, mortgages for most Americans too dramatically and leave the Government with very little it can do to ensure liquidity during a crisis" (page 26). Instead, the Administration proposes three options that have less Government involvement in mortgage markets than in the past, but still have a significant role for Government. The options presented in the Administration's proposal strike a balance between access to mortgage credit, incentives for housing investment, taxpayer protection, and financial stability.

Q.14. Given the fact that jumbo 30-year fixed-rate mortgages existed before the crisis, don't you think it's likely that a strictly private housing finance market would offer a 30-year fixed-rate product, though maybe at a slightly higher priced than in the past?

A.14. A strictly private market is likely to offer a 30-year mortgage that is somewhat more costly than such mortgages in the past, but such mortgages may only be available during good economic times. Fannie Mae and Freddie Mac did not dominate the mortgage markets until the late 1980s, but the 30-year mortgage was offered to mortgage borrowers prior to that time. Moreover, the 30-year fixed-rate mortgage is currently offered to borrowers in the jumbo mortgage market (without Fannie Mae or Freddie Mac guarantees). Therefore, some evidence strongly suggests that the 30-year mortgage is a product that can be provided by the private sector. However, it seems unlikely that the 30-year fixed-rate mortgages would be available even at somewhat higher prices under all economic conditions. The implicit Government backing of Fannie Mae and Freddie Mac likely provides them with some significant advantages in funding and in hedging the interest rate risks associated with such mortgages, particularly during times of financial market turmoil. Jumbo mortgages were not available during the worst times of the most recent financial crisis, and when they became available in the latter part of the crisis, such mortgages were priced at very high spreads relative to Treasury yields. Thus, as suggested by the Treasury's recent white paper, some form of Government backing may be needed to maintain reasonable 30-year fixed-rate mortgage rates and a steady supply of mortgage credit during times of substantial financial stress.

Q.15. First, does he support age discrimination?

A.15. No. The Board complies with the Age Discrimination in Employment Act of 1967 (ADEA). The ADEA and the implementing regulations of the EEOC authorize employers to impose mandatory retirement based on age in limited circumstances and the Board policy referred to below complies with the ADEA. (See 29 USC §631(c) and 29 CFR §1625.12.)

Q.16. Why does the Board of Governors require the regional Feds to have a mandatory retirement age?

A.16. The Reserve Banks are private entities for purposes of the ADEA. Accordingly, as is the case in many private firms, the Reserve Banks follow a policy of mandatory retirement of the type that is expressly permitted under the ADEA, as passed by Congress. (See 29 USC §631(c).) The ADEA permits private employers to require the retirement of any employee who has attained 65 years of age, and who, for the 2-year period immediately before retirement, is employed in a bona fide executive or higher policymaking position, if such employee is entitled to an immediate nonforfeitable annual retirement benefit from a pension, profit-sharing, savings, or deferred compensation plan, or any combination of such plans, of the employer of such employee which equals, in the aggregate, at least $44,000. An employee within this exemption can lawfully be required to retire at age 65 or above.

The mandatory retirement policy adopted by the Board applies only to the two most high level officers at the Federal Reserve Banks, the President and the First Vice President, and meets all of the conditions for mandatory retirement under the ADEA, as noted above. The Board's mandatory retirement policy is intended to enable successors to move into these positions at an earlier age than might have been the case without the policy. Moreover, when successors have come from within the organization, earlier turnover at the top has meant earlier advancement, as well as the possibility of increased advancement opportunities for other officers whom the Federal Reserve needs to retain. On the other hand, a fixed mandatory retirement age without due regard for tenure may, on balance, require a frequency of turnover that may be more disruptive than beneficial, and may require an individual to retire when he or she is becoming able to make the greatest contribution. As a result, Board policy requires Reserve Bank presidents and first vice presidents to retire at age 65 or after 10 years in their positions, whichever is later, up to age 75.

Q.17. Is there a similar age restriction on the Board of Governors?

A.17. No. Tenure of service on the Board of Governors is governed by the terms set by Congress in the Federal Reserve Act. Members of the Board are limited in how long they may serve. Under the Federal Reserve Act, both the Chairman and Vice Chairman of the Board serve in this position for a term of 4 years and may only continue as Chairman/Vice Chairman if the then sitting President renominates them for office and the Senate confirms the appointment. All Members, including the Chairman and the Vice Chairman, are appointed to complete fixed terms of 14 years, which start and expire in staggered fashion. Upon the expiration of their terms, Members may continue to serve until their successors are appointed and have qualified.

Q.18. Do you support the mandatory retirement age for regional Feds?

A.18. Yes. The Board's mandatory retirement policy for Presidents and First Vice Presidents of Federal Reserve Banks has provided a beneficial balance between tenured policy makers and incoming executives with new perspectives, while providing for reasonable advancement opportunities for others within the organization. As noted above, the Board's policy complies with the terms of the ADEA as enacted by Congress and the EEOC's implementing regulations.

Q.19. Do you support giving Federal Reserve Board of Governors their own staff?

A.19. All staff of the Board of Governors report to, and perform work for, all members of the Board, and any Board staff may be called upon by any Member to perform work for them in furtherance of official Board functions. In addition, the Board has established delegations of authority which assign responsibility for Board operations to various Members of the Board. Staff who work within these areas of responsibility report directly to the Member who has oversight responsibility for the relevant Board function. Members determine the performance ratings of high level staff within their oversight area and are able to request additional resources for their areas of responsibility if they consider such resources necessary to carrying out the function. Final determinations on staffing and funding levels are voted on by the full Board, with each Member having an equal vote on the ultimate outcome.

Q.20. How can other Governors exercise independent judgment when they have to rely on information fed to them by your staff?

A.20. As noted above, Board staff do not work solely for the Chairman. Board staff report to, and perform work for, all members of the Board based on the duties the Board member performs for the Board.

Q.21. Don't you think, in a crisis such as the one the Federal Reserve just dealt with, that you would have been better served if the other Governors had additional resources with which to make their decisions?

A.21. The Members of the Board worked collaboratively, creatively, and diligently, to address the issues raised by the financial crisis. In addition, staff of the board worked with all Board Members to identify and address concerns. The result, in my estimation, led to a very successful series of policy decisions. All Members of the Board have an equal vote on the Board's budget, which is what determines the level of resources available to carry out the Board's functions.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR WICKER FROM BEN S. BERNANKE

Section 1

Q.1. The Federal Reserve is the primary regulator for the largest U.S. banks and one of the regulators most concerned about securitization, which affects not only the health of those banks but

the U.S. financial system in general. I am very concerned that the mortgage backed securities (MBS) market has no standards and no real working structure, and these problems affect not just financial institutions' ability to monitor and value the MBS they hold but also regulators' ability to understand what is happening with the institutions they are regulating.

In your earlier testimony, you mentioned the steps that regulators are taking to make sure that mortgages are better underwritten, such as the "qualified residential mortgage" definition, national servicing standards, and possible improvements to credit rating agencies' performance. However, I would like you to focus on potential problems with the securities and not the underwriting of mortgages in response to my questions.

Each set of securities has its own pooling and servicing agreements, its own definitions of such fundamental concepts of delinquency and default, and its own internal plumbing mechanisms as to how cash flows work. Can you describe the challenges banks have in placing values on their MBS holdings when it is difficult to compare to other MBS holdings that have different standards?

A.1. MBS valuation has two important components: the projection of cash flows and the identification of appropriate discount rates based on portfolio and market information. Banks investing in MBS should analyze the terms and conditions of Pooling and Servicing Agreements (PSAs) governing the transactions in order to understand the cash flow waterfall and other factors that affect the value of these securities. While there is a greater degree of standardization in PSAs for securities issued by the Government sponsored entities (GSEs), thereby facilitating the valuation of these securities, there is less standardization in the private label MBS market, thereby making the valuation of private label MBS somewhat more complex. These differences include potential loss mitigation strategies and payment advance requirements for delinquent loans as well as other items that give the service some level of discretion in the private label MBS market. Additionally, the underlying representations and warranties and requirements for originators to repurchase mortgage loans not meeting the representations and warranties may vary widely among private label MBS deals. These differences are more acute in private label deals than in issuances involving the GSEs. Further, there can be significant structural differences between issuances of private label MBS that need to be considered such as the number of junior classes and the amount of subordination.

There are a number of challenges in projecting cash flows, including but not limited to mortgage prepayment speeds, uncertainty about housing values, the willingness of borrowers without significant equity to continue to service their mortgage debt, resolution of documentation issues around the foreclosure process, and differences in the quality of servicer data and servicer practices.

Q.2. When there are no standard classifications of mortgages into basic categories such as "prime," "subprime," and "alt-A," how can banks, investors, and regulators be sure about what kind of mortgages are in these securities? Without standards, is it possible for

the underwriters to throw the poorest quality mortgages into securities with good marketing labels?

A.2. The Federal Reserve Board staff agrees that these classifications for mortgages are often subject to interpretation and there is a lack of clear specifications for different mortgage credit classifications. MBS materials and transactional documents should contain clear definitions and detailed disclosures regarding the credit quality of underlying mortgage loans to help protect against potential abuses from mortgage underwriters and MBS issuers. In addition, loan data should be provided far enough in advance of offering dates to give investors adequate time to analyze the credit risk of the portfolio. (This issue has been partially addressed by the Securities and Exchange Commission (Commission) through, for example, its Regulation AB.) While the use of standardized classifications for mortgage credit quality may be a partial solution, additional disclosure regarding the credit quality of the underlying loans would enhance the ability of investors to make a more granular and independent assessment of risk.

Q.3. Is it true that there is no loan-level data on MBS generally available to banks, investors, and regulators who purchase MBS?

A.3. PSAs generally do not require servicers to provide monthly loan-level data to investors in MBS. Servicers usually provide a monthly cash flow report to investors that summarizes the performance of the underlying mortgage pools. These monthly investor reports include information on the total amount of principal and interest collected on the portfolio, delinquent loans, including the severity of delinquencies, servicing and other fees charged by the servicer, and other information. However, such reports may not always contain all relevant data, and investors often utilize information from third party data providers to analyze the performance of MBS. Implementation of revisions to Regulation AB by the Commission should also help improve the amount and standardization of performance data available to investors.

Q.4. Is it true that most MBS are sold through private placements rather than public offerings, which means that important legal documents for MBS are not generally available to banks, investors, regulators, and the public, making it impossible for anyone except the underwriter and the original purchaser of the securities to completely understand the assets making up the MBS?

A.4. Prior to the mortgage crisis, the vast majority of private label MBS were issued using publicly registered shelves. Very few issues were privately placed. However, the private placements issued during that time posed problems for investors. Most investors who initially purchased the offering did not receive the private placement memo until after the trade date. Also, monthly loan performance data is generally not available to new investors after a private placement. Under the terms of private placements, investors are not entitled to the data unless they own the securities, thereby complicating the purchase and sale of these securities in the secondary market. The Commission's proposed enhancements to Regulation AB are designed to address this problem by requiring issuers to provide investors in both public deals and private placements with better access to monthly loan performance data.

Q.5. Without information and good analysis as to what these securities are worth, how can regulators have confidence that the banks with MBS holdings are able to value them correctly?

A.5. A holder of actively traded MBS has access to market bid and ask prices to value these investments. As part of the examination process, regulators assess the processes and methods banks use to value their securities relative to the prices for these securities in the marketplace. The absence of adequate monthly data and the sometimes imprecise terms of PSAs create uncertainty in valuing less liquid assets, particularly where bid and ask prices are not readily available in the market. Banks and other investors employ cash flow models to estimate the expected cash flows from these securities in order to determine the present value and price of the securities. Examiners evaluate the assumptions and have the ability to challenge or change the assumptions, if necessary.

Q.6. Is it true that Fannie Mae and Freddie Mac already have standard legal documents—like pooling and servicing agreements—for the MBS that they guarantee? Has this contributed to these entities sponsoring the only MBS that investors are buying right now? Should the private MBS market have similar standard legal documents and structures?

A.6. Fannie Mae and Freddie Mac have standardized terms for the pooling and servicing agreements for the mortgages they guarantee. Minor variations exist among servicers. However, this standardization in the pooling and servicing agreements is not likely a rationale for investors to purchase GSE-issued MBS. Investors purchase GSE securities because of the Government guarantee as well as the absence of private label mortgage backed securities in the market currently. The private label market would benefit from standardized pooling and servicing agreements once that market restarts.

Section 2

Q.1. The banks and investors that buy MBS rely on the representations and warranties on the underlying mortgage loans being met and for servicers and trustees to enforce remedies for banks and investors if they are not met.

Is it true that the servicers of MBS mortgage pools are responsible for detecting breaches of these representations and warranties and for putting loans that do not meet them back to originators, who often are the servicers' affiliates? Is this a fundamental conflict of interest?

A.1. Under most existing PSAs, servicers do not have the responsibility to review every loan file for violations of representations and warranties or to put the loans that violate representations and warranties back to the originator. However, servicers do have the responsibility to report loans found in violation of representations and warranties in the normal course of business to the bond trustee and the originator. When notified, the originator has the obligation to repurchase the loan or cure the violation. Investors in private label MBS have filed a number of lawsuits alleging, among other claims, that the underlying loans contain breaches of representations and warranties and that the servicers have breached

their fiduciary duty to require originators to repurchase these loans. Much of this litigation is still in its early stages, and at this time, it is difficult to predict its ultimate impact.

Q.2. Is it true that the trustees of MBS mortgage pools provide little to no protection for the banks you regulate that invest in MBS, as the trustees are selected and paid by the underwriter, generally insist on being indemnified for everything, and are generally required to do very little when the mortgage pool is not being serviced properly?

A.2. Federal Reserve Board staff understands that there have been complaints from MBS investors regarding trustees and the terms of trust agreements. Existing agreements can often provide broad indemnifications to trustees. Additionally, trustees are generally not obligated to initiate broad investigations of loan files for breaches of representations or warranties under these agreements, unless a substantial number of investors petition the trustee. The industry will need to come to agreement on any appropriate changes to trust and PSA agreements in order to address investors' concerns.

Q.3. Do you believe that Congress should consider requiring legally and financially meaningful protections for the banks you regulate, and for investors, when they buy MBS and the underlying mortgage quality is not as it was represented by the underwriter?

A.3. The Federal financial industry regulators are discussing the content and extent of guidance on mortgage servicing standards that can help address issues that have arisen in the mortgage and MBS markets as a result of the recent financial crisis. The group may develop solutions that could be implemented through banking supervision and regulation. In circumstances where the scope of bank regulatory authority is limited, the agencies may make recommendations to Congress for further action, if appropriate.

Q.4a. What do you believe the implications would be for the private mortgage finance market as the Government pulls back from its support?

A.4a. Federal Reserve Board staff can see the benefit of standardized guidelines for certain types of mortgages eligible for securitizations. However, these guidelines would need to be one component of an overall housing finance strategy in the United States. The final determination of the role of Freddie Mac and Fannie Mae as well as FHA in the MBS market will determine the course of the private label MBS market. As you may know, a number of standardization efforts are under way. The American Securitization Forum (ASF), through its Project Restart, has a goal to standardize the PSA agreements. The Commission has proposed changes to Regulation AB as noted above.

Q.4b. Mandated standardization of mortgage categories for securitization and of the legal documents that govern MBS.

A.4b. Generally, transparency and disclosure about the financial contracts is helpful for improving the operation of markets for financial assets. However, mandating the details of contracts among private market participants may or may not be helpful depending on the circumstances. For example, standardization can at times be

helpful and improve the market liquidity of some financial assets. At other times, however, standardization may impede financial innovation and hinder market liquidity if the standards are too inflexible or not designed to meet new or evolving market changes. Thus, the details of any particular approach to financial market transactions or contracts have to be known and studied to know if such actions help or hurt financial market performance. Such details are also important for helping to define the appropriate role for GSEs in such markets.

Q.4c. Better disclosure of MBS data and the legal documents.

A.4c. The Federal Reserve Board supports greater transparency and disclosure of MBS data and legal documents. For example, investors need other avenues to access monthly mortgage loan data other than Bloomberg and Loan Performance. In addition, the Federal banking agencies, the Commission, the Federal Housing Finance Authority, and the Department of Housing and Urban Development are working together on issuing proposed rules to require that a securitizer retain an economic interest in a material portion of the credit risk for any asset that it transfers, sells, or conveys to a third party. These rules would require certain mandatory disclosure requirements in securitizations transactions involving MBS that are designed to enhance the information available to investors.

Q.4d. Meaningful remedies for banks and investors of MBS if the underlying mortgage quality is worse than was originally as promised.

A.4d. Securitization documents should provide a framework that permits investors to access loan files so that they can confirm completeness and compliance with the representations and warranties. The Federal Reserve Board supports a securitization framework that would ensure effective oversight of compliance with securitizers' representations and warranties.

ADDITIONAL MATERIAL SUPPLIED FOR THE RECORD

For use at 10:00 a.m., EST
March 1, 2011

Monetary Policy Report to the Congress

March 1, 2011

Board of Governors of the Federal Reserve System

Monetary Policy Report to the Congress

Submitted pursuant to section 2B of the Federal Reserve Act

March 1, 2011

Board of Governors of the Federal Reserve System

Letter of Transmittal

BOARD OF GOVERNORS OF THE
FEDERAL RESERVE SYSTEM

Washington, D.C., March 1, 2011

THE PRESIDENT OF THE SENATE
THE SPEAKER OF THE HOUSE OF REPRESENTATIVES

The Board of Governors is pleased to submit its *Monetary Policy Report to the Congress* pursuant to section 2B of the Federal Reserve Act.

Sincerely,

Ben Bernanke, Chairman

Contents

Part 1
1 Overview: Monetary Policy and the Economic Outlook

Part 2
5 Recent Economic and Financial Developments

6 DOMESTIC DEVELOPMENTS

6 The Household Sector
6 *Consumer Spending and Household Finance*
8 *Residential Investment and Housing Finance*

10 The Business Sector
10 *Fixed Investment*
11 *Inventory Investment*
11 *Corporate Profits and Business Finance*

14 The Government Sector
14 *Federal Government*
15 *Federal Borrowing*
15 *State and Local Government*
16 *State and Local Government Borrowing*

16 The External Sector

17 National Saving

18 The Labor Market
18 *Employment and Unemployment*
19 *Productivity and Labor Compensation*

20 Prices

21 FINANCIAL DEVELOPMENTS

21 Monetary Policy Expectations and Treasury Rates
23 Corporate Debt and Equity Markets
25 Market Functioning and Dealer-Intermediated Credit
26 Banking Institutions
28 Monetary Aggregates and the Federal Reserve's Balance Sheet

30 International Developments

30 International Financial Markets
32 The Financial Account
33 Advanced Foreign Economies
35 Emerging Market Economies

Part 3
37 Monetary Policy: Recent Developments and Outlook

37 Monetary Policy over the Second Half of 2010 and Early 2011
40 Tools for the Withdrawal of Monetary Policy Accommodation
41 Recent Steps to Increase Transparency

Part 4
43 Summary of Economic Projections

45 The Outlook
46 Uncertainty and Risks
47 Diversity of Views

53 Abbreviations

Boxes

22 The Effects of Federal Reserve Asset Purchases
34 An Update on the European Fiscal Crisis and Policy Responses
52 Forecast Uncertainty

Part 1
Overview: Monetary Policy and the Economic Outlook

Economic activity in the United States expanded at a moderate pace, on average, in the second half of 2010 and early 2011. In the spring and early summer, a number of key indicators of economic activity softened relative to the readings posted in late 2009 and the first part of 2010, raising concerns about the durability of the recovery. In light of these developments—and in order to put the economic recovery on a firmer footing—the Federal Open Market Committee (FOMC) provided additional monetary policy stimulus during the second half of 2010 by reinvesting principal repayments from its holdings of agency debt and agency mortgage-backed securities in longer-term Treasury securities and by announcing its intention to purchase an additional $600 billion of Treasury securities by the end of the second quarter of 2011.

Financial market conditions improved notably in the fall of 2010, partly in response to actual and expected increases in monetary policy accommodation. In addition, later in the year, the tenor of incoming economic news strengthened somewhat, and the downside risks to economic growth appeared to recede. Nonetheless, the job market has improved only slowly. Employment gains have been modest, and although the unemployment rate fell noticeably in December and January, the margin of slack in the labor market remains wide. Meanwhile, despite rapid increases in commodity prices, longer-term inflation expectations remained stable, and measures of underlying consumer price inflation continued to trend downward on net.

Real gross domestic product (GDP) rose at a moderate rate in the third quarter. Inventories provided the principal impetus to growth while final sales showed little vigor—the same pattern that prevailed in the first half of the year. Less favorable readings that began to emerge during the second quarter for a range of indicators—new claims for unemployment insurance, industrial production, and numerous surveys of business activity, among others—pointed to a slowing in the pace of the recovery and suggested that the transition from a recovery boosted importantly by the inventory cycle to one propelled mainly by private final demand was proceeding only very gradually. Later in the year, however, this process appeared to gain traction. Indeed, real GDP is estimated to have risen a little faster in the fourth quarter than in the third quarter despite a substantial slowdown in the pace of inventory investment in the fourth quarter; final sales increased much more rapidly in the fourth quarter than earlier.

Over the second half of 2010, consumer spending posted a solid gain, boosted in part by continued, albeit modest, increases in real wage and salary income; some waning of the drag on outlays from earlier declines in household net worth; and a modest improvement in the availability of consumer credit. Businesses continued to step up their spending on equipment and software in response to a brighter outlook for sales as well as more favorable conditions in credit markets. In the external sector, the continued rebound in exports was supported by firming foreign demand. Meanwhile, the construction sector remained exceptionally weak.

The continued recovery in economic activity has been accompanied by only a slow improvement in labor market conditions. Private payroll employment has moved up at a relatively tepid rate—about 115,000 per month, on average, since the February 2010 trough in employment—recouping only a small portion of the 8¾ million jobs lost during 2008 and 2009. Over most of this period, the pace of hiring was insufficient to substantially reduce the unemployment rate. In December and January, however, the jobless rate was reported to have declined noticeably. In addition to the recent drop in the unemployment rate, some other indicators of labor market conditions—for example, measures of firms' hiring plans—have brightened a bit, raising the prospect that a pickup in the pace of hiring may be in the offing. That said, the level of the unemployment rate remains very elevated, and the long-term unemployed continue to account for a historically large fraction of overall joblessness.

Consumer price inflation trended down during 2010 as slack in resource utilization restrained cost pressures while longer-term inflation expectations remained stable. Although the prices of crude oil and many industrial and agricultural commodities rose rapidly in the latter half of 2010 and the early part of 2011, over-

all personal consumption expenditures (PCE) prices increased at an annual rate of just 1¼ percent over the 12 months ending in January, which compares with a 2½ percent rise during the preceding 12 months. Core PCE prices—which exclude prices for food and energy—rose ¾ percent in the 12 months ending in January.

Financial market conditions continued to be supportive of economic growth in the second half of 2010 and into 2011. Equity prices rose solidly, reflecting the more accommodative stance of monetary and fiscal policy, an improved economic outlook, and better-than-expected corporate earnings reports. Yields on longer-term Treasury securities declined in the summer and early autumn, reflecting in part anticipation of additional monetary policy stimulus, but subsequently rose as economic prospects improved and as market expectations of the ultimate size of FOMC Treasury purchases were revised down. Despite some volatility, yields on Treasury securities remained relatively low on balance. Medium- and longer-term inflation compensation derived from inflation-indexed Treasury securities increased since the summer as concerns about deflation eased, though these measures remained within historical ranges. Interest rates on fixed-rate residential mortgages moved broadly in line with yields on Treasury securities while the spreads between yields on corporate bonds and those on Treasury securities declined; overall, both mortgage rates and corporate yields continued to be at low levels. Although bank lending policies generally stayed tight, banks reported some easing in those conditions on net. After posting substantial declines since the third quarter of 2008, total loans held on the books of banks showed signs of stabilizing in recent months.

Larger nonfinancial corporations with access to capital markets took advantage of favorable financial conditions to issue debt at a robust pace. Bond and syndicated loan issuance was strong, particularly among lower-rated corporate borrowers. Commercial and industrial loans on banks' books started to expand around the end of 2010. Nevertheless, small, bank-dependent businesses remained constrained in their access to credit, although some indicators suggested that credit availability for these firms was beginning to improve.

Household debt appears to have contracted in the second half of 2010, but at a somewhat slower pace than earlier in the year. Household mortgage debt likely continued to decline, as housing demand remained weak and lending standards were reportedly still stringent. Revolving consumer credit also contracted. By contrast, nonrevolving consumer credit—primarily auto and student loans—increased solidly in the final quarter of 2010.

After first emerging during the spring, concerns about fiscal and banking developments in Europe resurfaced later in the year. Although some European sovereigns and financial institutions faced renewed funding pressures in the fourth quarter, the repercussions in broader global financial markets were muted. To help minimize the risk that strains abroad could spread to the United States, as well as to continue to support liquidity conditions in global money markets, the FOMC in December approved an extension of the temporary U.S. dollar liquidity swap arrangements with a number of foreign central banks.

Apparently seeking to boost returns in an environment of low interest rates, investors displayed an increased appetite for higher-yielding fixed-income instruments in the second half of 2010 and into 2011, which likely supported strong issuance of these products and contributed to a narrowing of risk spreads, such as those on corporate debt instruments. Information from a variety of sources, including the Federal Reserve Board's Senior Credit Officer Opinion Survey on Dealer Financing Terms, suggests that use of dealer-intermediated leverage by financial market participants rose a bit in recent quarters but remained well below its pre-crisis levels.[1] The condition of financial institutions generally appeared to improve further, and the regulatory capital ratios of commercial banks, particularly the largest banks, moved higher.

With the pace of recovery in output and employment seen as disappointingly slow and measures of inflation viewed as somewhat low relative to levels judged consistent with the Committee's mandate, the FOMC took several actions to provide additional support to the economic recovery during the second half of last year. In August, the FOMC decided to reinvest principal payments from agency debt and agency mortgage-backed securities held in the System Open Market Account (SOMA) in longer-term Treasury securities to keep constant the size of the SOMA portfolio and so avoid an implicit tightening of monetary policy. In November, to provide further policy accommodation to help support the economic recovery, the FOMC announced its intention to purchase an additional $600 billion in longer-term Treasury securities by the end of the second quarter of 2011. Throughout the second half of 2010 and early 2011, the FOMC maintained a target range for the federal funds rate of between 0 and ¼ percent and reiterated its expectation

1. The survey is conducted quarterly and is available at www.federalreserve.gov/econresdata/releases/scoos.htm.

that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, were likely to warrant exceptionally low levels for the federal funds rate for an extended period.

The Federal Reserve continued to develop and test tools to drain or immobilize large volumes of banking system reserves in order to ensure that it will be able to smoothly and effectively exit from the current extraordinarily accommodative policy stance at the appropriate time. The Committee continues to monitor the economic outlook and financial developments, and it will employ its policy tools as necessary to support the economic recovery and to help ensure that inflation, over time, returns to levels consistent with its mandate.

The economic projections prepared in conjunction with the January FOMC meeting are presented in Part 4 of this report. In broad terms, FOMC participants anticipated a sustained but modest recovery in real economic activity this year that would pick up somewhat in 2012 and 2013. The expansion was expected to be led by gains in consumer and business spending that are supported by improvements in household and business confidence. Nevertheless, economic growth was expected to be damped by a number of headwinds, including the gradual pace of improvements in the labor market, still-stringent borrowing conditions for households and bank-dependent small businesses, lingering household and business uncertainty, and ongoing weakness in real estate markets. On balance, FOMC participants anticipated that real GDP would increase at above-trend rates over the next three years, but not as rapidly as in previous recoveries. Meanwhile, the unemployment rate was projected to fall gradually. Inflation was expected to drift up slowly toward the levels that Committee participants believe to be most consistent with the Committee's mandate. Reflecting their assessment that the recovery appeared to be on a firmer footing, the participants upgraded slightly their projections for near-term economic growth relative to the ones they prepared in conjunction with the November FOMC meeting; otherwise, their projections for economic growth and inflation were little changed.

Participants generally judged that the uncertainty attached to their projections for both economic activity and inflation was greater than historical norms. A substantial majority of participants viewed the risks to both economic growth and inflation as balanced; only a few saw them as tilted either to the upside or to the downside. In November, a noticeable share of participants had seen the risks—particularly those to economic growth—as tilted to the downside. Participants also reported their assessments of the rates to which key macroeconomic variables would be expected to converge over the longer term under appropriate monetary policy and in the absence of further shocks to the economy. The central tendencies of these longer-run projections were 2.5 to 2.8 percent for real GDP growth, 5.0 to 6.0 percent for the unemployment rate, and 1.6 to 2.0 percent for the inflation rate.

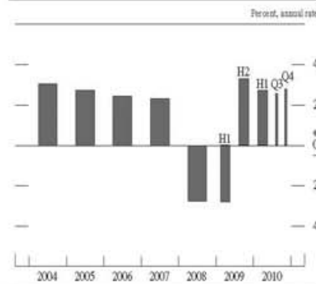
Part 2
Recent Economic and Financial Developments

Economic activity expanded at a moderate pace, on balance, in the second half of 2010. According to the currently available estimates from the Bureau of Economic Analysis, real gross domestic product (GDP) increased at an annual rate of about 2¾ percent, on average, over that period (figure 1). In the third quarter, as had been the case in the first half of the year, much of the increase was the result of inventory accumulation; in contrast, final sales continued to rise at a subdued rate. Meanwhile, several indicators of economic activity had softened from the readings observed earlier in the year, raising concerns about the durability of the recovery. Later in the year, however, the tone of the incoming data on economic activity brightened somewhat, final sales strengthened, and the recovery appeared to be on a firmer footing.

Since the middle of 2010, consumer spending has risen solidly on average, businesses have continued to increase their outlays for equipment and software, and exports have moved up further. In contrast, construction of new homes and nonresidential buildings remains exceptionally weak. Conditions in the labor market have improved only slowly, with payrolls increasing at a modest pace. Throughout nearly all of 2010, that pace of employment expansion was insufficient to bring the unemployment rate down meaningfully from its recent peak. In December 2010 and January of this year, however, the unemployment rate is estimated to have dropped more noticeably, even though payroll employment gains remained lackluster. Meanwhile, long-duration joblessness persisted at near-record levels. With regard to inflation developments, despite rapid increases in commodity prices, longer-term inflation expectations have remained stable and consumer price inflation has continued to trend downward on net (figure 2).

Conditions in financial markets generally improved over the course of the second half of 2010 and early 2011 and continued to be supportive of economic activity. This improvement reflected, in part, additional monetary policy stimulus provided by the Federal Reserve, as well as growing investor confidence in the sustainability of the economic recovery. Although yields on Treasury securities rose somewhat, on net, since mid-2010, yields on investment-grade corporate bonds were little changed at low levels, and yields on speculative-grade bonds declined. In equity markets, price indexes generally rose, buoyed by solid corporate earnings and a more positive economic outlook. Commercial banks reported that they had eased some of their lending standards and terms, though lending standards remained generally tight and some busi-

1. Change in real gross domestic product, 2004–10



NOTE: Here and in subsequent figures, except as noted, change for a given period is measured to its final quarter from the final quarter of the preceding period.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

2. Change in the chain-type price index for personal consumption expenditures, 2004–11

NOTE: The data are monthly and extend through January 2011; changes are from one year earlier.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

nesses and households continued to face difficulties obtaining credit. Changes in interest rates faced by households were mixed. The improvement in financial conditions was accompanied by some signs of a pickup in the demand for credit. Borrower credit quality generally improved, although problems persisted in some sectors of the economy. Concerns about European banking and fiscal strains increased again in late 2010 after having eased for a time; however, in contrast to what was observed in the spring, these concerns left little imprint on U.S. financial markets.

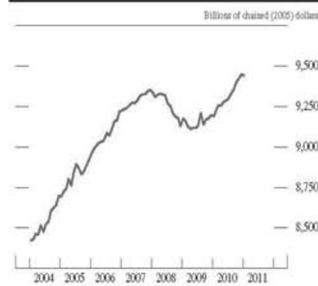
Domestic Developments

The Household Sector

Consumer Spending and Household Finance

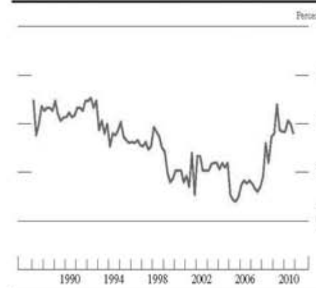
Real personal consumption expenditures (PCE) increased at an annual rate of about 3¼ percent in the second half of 2010, with a particularly brisk rise in the fourth quarter (figure 3). The spending gains were supported by the continued, though modest, pickup in real household incomes, by some fading of the restraining effects of the earlier sharp declines in households' net worth, and by a modest improvement in the availability of consumer credit. Outlays for durable goods also may have been boosted to some extent by purchases that had been deferred during the recession. The increases in spending exceeded the rise in income, and the saving rate edged down during the second half of the year, though it remains well above levels that prevailed prior to the recession (figure 4).

3. Real personal consumption expenditures, 2004–11



NOTE: The data are monthly and extend through January 2011.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

4. Personal saving rate, 1987–2010



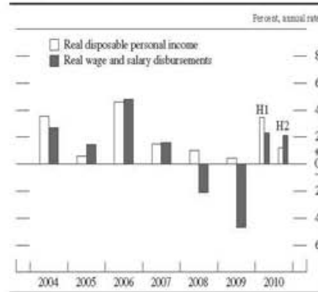
NOTE: The data are quarterly and extend through 2010:Q4.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

The increase in consumer outlays in the second half of 2010 partly reflected a step-up in sales of new light motor vehicles (cars, sport utility vehicles, and pickup trucks). Sales of light vehicles rose from an annual rate of 11¼ million units in the second quarter of 2010 to more than 12¼ million units in the fourth quarter and moved up further in the first part of 2011. Sales were supported, in part, by further improvements in credit conditions for auto buyers as well as by more-generous sales incentives from the automakers. Real spending in other goods categories also rose appreciably, while the increase in outlays for services was more subdued.

The determinants of consumer outlays showed further, albeit gradual, improvement during the second half of 2010. The level of real disposable personal income (DPI)—after-tax income adjusted for inflation—which rose rapidly in the first half of the year, continued to advance in the second half, as real wages and salaries moved up at an annual rate of 2 percent (figure 5). The increase in real wage and salary income reflected the continued, though tepid, recoveries in both employment and hours worked; in contrast, hourly pay was little changed in real terms.

The ratio of household net worth to DPI moved up a little in the third quarter of 2010 and appears to have risen further since then, as increases in equity values likely more than offset further declines in house prices (figure 6). Although the wealth-to-income ratio has trended up since the beginning of 2009 and has returned to the levels that prevailed prior to the late 1990s, it remains well below its highs in 2006 and 2007. Consumer sentiment rose late in the year, boosted by gradual improvements in household assessments of financial and business conditions as well as job prospects; nevertheless, these gains only moved sentiment

5. Change in real disposable personal income and in real wage and salary disbursements, 2004–10



SOURCE: Department of Commerce, Bureau of Economic Analysis.

7. Consumer sentiment indexes, 1997–2011

NOTE: The Conference Board data are monthly and extend through February 2011; the series is indexed to equal 100 in 1985. The Thomson Reuters/University of Michigan data are monthly and extend through February 2011; the series is indexed to equal 100 in 1966.

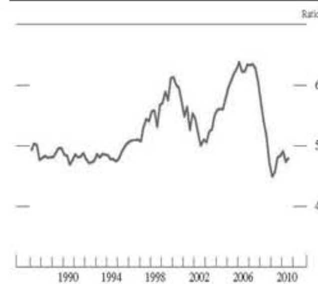
SOURCE: The Conference Board and Thomson Reuters/University of Michigan Surveys of Consumers.

back to or a bit above the low levels that prevailed at the start of last year (figure 7).

Household debt likely fell at just under a 2 percent annual rate in the second half of 2010, a slightly slower pace than in the first half. The contraction for 2010 as a whole, which was due primarily to ongoing decreases in mortgage debt, marked the second consecutive annual decline. The reduction in overall household debt levels, combined with increases in personal income, resulted in a further decline in the ratio of household debt to income and in the debt service ratio—the required principal and interest payments on existing mortgage and consumer debt relative to income (figure 8).

The slowdown in the rate at which household debt contracted in the latter part of 2010 stemmed in large part from a modest recovery in consumer credit. Although revolving consumer credit—mostly credit card borrowing—continued to contract, the decline was at a slightly slower rate than in the first half of the year. Nonrevolving consumer credit, which consists largely of auto and student loans and accounts for about two-thirds of total consumer credit, rose 2 percent in the second half of 2010 after being about unchanged in the first half of the year. The pickup in nonrevolving consumer credit is consistent with

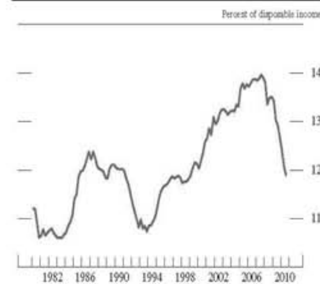
6. Wealth-to-income ratio, 1987–2010



NOTE: The data are quarterly and extend through 2010:Q3. The wealth-to-income ratio is the ratio of household net worth to disposable personal income.

SOURCE: For net worth, Federal Reserve Board, flow of funds data; for income, Department of Commerce, Bureau of Economic Analysis.

8. Household debt service, 1980–2010



NOTE: The data are quarterly and extend through 2010:Q3. Debt service payments consist of estimated required payments on outstanding mortgage and consumer debt.

SOURCE: Federal Reserve Board, "Household Debt Service and Financial Obligations Ratios," statistical release.

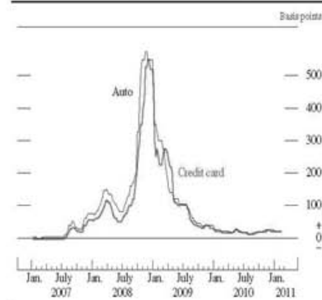
responses to the Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) indicating that banks have become increasingly willing to make consumer installment loans; however, lending standards for these loans likely remained fairly tight.[2] In addition, in the most recent survey, a small net fraction of respondents noted increased demand for consumer loans, the first time stronger demand was reported since mid-2005.

Some of the increased willingness to make consumer loans may reflect improvements in consumer credit quality. The delinquency rate on auto loans at captive finance companies moved down in the second half of 2010 to 2.6 percent, close to its longer-run historical average. Delinquency rates on credit cards at commercial banks and in securitized pools also moved down to around longer-run averages. However, charge-off rates on such loans remained well above historical norms despite having moved lower in the second half of the year.

Changes in interest rates on consumer loans were mixed. Interest rates on new auto loans were little changed, on net, in the second half of 2010 and into 2011. By contrast, interest rates on credit cards generally rose over the same period. A portion of the increase in credit card interest rates may be due to lingering adjustments by banks to the imposition of new rules under the Credit Card Accountability Responsibility and Disclosure Act (Credit Card Act).[3]

Issuance of consumer asset-backed securities (ABS) in the second half of 2010 occurred at about the same pace as in the first half of the year. Auto loan ABS issuance continued to be healthy, and the ability to securitize these loans likely held down interest rates on the underlying loans. Issuance of ABS backed by credit card loans, however, remained very weak, as the sharp contraction in credit card lending limited the need for new funding and accounting rule changes implemented at the beginning of 2010 made securitization of these loans less attractive.[4] Yields on ABS securities and the spreads of such yields over comparable-maturity interest rate swap rates were not much

9. Spreads of asset-backed securities yields over rates on comparable-maturity interest rate swaps, 2007–11



NOTE: The data are weekly and extend through February 16, 2011. The spreads shown are the yields on two-year fixed-rate asset-backed securities less rates on two-year interest rate swaps.
SOURCE: JPMorgan Chase & Co.

changed, on net, over the second half of 2010 and early 2011 (figure 9).

Residential Investment and Housing Finance

Housing activity remained depressed in the second half of 2010. Homebuilding continues to be restrained by sluggish demand, the large inventory of foreclosed or distressed properties on the market, and the tight credit conditions faced by homebuilders. In the single-family sector, new units were started at an average annual rate of about 430,000 units from July 2010 to January 2011, just 70,000 units above the quarterly low reached in the first quarter of 2009 (figure 10). In the multifamily market, demand for apartments appears to be increasing and occupancy rates have been edging up, as some potential homebuyers may be choosing to rent rather than to purchase a home. Nevertheless, the inventory of unoccupied multifamily units continues to be elevated, and construction financing remains tight. As a result, starts in the multifamily sector have averaged an annual rate of only 135,000 units since the middle of 2010, well below the 300,000-unit rate that had prevailed for much of the previous decade.

Home sales surged in the spring ahead of the expiration of the homebuyer tax credit, plunged for a few months during a payback period, and then recovered somewhat as the payback effect waned.[5] By late 2010

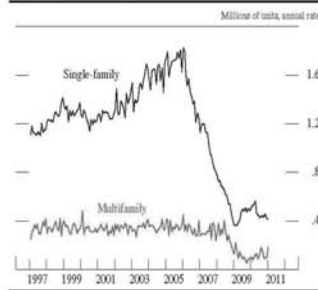
2. The SLOOS is available on the Federal Reserve Board's website at www.federalreserve.gov/boarddocs/SnLoanSurvey.

3. The Credit Card Act includes some provisions that place restrictions on issuers' ability to impose certain fees and to engage in risk-based pricing.

4. In June 2009, the Financial Accounting Standards Board (FASB) published Statements of Financial Accounting Standards Nos. 166 (*Accounting for Transfers of Financial Assets, an Amendment of FASB Statement No. 140*) and 167 (*Amendments to FASB Interpretation No. 46(R)*). The statements became effective at the start of a company's first fiscal year beginning after November 15, 2009, or, for companies reporting earnings on a calendar-year basis, after January 1, 2010.

5. In order to receive the homebuyer tax credit, a purchaser had to sign a sales agreement by the end of April 2010 and close on the

10. Private housing starts, 1997–2011



NOTE: The data are monthly and extend through January 2011.
SOURCE: Department of Commerce, Bureau of the Census.

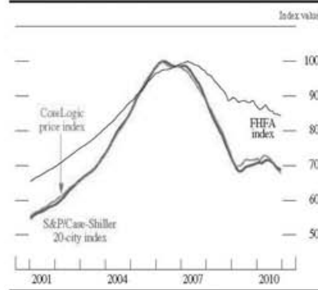
and early 2011, sales of existing single-family homes were a bit above levels that prevailed in mid-2009, before the enactment of the first homebuyer tax credit, while sales of new single-family homes remained below their mid-2009 levels. Housing demand has been held back by tight mortgage credit availability, uncertainty about future real estate values, and continued household concerns about the outlook for employment and income. Nonetheless, other determinants of housing demand are favorable and hold the potential to provide support to home sales as the economic recovery proceeds. In particular, the low level of mortgage rates and the earlier declines in house prices have made housing more affordable for those able to obtain mortgages.

House prices, as measured by several national indexes, decreased in the latter half of 2010 after having shown tentative signs of leveling off earlier in the year (figure 11). According to one measure with wide geographic coverage—the CoreLogic repeat-sales index—house prices fell 6 percent between June and December and moved below their mid-2009 trough. House prices continued to be weighed down by the large inventory of unsold homes—especially distressed properties—and by the sluggish demand for housing.

Indicators of credit quality in this sector pointed to continued difficulties amid depressed home values and elevated unemployment. Serious delinquency rates on

property by the end of September. The first-time homebuyer tax credit, which was enacted in February 2009 as part of the American Recovery and Reinvestment Act, was originally scheduled to expire on November 30, 2009. Shortly before it expired, the Congress extended the credit to sales occurring through April 30, 2010, and expanded it to include repeat homebuyers who had owned and occupied a house for at least five of the past eight years. Sales of existing homes are measured at closing, while sales of new homes are measured at the time the contract is signed.

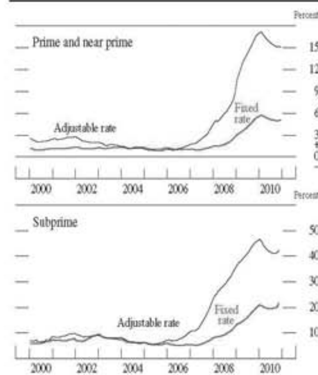
11. Prices of existing single-family houses, 2001–10



NOTE: The data are monthly and extend into 2010:Q4. Each index has been normalized so that its peak is 100. Both the CoreLogic price index and the FHFA index (formerly calculated by the Office of Federal Housing Enterprise Oversight) include purchase transactions only. The S&P/Case-Shiller index reflects all arm's-length sales transactions in selected metropolitan areas.
SOURCE: For CoreLogic, CoreLogic; for FHFA, Federal Housing Finance Agency; for S&P/Case-Shiller, Standard & Poor's.

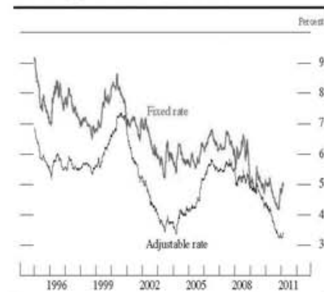
prime and near-prime mortgages edged down to around 15 percent for adjustable-rate loans and to about 5 percent for fixed-rate loans—levels that remain high by historical standards (figure 12). Delinquency rates for subprime mortgages moved up slightly toward the end of the year and remained extremely elevated. One sign of improvement, however, was that the rate at which mortgages transitioned from being current to

12. Mortgage delinquency rates, 2000–10



NOTE: The data are monthly and extend through December 2010. Delinquency rate is the percent of loans 90 days or more past due or in foreclosure.
SOURCE: For prime and near prime, LPS Applied Analytics; for subprime, CoreLogic.

13. Mortgage interest rates, 1995–2011



NOTE: The data, which are weekly and extend through February 23, 2011, are contract rates on 30-year mortgages.
SOURCE: Federal Home Loan Mortgage Corporation.

being newly delinquent trended lower toward the end of 2010.

Reflecting the ongoing credit quality issues, the number of homes that entered foreclosure in the third quarter of 2010 jumped to more than 700,000, well above the pace seen earlier in the year. Late in the third quarter, concerns about the mishandling of documentation led some institutions to temporarily suspend some or all of their foreclosure proceedings.[6] Despite these announced moratoriums, the pace of new foreclosures dipped only slightly in the fourth quarter. Moreover, these moratoriums will likely only extend, and not put an end to, the foreclosure process in most cases.

Interest rates on fixed-rate mortgages remained quite low, on net, by historical standards during the second half of 2010 and reached record lows in the fourth quarter (figure 13). The very low levels of mortgage rates prompted a sizable pickup in refinancing activity for a time, although some households were unable to refinance because of depressed home values, weak credit scores, and tight lending standards for mortgages. Mortgage applications for home purchases were generally subdued in the second half of the year. Overall, mortgage debt outstanding likely declined in the second half of 2010 at a pace only slightly slower than that of the first half.

Net issuance of mortgage-backed securities (MBS) guaranteed by Fannie Mae, Freddie Mac, and Ginnie Mae was fairly low in the second half of 2010, consistent with the subdued originations of mortgages used to finance home purchases. The securitization market for mortgage loans not guaranteed by a housing-related government-sponsored enterprise (GSE) or the Federal Housing Administration remained essentially closed.

6. The Federal Reserve, the Office of the Comptroller of the Currency, the Office of Thrift Supervision, and the Federal Deposit Insurance Corporation are conducting an in-depth interagency review of practices at the largest mortgage servicing operations to examine foreclosure practices generally, but with an emphasis on the breakdowns that led to inaccurate affidavits and other questionable legal documents being used in the foreclosure process. See Elizabeth A. Duke (2010), "Foreclosure Documentation Issues," statement before the Financial Services Subcommittee on Housing and Community Opportunity, U.S. House of Representatives, November 18, www.federalreserve.gov/newsevents/testimony/duke20101118a.htm.

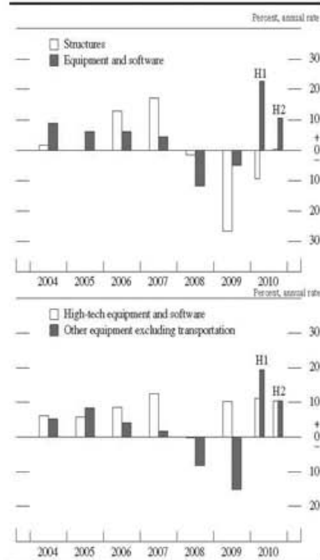
The Business Sector

Fixed Investment

Real business spending on equipment and software, which surged in the first half of 2010, rose further in the second half (figure 14). Firms were likely motivated partly by a desire to replace aging equipment and to undertake capital spending that had been deferred during the recession. Improving business prospects also appear to have been a factor boosting capital expenditures. As a group, large firms continue to have ample internal funds, and those with access to capital markets generally have been able to obtain bond financing at favorable terms. Although credit availability for smaller firms and other bank-dependent businesses remains constricted, some tentative signs of easing lending standards have emerged.

Overall spending on equipment and software rose at an annual rate of about 10 percent in the second half of 2010. Although business outlays in the volatile transportation equipment category plunged in the fourth quarter, that decline came in the wake of several quarters of sharp increases when vehicle rental firms were rebuilding their fleets of cars and light trucks. Meanwhile, spending on information technology (IT) capital—computers, software, and communications equipment—increased appreciably throughout the second half. Gains were apparently spurred by outlays to replace older, less-efficient IT capital as well as continued investments by wireless service providers to upgrade their networks. In addition, spending increases for equipment other than transportation and IT—nearly one-half of total equipment outlays—were well maintained and broad based. More recently, new orders for nondefense capital goods other than transportation and IT items were little changed, on net, in

14. Change in real business fixed investment, 2004–10

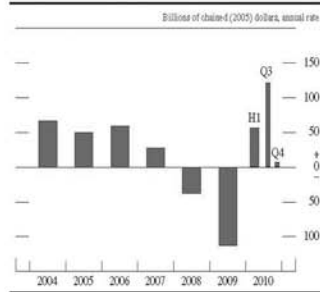


NOTE: High-tech equipment consists of computers and peripheral equipment and communications equipment.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

December and January; however, the level of orders remains above shipments, and business surveys suggest that respondents are upbeat about business conditions as well as their equipment spending plans.

Real spending on nonresidential structures other than those used for drilling and mining remained depressed, with the level of investment at the end of 2010 down almost 40 percent from its peak in early 2008. However, the rate of decline appears to be abating: Spending fell at an annual rate of nearly 10 percent in the second half of 2010 after plunging at a 25 percent rate in the first half. Although outlays for new power facilities jumped in the second half of the year, construction of office buildings, commercial structures, and manufacturing plants all moved down further. A large overhang of vacant space, depressed property prices, and an unwillingness of banks to add to their already high construction loan exposure still weighed heavily on the sector. In contrast, spending on drilling and mining structures continued to rise sharply in response to elevated energy prices.

15. Change in real business inventories, 2004–10



SOURCE: Department of Commerce, Bureau of Economic Analysis.

Inventory Investment

Stockbuilding continued in the second half of 2010 at an average pace about in line with the growth of final sales (figure 15). Inventory investment surged in the third quarter, but the pace of accumulation slowed sharply in the fourth quarter, with the swing magnified by developments in the motor vehicle sector. Vehicle stocks rose appreciably in the third quarter as dealers attempted to rebuild inventories that had become depleted earlier in year, but inventories fell in the fourth quarter as auto sales moved up more rapidly than expected near the end of the year. As for other items aside from motor vehicles, inventory investment rose during the second half of the year, albeit more rapidly in the third quarter than in the fourth. The inventory-to-sales ratios for most industries covered by the Census Bureau's book-value data, which had risen significantly in 2009, have moved back to levels that prevailed before the recession, and surveys suggest that inventory positions for most businesses generally are in a comfortable range.

Corporate Profits and Business Finance

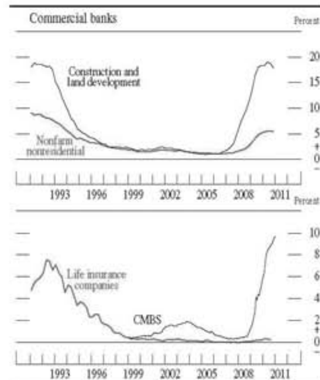
Operating earnings per share for S&P 500 firms continued to increase at a solid pace in the third and fourth quarters of 2010. Most industry groups reported gains. In aggregate, earnings per share climbed to near the levels posted in mid-2007, just prior to the financial crisis.

The already sturdy credit quality of nonfinancial corporations improved further in the second half of 2010. The aggregate debt-to-asset ratio, which provides

an indication of corporate leverage, moved down in the third quarter, as nonfinancial corporations increased their assets by more than they increased their debt. Credit rating upgrades again outpaced downgrades and corporate bond defaults remained sparse. The delinquency rate on commercial and industrial (C&I) loans at commercial banks moved down in the second half of 2010 to 3 percent. By contrast, with fundamentals remaining weak, delinquency and charge-off rates on commercial real estate (CRE) loans at commercial banks decreased only modestly from quite elevated levels (figure 16). Moreover, the delinquency rate on CRE loans in securitized pools continued to rise sharply.

Borrowing by nonfinancial corporations continued at a robust pace in the second half of 2010, driven by good corporate credit quality, attractive financing conditions, and an improving economic outlook (figure 17). Issuance of corporate bonds was heavy for both investment-grade and high-yield issues. Borrowing in the syndicated loan market was also sizable, particularly by speculative-grade borrowers, with the dollar volume of such loans rebounding sharply from the low levels seen in 2008 and 2009 (not shown in figure).

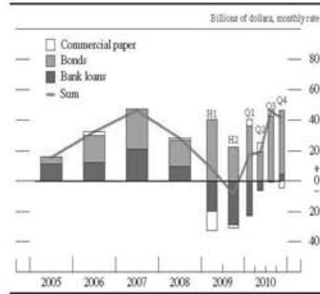
16. Delinquency rates on commercial real estate loans, 1991–2011



Note: The data for commercial banks and life insurance companies are quarterly and extend through 2010:Q4 and 2010:Q3, respectively. The data for commercial mortgage-backed securities (CMBS) are monthly and extend through January 2011. The delinquency rates for commercial banks and CMBS are the percent of loans 30 days or more past due or not accruing interest. The delinquency rate for life insurance companies is the percent of loans 60 days or more past due or not accruing interest.

Source: For commercial banks, Federal Financial Institutions Examination Council, Consolidated Reports of Condition and Income (Call Report); for life insurance companies, American Council of Life Insurers; for CMBS, Citigroup.

17. Selected components of net financing for nonfinancial businesses, 2005–10

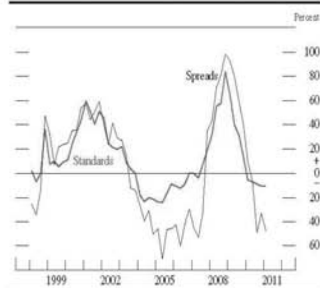


Note: The data for the components except bonds are seasonally adjusted.
Source: Federal Reserve Board, flow of funds data.

Demand for such loans from institutional investors was strong. Some of the strength in debt origination was reportedly due to corporations taking advantage of low interest rates to reduce debt service costs and extend maturities by refinancing; issuance to finance mergers and acquisitions also reportedly picked up in the second half of the year. Meanwhile, commercial paper outstanding remained about flat. C&I loans on banks' books decreased during the third quarter but started expanding toward the end of the year, consistent with responses to the January 2011 SLOOS that reported some easing of standards and terms and some firming of demand for C&I loans from large firms over the previous three months. Relatively large fractions of respondents to the most recent survey indicated that they narrowed the spread of C&I loan rates over their cost of funds somewhat further during the second half of 2010 (figure 18). Nevertheless, lending standards reportedly remained tight; about one-half of the respondents to special questions included in the October 2010 survey indicated that their lending standards on C&I loans were tighter than longer-run averages and were likely to remain so until at least 2012.

Borrowing conditions for small businesses continued to be tighter than for larger firms, although some signs of easing began to emerge. In particular, surveys conducted by the National Federation of Independent Business (NFIB) showed a gradual decline in the share of respondents reporting that credit was more difficult to obtain than three months previously (figure 19). Similarly, in the past several surveys, moderate net fractions of SLOOS respondents have indicated that banks have eased some loan terms for smaller borrow-

18. Net percentage of domestic banks tightening standards and widening spreads over the banks' cost of funds for large and medium-sized business borrowers, 1998–2011



NOTE: The data are drawn from a survey generally conducted four times per year; the last observation is from the January 2011 survey, which covers 2010:Q4. Net percentage is the percentage of banks reporting a tightening of standards or a widening of spreads less the percentage reporting an easing or a narrowing. The definition for firm size suggested for, and generally used by, survey respondents is that large and medium-sized firms have annual sales of $50 million or more.

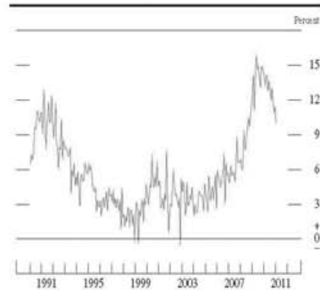
SOURCE: Federal Reserve Board, Senior Loan Officer Opinion Survey on Bank Lending Practices.

ers. Judging from responses to both the NFIB survey and the SLOOS, loan demand by small businesses remained subdued.

Banks' holdings of CRE loans continued to contract fairly sharply throughout the second half of 2010. Overall commercial mortgage debt declined at an annual rate of 6 percent in the third quarter, about the same pace as in the previous quarter. Responses to the January SLOOS suggest that banks have not yet started reversing their tight lending standards in this sector and that demand, while starting to pick up, likely remained weak. Despite the strains in CRE markets, the commercial mortgage-backed securities (CMBS) market showed tentative signs of improvement in the second half of 2010 and early 2011. Prices for some of the more highly rated tranches of existing CMBS rose. Although issuance of new securities remained tepid, the pace has been picking up. Responses to special questions on the September Senior Credit Officer Opinion Survey on Dealer Financing Terms (SCOOS) indicated that demand for warehousing of CRE loans for securitization had increased since the beginning of 2010, and that the willingness to fund CRE loans on an interim basis had increased somewhat.

A substantial number of initial and secondary equity offerings for nonfinancial firms were brought to market in the second half of 2010. Deals included an initial public offering by General Motors that was used to repay a portion of the government's capital infusion. Nevertheless, equity retirements in the third quarter through cash-financed mergers and acquisitions and share repurchases once again outpaced issuance; preliminary data for the fourth quarter (not shown) suggest a similar pattern (figure 20).

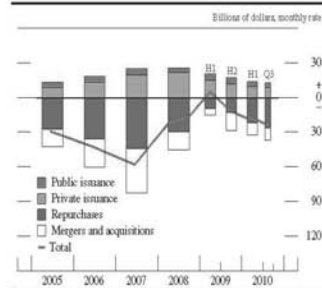
19. Net percentage of small businesses that reported more difficulty in obtaining credit, 1990–2011



NOTE: The data are drawn from a survey conducted monthly and are seasonally adjusted; the last observation is from the January 2011 survey, which covers December 2010. The data reflect the proportion of borrowers who sought credit in the past three months that reported more difficulty in obtaining credit less the proportion that reported more ease in obtaining credit.

SOURCE: National Federation of Independent Business.

20. Components of net equity issuance, 2005–10



NOTE: The data for 2010:Q3 are estimates. Net equity issuance is the difference between equity issued by domestic companies in public or private markets and equity retired through share repurchases, domestic cash-financed mergers, or foreign takeovers of U.S. firms. Equity issuance includes funds invested by private equity partnerships and stock option proceeds.

SOURCE: Thomson Financial, Investment Benchmark Report; Money Tree Report by PricewaterhouseCoopers, National Venture Capital Association, and Venture Economics.

The Government Sector

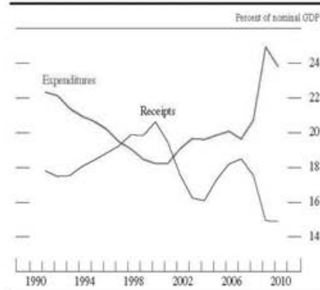
Federal Government

The deficit in the federal unified budget has remained very wide. The budget deficit for fiscal year 2010, although down somewhat from fiscal 2009, was $1.3 trillion. The fiscal 2010 figure was equal to 8¾ percent of nominal GDP, substantially above the average value of 2 percent recorded during the three-year period prior to the onset of the recession. The budget deficit continued to be boosted by spending commitments from the American Recovery and Reinvestment Act (ARRA) and other stimulus policy actions and by the weakness of the economy, which has reduced tax revenues and boosted payments for income support. By contrast, the budget effects of several financial transactions reduced the deficit in 2010: Outlays related to the Troubled Asset Relief Program (TARP), which added significantly to the deficit in 2009, helped to shrink the deficit in 2010 as estimated losses were revised down when many of the larger TARP recipients repaid their obligations to the Treasury; in addition, new assistance for the mortgage-related GSEs was extended at a slower pace, and depository institutions prepaid three years' worth of federal deposit insurance premiums. Moreover, the nascent recovery in the economy led to a small increase in revenues. The deficit is projected by the Congressional Budget Office to widen in fiscal 2011 to a level similar to the shortfall recorded in fiscal 2009.

Despite increasing 3 percent in fiscal 2010, tax receipts remained at very low levels; indeed, at less than 15 percent of GDP, the ratio of receipts to national income was at its lowest level in 60 years (figure 21). Corporate income taxes surged nearly 40 percent in fiscal 2010 as profits increased briskly, and Federal Reserve remittances to the Treasury rose markedly owing to the expansion of its balance sheet. By contrast, despite rising household incomes, individual income and payroll taxes moved down in fiscal 2010, reflecting the tax cuts put in place by the ARRA. Total tax receipts increased nearly 10 percent over the first four months of fiscal 2011 relative to the comparable year-earlier period; individual income and payroll taxes turned up, a consequence of the further recovery in household incomes, and corporate income taxes continued to rise.

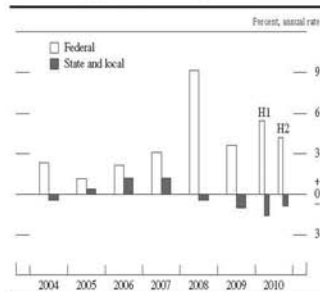
Outlays decreased 2 percent in fiscal 2010, a development attributable to financial transactions. Excluding financial transactions, spending rose 9 percent compared with fiscal 2009, mainly because of the effects of the weak labor market on outlays for income support programs (such as unemployment insurance and food stamps) as well as increases in Medicaid expenditures and spending associated with the ARRA and other stimulus-related policies. Net interest payments rose 5 percent in fiscal 2010, and Social Security spending increased 3½ percent—its smallest rise in 11 years—as the low rate of consumer price inflation in the previous year resulted in no cost of living adjustment. In the first four months of fiscal 2011, total federal outlays rose nearly 5 percent relative to the comparable year-earlier period. Excluding financial transactions, outlays were up about 1 percent. The relatively small increase so far this fiscal year for outlays excluding financial transactions reflects a flattening out of ARRA spending and income support pay-

21. Federal receipts and expenditures, 1990–2010



NOTE: The receipts and expenditures data are on a unified-budget basis and are for fiscal years (October through September); gross domestic product (GDP) is for the four quarters ending in Q3.
SOURCE: Office of Management and Budget.

22. Change in real government expenditures on consumption and investment, 2004–10



SOURCE: Department of Commerce, Bureau of Economic Analysis.

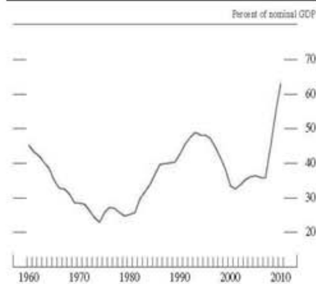
ments; by contrast, other spending has been increasing at rates comparable to those recorded during fiscal 2010.

As measured in the national income and product accounts (NIPA), real federal expenditures on consumption and gross investment—the part of federal spending that is a direct component of GDP—rose at an annual rate of about 4 percent in the second half of 2010, a bit less than in the first half of the year (figure 22). Nondefense outlays increased more slowly than in the first half of the year—when spending for the decennial census ramped up—while defense spending rose at roughly the same pace as in the first half.

Federal Borrowing

Federal debt expanded appreciably in the second half of last year, though at a slightly slower pace than in the first half. The ratio of Federal debt held by the public to nominal GDP rose to more than 60 percent at the end of 2010 and is projected to reach nearly 70 percent by the end of 2011 (figure 23). Demand for Treasury securities has been well maintained. Bid-to-cover ratios at auctions, although somewhat mixed, were generally within historical ranges during the second half of 2010 and early 2011. Indicators of foreign participation at auctions as well as a rise in foreign custody holdings of Treasury securities by the Federal Reserve Bank of New York pointed to steady demand from abroad. Demand for these securities may have been supported by a heightened desire for relatively safe and liquid assets in light of fiscal troubles in some European countries.

23. Federal government debt held by the public, 1960–2010



NOTE: The data for debt are as of year-end; the observation for 2010 is an estimate. The corresponding values for gross domestic product (GDP) are for Q4 at an annual rate. Excludes securities held as investments of federal government accounts.
SOURCE: Federal Reserve Board, flow of funds data.

State and Local Government

Despite the substantial federal aid provided by the ARRA, state and local governments remained under significant fiscal pressure in the second half of 2010. The strains reflect several factors, including a sharp drop in tax revenues in late 2008 and 2009 and increased commitments for Medicaid outlays—a cyclically sensitive transfer program—all in the context of balanced budget requirements. To address their budget shortfalls, these governments have been paring back operating expenditures. Indeed, real consumption expenditures of state and local governments, as measured in the NIPA, fell about 1 percent in 2010 after decreasing a similar amount in 2009. The weakness in spending was reflected in the continued reductions in payrolls. Total employment of state and local governments fell 250,000 during 2010, with nearly all of the cutbacks at the local level. Construction spending undertaken by these governments was volatile during 2010 but, on net, was down a bit for the year and remained below the level that prevailed before the recession despite the infrastructure grants provided by the federal government as part of the ARRA. While most capital expenditures are not subject to balanced budget requirements, some of these expenditures are funded out of operating budgets subject to these requirements. In addition, a substantial share of debt service payments on the bonds used to finance capital projects is made out of operating budgets—a factor that may be limiting the willingness of governments to undertake some new infrastructure projects.

With overall economic activity recovering, state government revenues from income, business, and sales taxes rose in the second half of 2010. Nevertheless, state tax collections remain well below their prerecession levels, and available balances in reserve funds are low. Tax collections at the local level have fared relatively better. In particular, some localities appear to have adjusted statutory tax rates so that declining real estate assessments, which typically significantly lag market prices, are holding down property tax revenues by less than they otherwise would. However, many localities have seen sharp cutbacks in their grants-in-aid from state governments, and thus have experienced significant fiscal pressures. State and local governments will continue to face considerable budget strains, in part because federal stimulus grants will be winding down. Moreover, many state and local governments

will need to set aside additional resources in coming years both to meet their pension obligations and to pay for health benefits provided to their retired employees.

State and Local Government Borrowing

Issuance of securities by state and local governments was robust during the latter half of 2010; it surged near the end of the year as state governments sought to take advantage of the Build America Bond program before the program expired.[7] Issuance of short-term municipal securities was also strong.

Yields on state and local government bonds rose noticeably more than those on comparable-maturity Treasury securities in the second half of 2010 and early 2011. The rise in yields on municipal securities may have reflected increased concerns about the fiscal position and financial health of state and local governments, although the heavy supply of these securities coming to market likely also played a role. Spreads on credit default swaps for some states remained volatile but narrowed, on net, from their peak levels last summer. Downgrades of the credit ratings of state and local governments continued to outpace upgrades during the second half of 2010. Nonetheless, the pace of actual defaults on municipal issues continued to come down from its peak in 2008. In recent months, there were substantial outflows from long-term mutual funds that invest in municipal bonds.

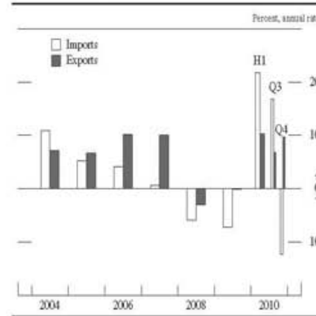
The External Sector

Supported by the expansion of foreign economic activity, real exports of goods and services continued to increase at a solid pace in the second half of 2010, rising at an annual rate of 8¼ percent (figure 24). Nearly all major categories of exports rose, with exports of machinery, agricultural goods, and services registering the largest gains. Moreover, the increase in export demand was broad based across trading partners.

Real imports of goods and services decelerated considerably in the second half of 2010, increasing at an annual rate of only 1¼ percent after surging more than 20 percent during the first half of last year. The sharp step-down partly reflected an unusually large decline in real oil imports, but more important, the growth in non-oil imports moderated to a pace more in line with

7. The Build America Bond program allowed state and local governments to issue taxable bonds for capital projects and receive a subsidy payment from the Treasury for 35 percent of interest costs.

24. Change in real imports and exports of goods and services, 2004–10



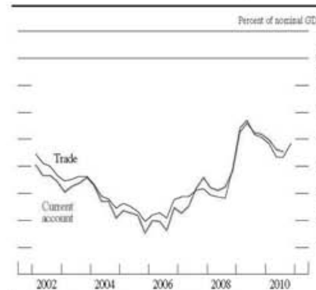
SOURCE: Department of Commerce, Bureau of Economic Analysis.

the expansion in U.S. economic activity. During the second half of 2010, imports of consumer goods, machinery, and services posted the largest increases. As with exports, the increase in imports occurred across a wide range of trading partners.

All told, net exports shaved ½ percentage point off real GDP growth last year as the rebound in imports outpaced the recovery in exports for the year as a whole. The current account deficit widened from $378 billion in 2009 to an average of $479 billion at an annual rate, or about 3¼ percent of nominal GDP, in the first three quarters of 2010 (figure 25).

The spot price of West Texas Intermediate (WTI) crude oil moved higher over the second half of the

25. U.S. trade and current account balances, 2002–10



NOTE: The data are quarterly. For the trade account, the data extend through 2010:Q4; for the current account, they extend through 2010:Q3. GDP is gross domestic product.

SOURCE: Department of Commerce, Bureau of Economic Analysis.

26. Prices of oil and nonfuel commodities, 2006–11

NOTE: The data are monthly. The oil price is the spot price of West Texas Intermediate crude oil, and the last observation is the average for February 1–22, 2011. The price of nonfuel commodities is an index of 45 primary-commodity prices and extends through January 2011.
SOURCE: For oil, the Commodity Research Bureau; for nonfuel commodities, International Monetary Fund.

year, rising to an average of $89 per barrel in December, about $11 above the average price that prevailed over the first six months of the year (figure 26). The upward movement in oil prices during the second half of the year largely reflected a widespread strengthening in global oil demand, particularly in emerging market economies (EMEs), against a backdrop of constrained supply. The depreciation of the dollar over this period also contributed somewhat to the rise in the price of oil. Spot WTI continued to fluctuate around its December average for much of the first two months of this year but moved up sharply in late February.[8] Unrest in several Middle Eastern and North African countries, and uncertainty about its potential implications for global oil supply, has put considerable upward pressure on oil prices in recent weeks.

The price of the long-term futures contract for crude oil (expiring in December 2019) has generally fluctuated in the neighborhood of $95 per barrel over the past six months, not much different from the average over the first half of 2010, although it has moved up some recently. Accordingly, the sharply upward sloping futures curve that characterized the oil market since the onset of the financial crisis has flattened considerably. Concurrent with this flattening of the futures curve, measured global inventories of crude oil have declined in recent months, although they remain high by historical standards.

8. The prices of other grades of crude oil have risen by more over the first two months of this year as the high level of inventories accumulated at Cushing, Oklahoma, the delivery point for WTI, has depressed WTI prices.

Nonfuel commodity prices also rose markedly over the second half of the year and into early 2011, with increases broad based across a variety of commodities. As with oil, these prices have been supported by strengthening global economic activity, primarily in China as well as in other EMEs, and, to a lesser extent, by the lower dollar. In addition, adverse weather conditions have reduced harvests and curtailed supplies of important agricultural products in a number of key exporting countries, including Russia, Ukraine, and the United States.

Prices of non-oil imported goods rose 1¼ percent at an annual rate over the second half of 2010 and have increased at an accelerated pace in January, boosted by higher commodity prices, the depreciation of the U.S. dollar, and foreign inflation. On net, non-oil import prices rose a bit more slowly over the second half of 2010 than in the first half and finished the year 2 percent higher than at the end of 2009.

National Saving

Total net national saving—that is, the saving of households, businesses, and governments excluding depreciation charges—remains low by historical standards (figure 27). After having reached 3¾ percent of nominal GDP in 2006, net national saving dropped steadily over the subsequent three years, reaching roughly negative 3 percent in the third quarter of 2009. The widening of the federal budget deficit during the course of the recession more than accounted for the downswing in net saving. Since late 2009, net national

27. Net saving, 1990–2010

NOTE: The data are quarterly and extend through 2010:Q3. Nonfederal saving is the sum of personal and net business saving and the net saving of state and local governments. GDP is gross domestic product.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

saving has moved up, reflecting a sharp rise in private saving. Nonetheless, the total averaged about negative 1 percent in the third quarter of 2010 (the latest available data), and the large federal deficit will likely keep it at low levels in the near term. Currently, real interest rates are still low despite the depressed rate of national saving. If national saving were to remain low as the economy recovers, interest rates would likely experience upward pressure, capital formation rates would likely be low, and borrowing from abroad would likely be heavy. In combination, such developments would limit the rise in the standard of living of U.S. residents and hamper the ability of the nation to meet the retirement needs of an aging population.

The Labor Market

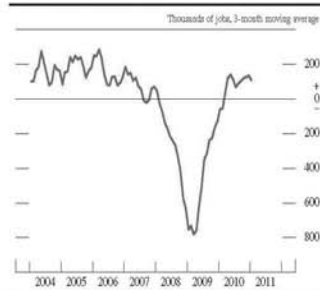
Employment and Unemployment

Conditions in the labor market have continued to improve only slowly since the middle of 2010. Private payroll employment rose just 120,000 per month, on average, over the second half of last year, and payroll employment gains remained lackluster in January of 2011 (figure 28).[9] All told, only about one-seventh of the 8¾ million jobs lost from the beginning of 2008 to the trough in private payrolls in February 2010 have been recovered. Rather than adding jobs briskly, businesses have been achieving much of their desired increases in labor input over the past year by lengthening the hours worked by their employees; indeed, by January, the average workweek had recouped more than one-half of its decrease during the recession.

For most of last year, the overall net increase in hiring was barely sufficient to accommodate the increase in the size of the labor force, and the unemployment rate remained at or above 9½ percent through November (figure 29). However, the unemployment rate is estimated to have moved down noticeably in December and January, reaching 9.0 percent—about 1 percentage point below the highest reading during this episode. The recent decline in the jobless rate is encouraging, but the extent of the improvement in underlying labor-market conditions is, as yet, difficult to judge. The level of unemployment remains very elevated, and long-duration joblessness continues to account for an espe-

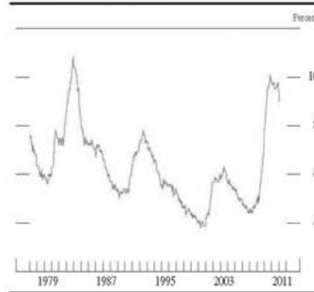
9. Total employment—private plus government—exhibited sharp swings from March 2010 to September 2010 as a result of the hiring of temporary workers for the decennial census.

28. Net change in private payroll employment, 2004–11



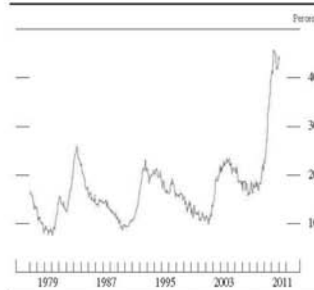
NOTE: The data are monthly and extend through January 2011.
SOURCE: Department of Labor, Bureau of Labor Statistics.

29. Civilian unemployment rate, 1977–2011



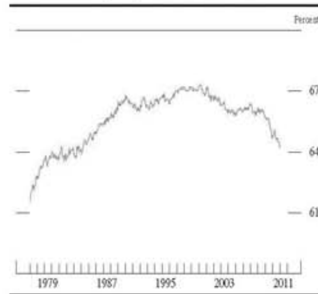
NOTE: The data are monthly and extend through January 2011.
SOURCE: Department of Labor, Bureau of Labor Statistics.

30. Long-term unemployed, 1977–2011



NOTE: The data are monthly and extend through January 2011. The series shown is the percentage of total unemployed persons who have been unemployed for more than 26 weeks.
SOURCE: Department of Labor, Bureau of Labor Statistics.

31. Labor force participation rate, 1977–2011



NOTE: The data are monthly and extend through January 2011.
SOURCE: Department of Labor, Bureau of Labor Statistics.

cially large share of the total. Indeed, in January, nearly 6¼ million persons among those counted as unemployed—about 44 percent of the total—had been out of work for more than six months, figures that were only a little below record levels observed in the middle of 2010 (figure 30).[10] Moreover, the number of individuals who are working part time for economic reasons—another indicator of the underutilization of labor—remained roughly twice its pre-recession value. Meanwhile, the labor force participation rate moved down further in the second half of the year (figure 31). The decline in participation was mainly concentrated among men aged 25 and over without a college degree.

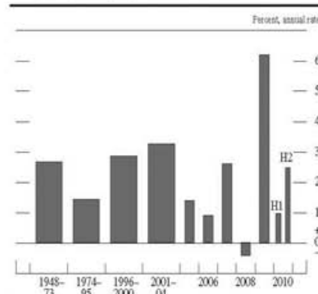
Several other indicators of labor market conditions, however, have brightened a bit recently. After showing little progress over the first half of the year, initial claims for unemployment insurance (an indicator of the pace of layoffs) generally have trended down in recent months. Moreover, survey measures of labor market expectations—such as business plans for future hiring and consumer attitudes about future labor market conditions—improved, on net, over the second half of 2010 and early this year after having softened around the middle of last year.

Productivity and Labor Compensation

Labor productivity rose further in the second half of 2010. According to the most recent published data, output per hour in the nonfarm business sector increased at an annual rate of about 2½ percent over that period (figure 32). Productivity had surged in 2009

10. The data on the duration of unemployment begin in 1948.

32. Change in output per hour, 1948–2010

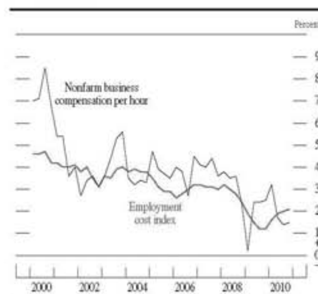


NOTE: Nonfarm business sector. Change for each multiyear period is measured to the fourth quarter of the final year of the period from the fourth quarter of the year immediately preceding the period.
SOURCE: Department of Labor, Bureau of Labor Statistics.

as firms aggressively eliminated many operational inefficiencies and reduced their labor input in an environment of severe economic stress. Although the recent gains in productivity have been less rapid, firms nonetheless continue to make efforts to improve the efficiency of their operations, and they appear to remain reluctant to increase staffing levels in a climate of lingering economic uncertainty.

Increases in hourly compensation remained subdued in 2010, restrained by the wide margin of labor market slack (figure 33). The employment cost index (ECI) for

33. Measures of change in hourly compensation, 2000–10



NOTE: The data are quarterly and extend through 2010:Q4. For nonfarm business compensation, change is over four quarters; for the employment cost index (ECI), change is over the 12 months ending in the last month of each quarter. The nonfarm business sector excludes farms, government, nonprofit institutions, and households. The sector covered by the ECI used here is the nonfarm business sector plus nonprofit institutions.
SOURCE: Department of Labor, Bureau of Labor Statistics.

private industry workers, which measures both wages and the cost to employers of providing benefits, rose just 2 percent in nominal terms in 2010—up from an especially small increase in 2009 but still lower than the roughly 3 percent pace averaged in the several years preceding the recession. The rise in the ECI last year reflected a pickup in the growth of benefits, after a subdued increase in 2009, and a modest acceleration in wages and salaries. Nominal compensation per hour in the nonfarm business sector—derived from the labor compensation data in the NIPA—increased only 1½ percent in 2010, well below the average gain of about 4 percent in the years before the recession. After adjusting for the rise in consumer prices, hourly compensation was little changed in 2010. Because nominal hourly compensation and labor productivity in the nonfarm business sector rose at roughly the same pace in 2010, unit labor costs were about flat last year. During the preceding year, unit labor costs had plunged 3½ percent as a result of the moderate rise in nominal hourly compensation and the sizable advance in output per hour.

Prices

Consumer price inflation has been trending downward, on net, and survey measures of longer-term inflation expectations have remained stable, despite the rapid increases in a variety of commodity prices during the second half of 2010. Overall prices for personal consumption expenditures increased 1¼ percent over the 12 months ending in January 2011, compared with a rise of 2½ percent in the preceding 12-month period (figure 2). The core PCE price index—which excludes the prices of energy items as well as those of food and beverages—increased just ¾ percent over the 12 months ending in January, down from a 1¾ percent rise over the preceding 12 months.

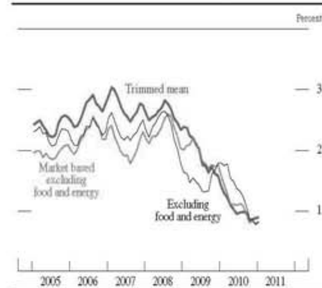
The index of consumer energy prices, which declined in the first half of 2010, rose rapidly during the second half of the year and early 2011. The index was boosted by a surge in the prices of gasoline and home heating oil, which reflected the run-up in the price of crude oil that began in late summer. In contrast, consumer natural gas prices fell as increases in supply from new domestic wells helped boost inventories above typical levels. All told, the overall index of consumer energy prices rose nearly 7 percent during the 12 months ending in January 2011.

The index of consumer food prices rose 1¾ percent over the 12 months ending in January 2011 as the prices of beef and pork posted sizable increases. The price of fruits and vegetables ran up briskly early in 2010 following a couple of damaging freezes, but these prices turned down in the second half of the year, leaving them up only slightly for the year as a whole. However, spot prices in commodity markets for crops and for livestock moved up sharply toward the end of last year, pointing to some upward pressure on consumer food prices in the first part of 2011.

The slowdown in core PCE price inflation over the past year was particularly evident in the prices of goods other than food and energy, which fell 0.6 percent over the 12 months ending in January 2011. The decline in these core goods prices occurred despite sizable increases in the prices of some industrial commodities and materials; the modest degree of pass-through from commodity input costs to retail prices reflects the relatively small weight of materials inputs in total production costs. Prices for services other than energy rose about 1¼ percent over the 12 months ending in January, down from an increase of almost 2 percent in the preceding 12 months, as the continued weakness in the housing market put downward pressure on the rise in housing costs and as the wide margin of economic slack continued to restrain price increases for other services.

The widespread slowing in inflation over the past year is also apparent in a variety of alternative indicators of the underlying trend in inflation (figure 34). These indicators include trimmed-mean price indexes, which exclude the most extreme price increases and price declines in each period, and market-based measures of core prices, which exclude prices that must be

34. Alternative measures of underlying price changes in personal consumption expenditures, 2005–11



Note: The data are monthly and extend through January 2011. The trimmed-mean personal consumption expenditures price index excludes the bottom 24 percent and the top 31 percent of the distribution of monthly price changes and is based on 178 components.

Source: For trimmed mean, Federal Reserve Bank of Dallas; for all else, Department of Commerce, Bureau of Economic Analysis.

imputed. These imputed prices (often referred to as "nonmarket" prices) tend to be highly erratic.

Survey-based measures of near-term inflation expectations have increased in recent months, likely reflecting the recent run-up in energy and food prices; in contrast, survey-based measures of longer-term inflation expectations have remained relatively stable over the past year. In the Thomson Reuters/University of Michigan Surveys of Consumers, median year-ahead inflation remained between 2¾ percent and 3 percent for most of 2010 but then rose above 3 percent in early 2011. Longer-term expectations in the survey, at 2.9 percent in February, remained in the narrow range that has prevailed over the past few years. In the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, expectations for the increase in the consumer price index over the next 10 years edged down, on balance, during 2010 after having been essentially unchanged for many years.

Financial Developments

In light of the disappointing pace of the progress toward the Federal Reserve's dual objectives of maximum employment and price stability, the Federal Open Market Committee (FOMC) took steps in the second half of the year to reduce downside risk to the sustainability of the recovery and to provide further support to economic activity. At its August 2010 meeting, the FOMC decided to keep the Federal Reserve's holdings of longer-term securities constant at their then-current level by reinvesting principal payments from holdings of agency debt and agency MBS in longer-term Treasury securities. In November, the FOMC announced its intention to purchase a further $600 billion in longer-term Treasury securities by the end of the second quarter of 2011 (see box "The Effects of Federal Reserve Asset Purchases").

Financial market conditions, which had worsened early in the summer as a result of developments in Europe and concerns about the durability of the global recovery, subsequently improved as investors increasingly priced in further monetary policy accommodation. Accordingly, real Treasury yields declined, asset prices increased, and credit spreads narrowed. A brightening tone to the economic news starting in the fall bolstered investor sentiment and, together with a reassessment on the part of investors of the ultimate size of Federal Reserve Treasury purchases, contributed to a backup in interest rates and in measures of inflation compensation that continued through year-end. In contrast to the developments earlier in the year, the reemergence later in the year of concerns about the financial situation in Europe left little imprint on domestic financial markets.

Monetary Policy Expectations and Treasury Rates

In response to indications of a slowing pace of recovery in U.S. output and employment and a continued downward trend in measures of underlying inflation, expectations regarding the path for the federal funds rate during 2011 and 2012 were revised down sharply in the third quarter and investors came to anticipate further Federal Reserve asset purchases. The FOMC's decision to begin additional purchases of longer-term Treasury securities occurred against the backdrop of this downward shift in expectations about monetary policy. Subsequently, expectations regarding the ultimate size of such purchases were scaled back as the recovery appeared to strengthen, downside risks to the outlook seemed to recede somewhat, and a tax-cut deal that was seen as supportive of economic activity was passed into law.

The current target range for the federal funds rate of 0 to ¼ percent is consistent with the level that investors expected at the end of June 2010. However, the date at which monetary policy tightening is expected to commence has moved back somewhat since the time of the July 2010 *Monetary Policy Report to the Congress*. Quotes on money market futures contracts indicate that, as of late February, investors anticipate that the federal funds rate will rise above its current range in the first quarter of 2012, about a year later than the date implied in July 2010. By the end of 2012, investors expect that the effective federal funds rate will be around 1.3 percent, fairly similar to the level anticipated in mid-2010.[11]

Yields on nominal Treasury securities fluctuated considerably in the second half of 2010 and in early 2011 due to shifts in investors' expectations regarding

---

11. When interest rates are close to zero, determining the point at which financial market quotes indicate that the federal funds rate will move above its current range can be challenging. The path described in the text is the mean of a distribution calculated from derivatives contracts on federal funds and Eurodollars. The skewness induced in this distribution by the zero lower bound causes the mean to be influenced strongly by changes in uncertainty regarding the policy path, complicating its interpretation. Alternatively, one can use similar derivatives to calculate the most likely—or "modal"—path of the federal funds rate, which tends to be more stable. This path has also moved down, on net, since last summer, but it suggests a flatter overall trajectory for the target federal funds rate, according to which the effective rate does not rise above its current level until around the middle of 2012.

The Effects of Federal Reserve Asset Purchases

Between late 2008 and early 2010, with short-term interest rates already near zero, the Federal Reserve provided additional monetary accommodation by purchasing $1.25 trillion in agency mortgage-backed securities (MBS), about $175 billion in agency debt, and $300 billion in longer-term Treasury securities. When incoming economic data in mid-2010 suggested that the recovery might be softening, the Federal Open Market Committee (FOMC) decided to take further action to fulfill its mandated objectives of promoting maximum employment and price stability. First, the Committee decided at its August 2010 meeting to reinvest the principal payments from its holdings of agency debt and agency MBS in longer-term Treasury securities. Second, it announced in November its intention to purchase an additional $600 billion of longer-term Treasury securities by the end of the second quarter of 2011.

The theory underlying these asset purchases, which dates back to the early 1950s, posits that asset prices are affected by the outstanding quantity of assets. In some models, for example, short- and long-term assets are imperfect substitutes for one another in investors' portfolios, and the term structure of interest rates can be influenced by changes to the supply of securities at different maturities. As a result, purchases of longer-term securities by the central bank can push up the prices and drive down the yields on those securities. Asset purchases can also affect longer-term interest rates by influencing investors' expectations of the future path of short-term rates. Similarly, the effect of central bank asset purchases depends on expectations regarding the timing and pace of the eventual unwinding of the purchases. Thus, central bank communication may play a key role in influencing the response of financial markets to such a program.

Recent empirical work suggests that the Federal Reserve's asset purchase programs have indeed provided significant monetary accommodation. Studies of the responses of asset prices to announcements by the Federal Reserve regarding its first round of asset purchases have found that the purchases of Treasury securities, agency debt, and agency MBS significantly reduced the yields on those securities.[1] Similarly, analyses of the responses of asset prices to the purchases themselves also documented an effect on the prices of the acquired securities.[2] Spillover effects of the purchase programs to other financial markets, in turn, appear to have resulted in lower interest rates on corporate debt and residential mortgages and to have contributed to higher equity valuations and a somewhat lower foreign exchange value of the dollar. These effects are qualitatively similar to those that typically result from conventional monetary policy easing.

Recent research by Federal Reserve staff has provided some estimates of the magnitude of the resulting effects on the economy using the FRB/US macroeconomic model—one of the models developed by the Federal Reserve Board staff and used for policy analysis.[3] A simulation exercise suggests

1. See, for example, Joseph Gagnon, Matthew Raskin, Julie Remache, and Brian Sack (2010), "Large-Scale Asset Purchases by the Federal Reserve: Did They Work?" Federal Reserve Bank of New York Staff Reports 441 (New York: Federal Reserve Bank of New York, March); and James Hamilton and Jing (Cynthia) Wu (2010), "The Effectiveness of Alternative Monetary Policy Tools in a Zero Lower Bound Environment," working paper (San Diego: University of California, San Diego, November). Evidence of similar effects in the United Kingdom from asset purchases by the Bank of England was found by Michael Joyce, Ana Lasaosa, Ibrahim Stevens, and Matthew Tong (2010), "The Financial Market Impact of Quantitative Easing," Working Paper 393 (London: Bank of England, August).

2. See, for example, Stefania D'Amico and Thomas B. King (2010), "Flow and Stock Effects of Large-Scale Asset Treasury Purchases," Finance and Economics Discussion Series 2010-52 (Washington: Board of Governors of the Federal Reserve System, September).

3. Hess Chung, Jean-Phillipe Laforte, David Reifschneider, and John Williams (2011), "Have We Underestimated the Likelihood and Severity of Zero Lower Bound Events?" Federal Reserve Bank of San Francisco Working Paper Series 2011-01

the prospects for economic growth and the size of any asset purchase program that would be conducted by the Federal Reserve (figure 35). Recently, Treasury yields declined as investors increased their demand for the relative safety and liquidity of Treasury securities following political turmoil in the Middle East and North Africa. On net, yields on 2-year Treasury notes were up a bit from their levels in mid-2010, while those on 10-year Treasury securities rose approximately 40 basis points. Nonetheless, yields on Treasury securities remained quite low by historical standards. Uncertainty about longer-term interest rates, as measured by the implied volatility on 10-year Treasury securities, rose significantly from November to mid-December, likely in part because of increased uncertainty about the ultimate size of the Federal Reserve's asset purchase program. Interest rate uncertainty declined subsequently and by early 2011 was only a bit higher, on net, than in mid-2010, apparently reflecting coalescing market expectations regarding Federal Reserve purchases.

Measures of medium- and long-term inflation compensation derived from inflation-indexed Treasury

that the cumulative effect of the Federal Reserve's asset purchases since 2008—including the original purchases of Treasury securities, agency debt, and agency MBS; the reinvestment of principal payments; and the additional $600 billion in Treasury security purchases now intended—has been to provide significant and mounting support to economic activity over time. Although estimates of these effects are subject to considerable uncertainty, the model results suggest that the purchases have already boosted the level of real gross domestic product 1¾ percent relative to what it would have been if no such purchases had occurred, and that this effect will rise to 3 percent by 2012.[4] As a result of this stronger recovery in output, the model also suggests that by 2012 the asset purchase program will boost private employment about 3 million, and trim the unemployment rate 1½ percentage points relative to what they otherwise would be. Finally, the simulation results suggest that inflation is currently 1 percentage point higher than otherwise would have been the case if the FOMC had never initiated securities purchases, implying that, in the absence of such purchases, the economy would now be close to a state of deflation.

Although the asset purchase programs seem to have provided significant support to economic activity, some observers have noted that they are not without risk. One concern that has been voiced is that these purchase programs have increased the size of the Federal Reserve's balance sheet and could result in monetary accommodation being left in place for too long, leading to excessive inflation. However, in preparation for removing monetary accommodation, the Federal Reserve has continued to develop the tools it will need to raise short-term interest rates and drain large volumes of reserves when doing so becomes necessary to achieve the policy stance that best fosters the Federal Reserve's macroeconomic objectives.[5] Moreover, the current level of resource slack in the economy and the recent low readings on underlying inflation suggest that point is not yet near.

A second concern is that the asset purchase program could result in adverse financial imbalances if, for example, the lower level of longer-term interest rates encouraged potential borrowers to employ excessive leverage to take advantage of low financing costs or led investors to accept an imprudently small amount of compensation for bearing risk in an effort to enhance their rates of return. The Federal Reserve is carefully monitoring financial indicators, including credit flows and premiums for credit risk, for signs of potential threats to financial stability. For example, to monitor leverage provided by dealers to financial market participants, in June 2010 the Federal Reserve launched the Senior Credit Officer Opinion Survey on Dealer Financing Terms. This survey provides information on the terms on and availability of various forms of dealer-intermediated financing, including funding for securities positions. Moreover, to better monitor linkages among firms and markets that could undermine the stability of the financial system, the Federal Reserve has increased its emphasis on taking a multidisciplinary approach that integrates the contributions of economists, specialists in particular financial markets, bank supervisors, payments systems experts, and other professionals. An Office of Financial Stability Policy and Research was created within the Federal Reserve to coordinate staff efforts to identify and analyze potential risks to the financial system and broader economy.

(San Francisco: Federal Reserve Bank of San Francisco, January).

4. These effects are based on certain assumptions regarding the period assets are held and the unwinding of the purchases. These, and other, assumptions are described in more detail in Chung and others, "Zero Lower Bound Events," in box note 3.

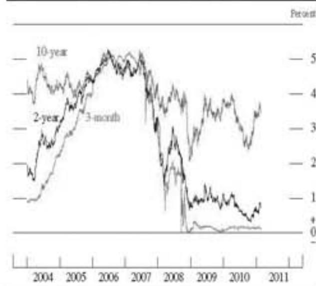
5. The ongoing development of these tools is discussed in Part 3.

bonds rose, on balance, during the second half of 2010 but remained within their historical ranges. Both medium- and long-term measures of inflation compensation fell early in the third quarter as investors grew more concerned about the durability of the economic recovery, but they then moved back up as the FOMC was seen as taking additional steps to help move inflation back toward levels more consistent with its mandate and as economic prospects improved. Rising energy prices may also have contributed to the increases in medium-term inflation compensation.

Corporate Debt and Equity Markets

During the second half of 2010 and early 2011, the spreads between the yields on investment-grade corporate bonds and those on comparable-maturity Treasury securities narrowed modestly (figure 36). Similar risk spreads on corporate bonds with below-investment-grade ratings narrowed more substantially—as much as 200 basis points. This spread compression was consistent with continued improvements in corporate credit quality as well as increased investor

35. Interest rates on selected Treasury securities, 2004–11



NOTE: The data are daily and extend through February 22, 2011.
SOURCE: Department of the Treasury.

37. Secondary-market bid pricing for syndicated loans, 2007–11

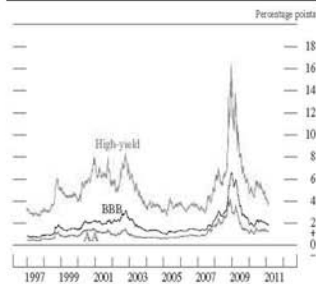
NOTE: The data are daily and extend through February 22, 2011.
SOURCE: LSTA/Thomson Reuters Mark-to-Market Pricing.

confidence in the durability of the recovery. Nonetheless, bond spreads now stand near the lower end of their historical ranges. In the secondary market for syndicated leveraged loans, the average bid price moved up further, a development that reflected strong investor demand as well as improved fundamentals (figure 37). A notable share of loans traded at or above par in early 2011.

Equity prices have risen sharply since mid-2010 (figure 38). The rally began amid expectations of further monetary policy accommodation and was further supported by robust corporate earnings and an improved economic outlook. The gains in equity prices were broad based. Implied volatility for the S&P 500, calculated from options prices, generally trended down in the second half of 2010 and early 2011 and reached fairly low levels, although it increased recently against a backdrop of rising political turmoil in the Middle East and North Africa (figure 39).

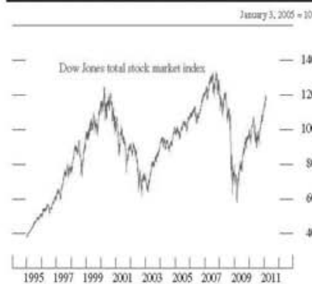
With some investors apparently seeking to boost returns in an environment of low interest rates, net inflows into mutual funds that invest in higher-yielding fixed-income instruments, including speculative-grade bonds and leveraged loans, were robust in the second half of 2010 and early 2011. These inflows likely supported strong issuance and contributed to the narrowing of bond spreads during this period. Mutual funds focusing on international debt securities also attracted

36. Spreads of corporate bond yields over comparable off-the-run Treasury yields, by securities rating, 1997–2011



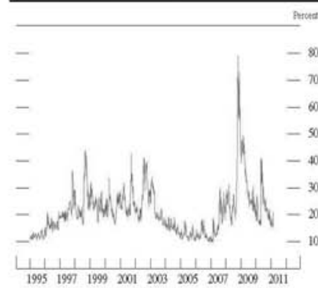
NOTE: The data are daily and extend through February 22, 2011. The spreads shown are the yields on 10-year bonds less the 10-year Treasury yield.
SOURCE: Derived from smoothed corporate yield curves using Merrill Lynch bond data.

38. Stock price index, 1995–2011



NOTE: The data are daily and extend through February 22, 2011.
SOURCE: Dow Jones Indexes.

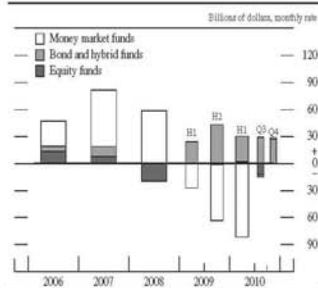
39. Implied S&P 500 volatility, 1995–2011



NOTE: The data are weekly and extend through the week ending February 25, 2011. The final observation is an estimate based on data through February 23, 2011. The series shown—the VIX—is the implied 30-day volatility of the S&P 500 stock price index as calculated from a weighted average of options prices.
SOURCE: Chicago Board Options Exchange.

strong inflows. Inflows to other categories of bond funds were more modest so that overall inflows to bond funds in the second half of 2010 were similar to those in the first half of the year (figure 40). Despite the strong gains in U.S. equity markets, mutual funds investing in domestic equities experienced sizable outflows for much of the second half of last year, but these funds attracted net inflows in early 2011. Investments in money market mutual funds changed little in the second half of 2010—following notable outflows earlier in the year—as the assets held by these funds continued to generate very low yields.

40. Net flows into mutual funds, 2006–10



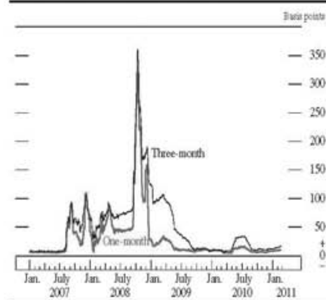
NOTE: The data exclude reinvested dividends and are not seasonally adjusted.
SOURCE: Investment Company Institute.

Market Functioning and Dealer-Intermediated Credit

Conditions in short-term funding markets, which had experienced notable strains in the spring when investors became concerned about European sovereign debt and banking issues, generally improved early in the second half of 2010. Spreads of London interbank offered rates, or Libor, over comparable-maturity overnight index swap rates—a measure of stress in short-term bank funding markets—reversed the widening observed in the spring and then remained fairly narrow despite the reemergence of concerns about the situation in Europe in the fall (figure 41). Nevertheless, amid the renewed concerns, tiering was reportedly evident in dollar funding markets abroad, as institutions located in peripheral European countries apparently faced reduced access to funding. Issuance of commercial paper in the United States by institutions headquartered in peripheral Europe declined as investors required notably higher rates to hold this paper.

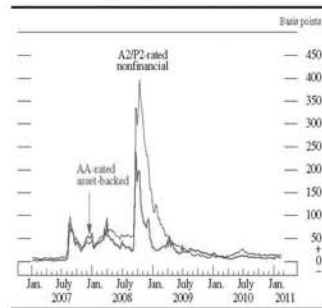
Besides these strains and some modest, short-lived year-end pressures, conditions in short-term funding markets continued to be stable. The spreads between yields on lower-quality A2/P2-rated paper and AA-rated asset-backed commercial paper over those on higher-quality AA-rated nonfinancial paper remained narrow through the fall and into 2011 (figure 42). Since last summer, haircuts on securities used as collateral in repurchase agreements (repos), while

41. Libor minus overnight index swap rate, 2007–11



NOTE: The data are daily and extend through February 22, 2011. An overnight index swap (OIS) is an interest rate swap with the floating rate tied to an index of daily overnight rates, such as the effective federal funds rate. At maturity, two parties exchange, on the basis of the agreed notional amount, the difference between interest accrued at the fixed rate and interest accrued by averaging the floating, or index, rate. Libor is the London interbank offered rate.
SOURCE: For Libor, British Bankers' Association; for the OIS rate, Prebon.

42. Commercial paper spreads, 2007–11



NOTE: The data are weekly and extend through February 23, 2011. Commercial paper yield spreads are for an overnight maturity and are expressed relative to the AA nonfinancial rate.
SOURCE: Depository Trust and Clearing Corporation.

exhibiting some volatility in the fourth quarter and early 2011, were generally little changed.

Information from the Federal Reserve's quarterly Senior Credit Officer Opinion Survey on Dealer Financing Terms suggested that the major dealers eased credit terms to most types of counterparties during the second half of 2010, primarily in response to more-aggressive competition from other institutions and to an improvement in the current or expected financial strength of the counterparties. The easing of terms occurred primarily for securities-financing transactions, while nonprice terms for over-the-counter derivatives transactions were reportedly little changed on net. Survey respondents also noted a general increase in the demand for funding for all types of securities covered in the survey.

While remaining well below pre-crisis levels, the use of dealer-intermediated leverage appears to have gradually increased since the end of the summer, interrupted by a brief retrenchment in early December when concerns about developments in Europe intensified. This trend is reflected in the increased funding of equities by hedge funds and other levered investors and in an uptick in demand for the funding of some other types of securities. In addition, recent leveraged finance deals—involving the new issuance of high-yield corporate bonds and syndicated leveraged loans—on average reflected greater levering of the underlying corporate assets, but they nonetheless generated strong interest on the part of investors in a very low interest rate environment. However, there was little evidence that dealer-intermediated funding of less-liquid assets increased materially, and new issuance of structured products that embed leverage and were originated in large volumes prior to the crisis—including, for example, complex mortgage derivatives—has not resumed on any significant scale. In general, the appetite for additional leverage on the part of most market participants—as reflected in responses to special questions on the September SCOOS, triparty repo market volumes, and other indicators—appears to have remained generally muted, with most investors not fully utilizing their existing funding capacity.

Measures of liquidity and functioning in most financial markets pointed to generally stable conditions since mid-2010. In the Treasury market, various indicators, such as differences in prices of securities with similar remaining maturities and spreads between yields on on- and off-the-run issues, suggest that the market continued to operate normally, including during the period when the Federal Reserve was implementing its new asset purchase program. Bid-asked spreads were generally about in line with historical averages, and dealer transaction volumes have continued to reverse the declines observed during the financial crisis. In the syndicated loan market, bid-asked spreads trended down further in the second half of 2010 and in early 2011 as the market continued to recover, although they remained above the levels observed prior to 2007. Estimates of bid-asked spreads in corporate bond markets were within historical ranges, as was the dispersion of dealer quotes in the credit default swap market.

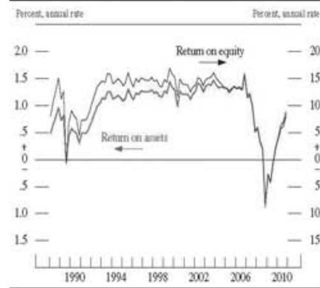
Banking Institutions

Returns on equity and returns on assets for commercial banks in the second half of 2010 improved moderately from earlier in the year but remained well below the levels that prevailed before the financial crisis (figure 43). Profits for the industry as a whole have benefitted considerably in recent quarters from reductions in loan loss provisioning. However, pre-provision net revenue decreased over the second half of the year as net interest margins slid and income from both deposit fees and trading activities declined.[12] About 70 of the more than 6,500 commercial banks in the United States failed between July and December 2010, down slightly from the 86 failures that occurred in the first half of the year.

Spreads on credit default swaps written on banking organizations generally held steady or moved down, on

12. Pre-provision net revenue is the sum of net interest income and noninterest income less noninterest expense.

43. Commercial bank profitability, 1988–2010



NOTE: The data are quarterly and extend through 2010:Q4.
SOURCE: Federal Financial Institutions Examination Council, Consolidated Reports of Condition and Income (Call Report).

net, since mid-2010 (figure 44). Moreover, indicators of credit quality at commercial banks showed signs of improvement. Aggregate delinquency and charge-off rates moved down, although they remain high. Loss provisioning stayed elevated, but the recent reductions generally exceeded the declines in charge-offs, which suggests that banks expect credit quality to improve further in coming quarters. Indeed, for every major loan type, significant net fractions of banks reported on the January Senior Loan Officer Opinion Survey that they expect credit quality to improve during the current year if economic activity progresses in line with consensus forecasts.

44. Spreads on credit default swaps for selected U.S. banks, 2007–11

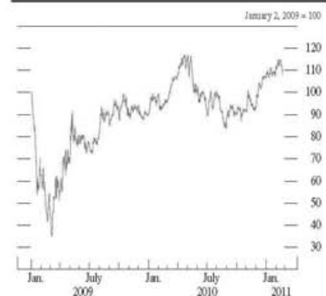
NOTE: The data are daily and extend through February 22, 2011. Median spreads for six bank holding companies and nine other banks.
SOURCE: Markit.

Equity prices of commercial banks moved higher, on net, since mid-2010 (figure 45). During this period, large commercial banks generally reported earnings that beat analysts' expectations, and improved economic prospects were seen as boosting loan demand and supporting loan quality going forward, developments that would buoy banks' profitability. Nevertheless, investors were anxious about the degree to which future profitability might be negatively affected by a number of factors, including the quality of assets on banks' books, changes in the regulatory landscape, mortgage documentation and foreclosure issues, and the potential for some nonperforming mortgages in securitized pools to be put back to some of the large banks.

Total assets of commercial banks changed little, on net, during the second half of 2010, although there were notable compositional shifts. With demand weak and lending standards tight, total loans contracted (figure 46). Nevertheless, the pace at which loans decreased was not as rapid as in the first half of the year, in part because banks' holdings of commercial and industrial loans picked up and their holdings of closed-end residential mortgages grew steadily. Partly offsetting the declines in total loans, banks expanded their holdings of Treasury securities and agency MBS, although the growth in their securities holdings slowed late in the year and into 2011.

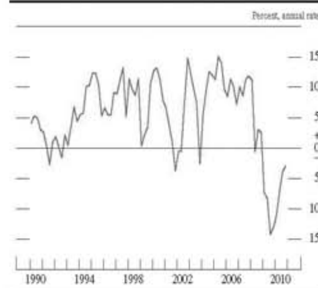
Regulatory capital ratios at commercial banks moved higher, on balance, over the second half of 2010. The upward trend in capital ratios over the past several years has been most pronounced at the largest banks as they accumulated capital while risk-weighted assets decreased and tangible assets were about

45. Equity price index for banks, 2009–11



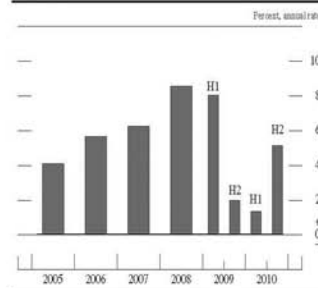
NOTE: The data are daily and extend through February 22, 2011.
SOURCE: Standard & Poor's.

46. Change in total bank loans, 1990–2010



Note: The data, which are seasonally adjusted, are quarterly and extend through 2010:Q4. Data have been adjusted for banks' implementation of certain accounting rule changes (including the Financial Accounting Standards Board's Statements of Financial Accounting Standards Nos. 166 and 167) and for the effects of large nonbank institutions converting to commercial banks or merging with a commercial bank.
Source: Federal Reserve Board, Statistical Release H.8, "Assets and Liabilities of Commercial Banks in the United States."

47. M2 growth rate, 2005–10



Note: For definition of M2, see text note 13.
Source: Federal Reserve Board, Statistical Release H.6, "Money Stock Measures."

unchanged. Capital requirements for many of these banks will increase significantly under the new international capital standards, which will restrict the definition of regulatory capital and increase the risk weights assigned to some assets and off-balance-sheet exposures. In addition, the Dodd–Frank Wall Street Reform and Consumer Protection Act requires that the Federal Reserve issue rules by January 31, 2012, that will subject bank holding companies with more than $50 billion in assets to additional capital and liquidity requirements.

Monetary Aggregates and the Federal Reserve's Balance Sheet

The M2 monetary aggregate has expanded at a moderate pace since mid-2010 after rising only slightly in the first half of last year (figure 47); for the year as a whole, M2 grew 3.2 percent, the slowest annual increase since 1994.[13] As has been the case for some time, the strongest increase was in liquid deposits, the largest component of M2, while small time deposits and retail money market mutual fund assets continued to contract. Liquid deposits tended to pay slightly more-favorable interest rates than did their close substitutes. The currency component of the money stock expanded at a faster rate in the second half of 2010 than it had earlier in the year. The monetary base—essentially equal to the sum of currency in circulation and the reserve balances of depository institutions held at the Federal Reserve—contracted slightly during the second half of 2010, although the downward trend started to reverse late in the period in response to the Federal Reserve's new Treasury security purchase program.

The size of the Federal Reserve's balance sheet remained at a historically high level throughout the second half of 2010. In early 2011, the balance sheet stood at about $2.5 trillion, an increase of around $200 billion from its level in early July (table 1). The expansion of the balance sheet was more than accounted for by an increase in holdings of Treasury securities, which were up nearly $450 billion since the summer. The additional holdings of Treasury securities resulted from the FOMC's August decision to reinvest the proceeds from paydowns of agency debt and MBS in longer-term Treasury securities and the asset purchase program announced at the November FOMC meeting. To provide operational flexibility and to ensure that it is able to purchase the most attractive

13. M2 consists of (1) currency outside the U.S. Treasury, Federal Reserve Banks, and the vaults of depository institutions; (2) traveler's checks of nonbank issuers; (3) demand deposits at commercial banks (excluding those amounts held by depository institutions, the U.S. government, and foreign banks and official institutions) less cash items in the process of collection and Federal Reserve float; (4) other checkable deposits (negotiable order of withdrawal, or NOW, accounts and automatic transfer service accounts at depository institutions; credit union share draft accounts; and demand deposits at thrift institutions); (5) savings deposits (including money market deposit accounts); (6) small-denomination time deposits (time deposits issued in amounts of less than $100,000) less individual retirement account (IRA) and Keogh balances at depository institutions; and (7) balances in retail money market mutual funds less IRA and Keogh balances at money market mutual funds.

1. Selected components of the Federal Reserve balance sheet, 2009–11

Millions of dollars

Balance sheet item	Dec. 30, 2009	July 7, 2010	Feb. 23, 2011
Total assets	**2,237,258**	**2,335,457**	**2,537,175**
Selected assets			
Credit extended to depository institutions and dealers			
Primary credit	19,111	17	24
Term auction credit	75,918	0	0
Primary Dealer Credit Facility and other broker-dealer credit	0	...	...
Central bank liquidity swaps	10,272	1,245	70
Credit extended to other market participants			
Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility	0	...	...
Net portfolio holdings of Commercial Paper Funding Facility LLC	14,072	1	...
Term Asset-Backed Securities Loan Facility	47,532	42,278	20,997
Support of critical institutions			
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC[1]	65,024	66,996	64,902
Credit extended to American International Group, Inc.	22,033	24,560	...
Preferred interests in AIA Aurora LLC and ALICO Holdings LLC	25,000	25,733	...
Securities held outright			
U.S. Treasury securities	776,587	776,997	1,213,425
Agency debt securities	159,879	164,762	144,119
Agency mortgage-backed securities (MBS)[2]	908,257	1,118,290	958,201
MEMO			
Term Securities Lending Facility[3]	0	...	...
Total liabilities	**2,185,139**	**2,278,523**	**2,484,141**
Selected liabilities			
Federal Reserve notes in circulation	889,678	907,698	956,012
Reverse repurchase agreements	70,450	62,904	59,484
Deposits held by depository institutions	1,025,271	1,061,239	1,297,905
Of which: Term deposits	...	2,122	5,070
U.S. Treasury, general account	149,819	16,475	23,123
U.S. Treasury, Supplementary Financing Account	5,001	199,963	124,976
Total capital	**52,119**	**56,934**	**53,035**

NOTE: LLC is a limited liability company.

1. The Federal Reserve has extended credit to several LLCs in conjunction with efforts to support critical institutions. Maiden Lane LLC was formed to acquire certain assets of The Bear Stearns Companies, Inc. Maiden Lane II LLC was formed to purchase residential mortgage-backed securities from the U.S. securities lending reinvestment portfolio of subsidiaries of American International Group, Inc. (AIG). Maiden Lane III LLC was formed to purchase multisector collateralized debt obligations on which the Financial Products group of AIG has written credit default swap contracts.

2. Includes only MBS purchases that have already settled.

3. The Federal Reserve retains ownership of securities lent through the Term Securities Lending Facility.

... Not applicable.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks."

securities on a relative-value basis, the Federal Reserve temporarily relaxed its 35 percent per-issue limit on System Open Market Account (SOMA) holdings of individual Treasury securities and will allow SOMA holdings to rise above the previous threshold in modest increments up to a 70 percent per-issue limit; holdings of particular issues exceed the previous limit for only a small number of securities. In contrast, holdings of agency debt and agency MBS declined about $180 billion between early July and early 2011. The wave of mortgage refinancing that occurred in the autumn in the wake of the drop in mortgage rates contributed notably to the sharp decline in Federal Reserve holdings of MBS. In addition, holdings of agency debt declined as these securities matured.

Use of regular discount window lending facilities, such as the primary credit facility, has been minimal for some time. The Term Asset-Backed Securities Loan Facility (TALF) was closed on June 30, 2010. Loans outstanding under the TALF declined from $42 billion in mid-2010 to $21 billion in early 2011 as improved conditions in some securitization markets resulted in prepayments of loans made under the facility. The other broad-based credit facilities that the Federal Reserve had introduced to provide liquidity to financial institutions and markets during the financial crisis were closed early in 2010. All loans extended through these programs had been repaid by the summer.

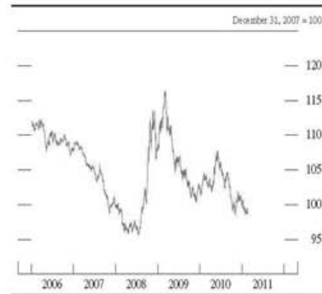
The portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC,

which were created to acquire certain assets from troubled systemically important institutions during the crisis, have generally changed little, on net, since mid-2010. Current estimates of the fair values of the portfolios of the three Maiden Lane LLCs exceed the corresponding loan balances outstanding to each limited liability company from the Federal Reserve Bank of New York. Consistent with the terms of the Maiden Lane LLC transaction, on July 15, 2010, this limited liability company began making distributions to repay the loan received from the Federal Reserve Bank of New York. On January 14, 2011, American International Group, Inc., or AIG, repaid the credit extended by the Federal Reserve under the revolving credit line, and the Federal Reserve was paid in full for its preferred interests in the special purpose vehicles AIA Aurora LLC and ALICO Holdings LLC, thereby reducing the balances in these accounts to zero.

Stresses in European dollar funding markets in May led to the reestablishment of liquidity swap lines between the Federal Reserve and foreign central banks. Only a small amount of credit has been issued under the reestablished facilities, which in December were extended through August 1, 2011.

On the liability side, Federal Reserve notes in circulation increased a bit, from $908 billion to $956 billion. Reverse repos edged down. Deposits held at the Federal Reserve by depository institutions rose to about $1.3 trillion. The Supplementary Financing Account declined early in 2011 following the announcement by the Treasury that it was suspending new issuance under the Supplementary Financing Program and that it would allow that account to fall to $5 billion as part of its efforts to maximize flexibility in debt management as federal debt approached the statutory debt limit.

48. U.S. dollar nominal exchange rate, broad index, 2006–11



NOTE: The data, which are in foreign currency units per dollar, are daily. The last observation for the series is February 22, 2011. The broad index is a weighted average of the foreign exchange values of the U.S. dollar against the currencies of a large group of the most important U.S. trading partners. The index weights, which change over time, are derived from U.S. export shares and from U.S. and foreign import shares.

SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

International Developments

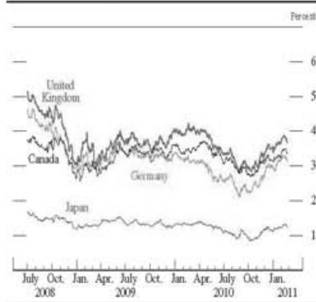
International Financial Markets

The foreign exchange value of the dollar declined over much of the third quarter of 2010 (figure 48). This decline was spurred in part by some reversal of flight-to-safety flows—as financial system strains in Europe temporarily diminished following the July release of the results of the European Union (EU) stress tests—and by fears that the recovery in the United States was slowing. Mounting expectations that the Federal Reserve might undertake further asset purchases in response to the weakening economic outlook also weighed on the dollar. Although the dollar initially dropped a bit more following the Federal Reserve's announcement in early November that it would purchase additional long-term Treasury securities, it subsequently reversed course as data on economic activity in the United States began to strengthen and as investors began to scale back their expectations of the ultimate size of the Federal Reserve's purchase program. In the first two months of this year, the dollar edged down again as the outlook for economic activity abroad appeared to strengthen and the financial situation in Europe stabilized. On net, the dollar declined 7 percent on a trade-weighted basis against a broad set of currencies over the second half of last year and into the first two months of this year.

Foreign benchmark sovereign yields also declined over much of the third quarter as concerns about the U.S. recovery and worries that China's economy might decelerate more quickly than had been expected led investors to question the overall strength of global economic growth (figure 49). However, foreign yields subsequently rose as confidence in the global recovery strengthened, leaving foreign benchmark yields 15 to 60 basis points higher on net.

Foreign equity markets rallied following the release of the EU stress tests in July, and, although those markets gave back part of these gains in August over heightened worries about the pace of global economic growth, they nonetheless ended the third quarter higher. Over the fourth quarter and into this year, foreign equity prices rose further as the global economic

49. Yields on benchmark government bonds in selected advanced foreign economies, 2008–11

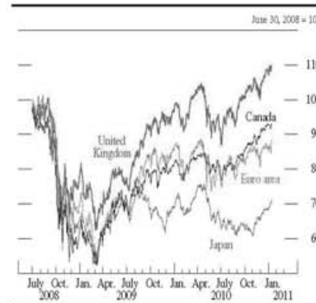


NOTE: The data, which are for 10-year bonds, are daily. The last observation for each series is February 22, 2011.
SOURCE: Bloomberg.

outlook improved, notwithstanding renewed stresses in peripheral Europe. On net, headline equity indexes in the euro area and Japan are up about 10 to 20 percent from their levels in mid-2010, while indexes in the major emerging market economies are about 20 percent higher; all those indexes increased, on balance, even after having declined a bit recently in the face of uncertainties about the Middle East and North Africa (figures 50 and 51).

Although some banks in the euro-area periphery countries, particularly in Spain, seemed to have better

50. Equity indexes in selected advanced foreign economies, 2008–11



NOTE: The data are daily. The last observation for each series is February 22, 2011.
SOURCE: For Canada, Toronto Stock Exchange 300 Composite Index; for euro area, Dow Jones Euro STOXX Index; for Japan, Tokyo Stock Exchange (TOPIX); and, for the United Kingdom, London Stock Exchange (FTSE 350); all via Bloomberg.

51. Aggregate equity indexes for emerging market economies, 2008–11

NOTE: The data are daily. The last observation for each series is February 22, 2011. The Latin American economies are Argentina, Brazil, Chile, Colombia, Mexico, and Peru; the emerging Asian economies are China, India, Indonesia, Malaysia, Pakistan, the Philippines, South Korea, Taiwan, and Thailand.
SOURCE: Bloomberg.

access to capital markets immediately following the stress test, their costs of funding rose again late in the year as market concerns about the Irish and Spanish banking sectors resurfaced. Banks in the euro-area periphery relied heavily on the weekly and longer-term funding operations of the European Central Bank (ECB) over much of this period. The strains nevertheless spilled over into increased funding costs in dollars for some European banks, although the reaction was less severe than it had been in May. Reportedly, many European banks had already met their dollar funding needs through year-end before these strains occurred. Market participants welcomed the announcement that the swap lines between the Federal Reserve and the ECB, the Bank of England, the Swiss National Bank, the Bank of Japan, and the Bank of Canada would be extended through August 1.

With the yen at a 15-year high against the dollar in nominal terms, Japanese authorities intervened in currency markets on September 15 (figure 52). Japan's Ministry of Finance purchased dollars overnight to weaken the value of the yen, its first intervention operation since March 2004. The operation caused the yen to depreciate immediately about 3 percent against the dollar, but this movement was fairly short lived, as the yen rose past its pre-intervention level within a month.

During the third quarter, the EMEs saw an increase in capital inflows, which added to upward pressures on their currencies and reportedly triggered further intervention in foreign exchange markets by EME authorities. Authorities in several EMEs also announced new

52. U.S. dollar exchange rate against selected major currencies, 2009–11

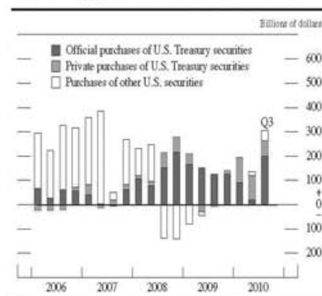
NOTE: The data, which are in foreign currency units per dollar, are daily. The last observation for each series is February 22, 2011.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

measures to discourage portfolio capital inflows in an attempt to ease upward pressures on their currencies and in their asset markets. Although capital flows to EMEs appeared to moderate late in the year as long-term interest rates in the advanced economies rose, intervention and the imposition of capital control measures continued.

The Financial Account

Financial flows in 2010 reflected changes in investor sentiment over the course of the year, driven in part by concerns over fiscal difficulties in Europe. Foreign private investors made large purchases of U.S. Treasury securities in the first half of the year, but these "flight to quality" demands eased somewhat in the third quarter with the improvement in conditions in European markets (figure 53). Indicators for the fourth quarter are mixed but suggest that foreign private demand for U.S. Treasury securities picked up again late in the year as tensions in European markets reemerged. Foreign demand for other U.S. securities strengthened in the second half of the year. Net private purchases of both U.S. agency debt and U.S. equities were strong, and foreign investors made small net purchases of corporate debt securities, in contrast to net sales over the previous several quarters. U.S. residents continued to purchase sizable amounts of foreign bonds and equities, including both emerging market and European securities (figure 54).

53. Net foreign purchases of U.S. securities, 2006–10

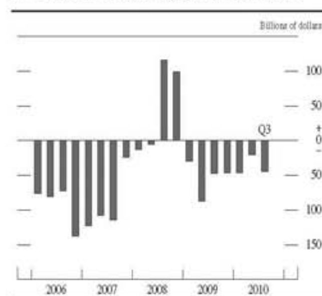


NOTE: Other U.S. securities include corporate equities and bonds, agency bonds, and municipal bonds.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

Banks located in the United States continued to lend abroad, on net, in the third quarter, but at a slower pace than in the first half of the year, as dollar funding pressures in European interbank markets eased and banks abroad relied less on U.S. counterparties for funding. As a result, inflows from increased foreign private purchases of U.S. securities more than offset the banking outflows in the third quarter, generating net private financial inflows for the first time since late 2008 (figure 55).

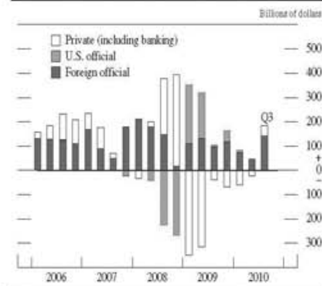
Inflows from foreign official institutions increased in the third quarter, with inflows primarily coming from countries seeking to counteract upward pressure on their currencies by purchasing U.S. dollars in foreign currency markets. These countries then used the proceeds to acquire U.S. assets, primarily Treasury securi-

54. Net U.S. purchases of foreign securities, 2006–10



NOTE: Negative numbers indicate a balance of payments outflow associated with positive U.S. purchases of foreign securities.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

55. U.S. net financial inflows, 2006–10



NOTE: U.S. official flows include the foreign currency acquired when foreign central banks draw on their swap lines with the Federal Reserve.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

ties. Available data for the fourth quarter indicate that foreign official purchases of U.S. Treasury securities slowed as the dollar stabilized.

Advanced Foreign Economies

Economic growth in the advanced foreign economies stepped down in the second half of 2010. To a large extent, this slowdown reflected standard business cycle dynamics, as support from fiscal stimulus and the rebound in global trade and inventories diminished over the course of the year. In Canada, signs of the maturing recovery were most evident in the domestic sector, whereas in Japan, exports decelerated as growth in emerging Asian economies moderated. In Europe, the recovery was further restrained by a reemergence of concerns over fiscal sustainability and banking sector vulnerabilities in some countries. (See box "An Update on the European Fiscal Crisis and Policy Responses.") However, recent indicators of economic activity across the advanced foreign economies suggest that performance improved moderately toward the end of 2010. In the manufacturing sector, purchasing managers indexes have resumed rising and point to solid expansion. Moreover, the recovery appears to be gradually spilling over to the retail and service sectors, with household demand benefiting from improving labor market conditions and rising incomes.

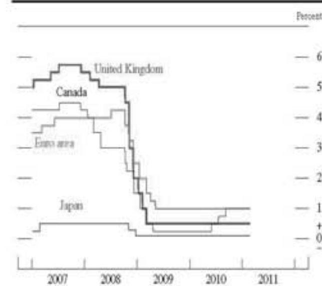
Toward year-end, consumer prices in the advanced foreign economies were boosted by a run-up in food and energy prices (figure 56). Japanese 12-month headline consumer price inflation turned slightly positive for the first time since early 2009, in part because of a

56. Change in consumer prices for major foreign economies, 2007–11

NOTE: The data are monthly and extend through January 2011; the percent change is from one year earlier.
SOURCE: For the euro area, the European Central Bank; for the United Kingdom, the U.K. Office for National Statistics; for Japan, the Japan Statistics Bureau; and, for Canada, Statistics Canada; all via Haver Analytics.

hike in the tobacco tax, and headline inflation in Canada and the euro area recently moved above 2 percent. However, inflation in core consumer prices, which excludes food and energy prices, remained subdued amid considerable slack in these economies. One exception was the United Kingdom, where consumer price inflation—both headline and core—persisted above 3 percent throughout 2010, driven by prior exchange rate depreciation and increases in the value-added tax.

57. Official or targeted interest rates in selected advanced foreign economies, 2007–11



NOTE: The data are daily and extend through February 22, 2011. The data shown are, for Canada, the target for the overnight rate; for the euro area, the minimum bid rate on main refinancing operations; for Japan, the target for the call rate; and, for the United Kingdom, the official bank rate.
SOURCE: The central bank of each area or country shown.

An Update on the European Fiscal Crisis and Policy Responses

The European fiscal crisis has remained a source of concern in global financial markets despite official responses over the past year. The crisis began early in 2010 after large upward revisions to the statistics on Greek government deficits led to an erosion of market confidence in the ability of Greece to meet its fiscal obligations. This situation created spillovers to other euro-area countries with high debt or deficit levels. In early May, the European Union (EU) and the International Monetary Fund (IMF) announced a joint €110 billion financial support package for Greece; in addition, the EU established lending facilities of up to €500 billion, and the European Central Bank (ECB) began purchasing sovereign securities to ensure the depth and liquidity of euro-area debt markets. In response to signs of renewed pressures in dollar funding markets, the Federal Open Market Committee reopened dollar swap facilities with a number of foreign central banks.

Financial tensions moderated somewhat over the summer, in part because of favorable market reaction to the results of Europe-wide bank stress tests released in July. Nevertheless, the spreads of yields on the sovereign bonds of the most vulnerable euro-area countries over those of German bonds remained elevated (figure A). In the autumn, peripheral European sovereign bond spreads, particularly those of Ireland, widened further. Two developments contributed to the heightened tensions: (1) the discussion of a proposal for a more permanent financial stability mechanism for the euro area starting in 2013, which could eventually require the restructuring of private holdings of sovereign debt; and (2) increased concerns over the growing real estate loan losses of Irish banks and the associated funding difficulties. Afflicted in part by deposit flight and difficulties raising funds in the interbank market, Irish banks became increasingly dependent on funding from the ECB.

With access to market funding increasingly limited, Ireland agreed on November 28 to a €67.5 billion financial support package from the EU and the IMF, with an additional €17.5 billion of Ireland's own funds going to stabilize and recapitalize the country's banking sector. Ireland agreed to implement a four-year fiscal consolidation effort equal to 9 percent of gross domestic product, two-thirds of which will be spending cuts, on top of the austerity measures already adopted in the previous two years.

A. Government debt spreads for peripheral European economies, 2009–11

NOTE: The data are weekly. The last observation for each series is February 25, 2011. The spreads shown are the yields on 10-year bonds less the 10-year German bond yield.

SOURCE: Bloomberg.

Following this announcement, markets appeared to shift their focus to the possibility that official assistance would also be required for other euro-area countries with high fiscal deficits or debts and vulnerable banking systems. This development led to a rise in the sovereign bond spreads of Portugal, Spain, and, to a lesser extent, Italy and Belgium. The fear that the Irish problems might spread was exacerbated by concerns that funds available under existing support mechanisms could be insufficient if Spain were to need external assistance. Partly in response to the increase in financial strains, the ECB temporarily stepped up its purchases of the debt of vulnerable euro-area countries and announced following its December policy meeting that it would delay exit from its nonstandard liquidity measures. In addition, European leaders have increasingly indicated their desire to expand or broaden the mandate of current support facilities, and European governments are organizing another round of bank stress tests.

Major central banks in the advanced foreign economies have maintained an accommodative monetary policy stance (figure 57), although some have taken steps to remove the degree of accommodation. The Bank of Canada raised its target for the overnight rate 50 basis points in the third quarter but since then has held its policy rate at 1 percent. The ECB discontinued refinancing operations at 6- and 12-month maturities but extended fixed-rate refinancing at shorter maturities and kept its main refinancing rate at 1 percent. The Bank of England maintained its policy rate at 0.5 percent and the size of its Asset Purchase Facility at £200 billion. The Bank of Japan took additional steps to ease policy by cutting its target interest rate

from 10 basis points to a range of 0 to 10 basis points. In addition, it extended from three to six months the term for its fixed-rate funds-supplying operation, and it established an asset purchase program of ¥5 trillion to buy a broad range of financial assets, including government securities, commercial paper, corporate bonds, exchange-traded funds, and real estate investment trusts.

Emerging Market Economies

After a robust expansion in the first half of 2010, economic activity in the EMEs stepped down in the third quarter before bouncing back to solid growth in the fourth. On average over the two quarters, real GDP growth in the EMEs was well above that observed in the advanced economies. Economic activity in the EMEs was boosted by domestic demand, supported by accommodative monetary and fiscal policies. However, with output appearing to approach capacity for most countries, authorities in many EMEs have begun to unwind the stimulus measures, both monetary and fiscal, put in place during the crisis. The withdrawal of monetary stimulus has also been driven by a recent pickup in consumer price inflation, which has reflected, in part, a rise in commodity prices.

Monetary policy tightening in the EMEs has likely been tempered by uncertainties about the pace and durability of the economic recovery in advanced economies, which remain an important source of demand for the EMEs. In addition, the exit from accommodative stances has been complicated by the return of private capital flows to these economies. Capital inflows appear to have exerted some upward pressure on currencies and have raised concerns about the possibility of an overheating in asset prices. EME authorities have so far adopted a variety of strategies to cope with increased capital flows, including intervention in foreign exchange markets to slow the upward movement of domestic currencies, prudential measures targeted to specific markets (such as the property market), and, in several cases, capital controls.

Real GDP growth in China slowed a bit in the first half of last year, but it moved back up in the second half along with a pickup in inflation, prompting Chinese authorities to continue to tighten monetary policy. Since last June, bank reserve requirements increased a total of 250 basis points for the largest banks, and the benchmark one-year bank lending rate has risen 75 basis points. Chinese authorities have also raised the minimum down payment required for residential property investment in order to slow rising property prices. Since the announcement last June by Chinese authorities that they would allow more exchange rate flexibility, the renminbi has appreciated about 4 percent against the dollar. However, on a real multilateral, trade-weighted basis, which gauges the renminbi's value against China's major trading partners and adjusts for differences in inflation rates, the renminbi has depreciated slightly.

In emerging Asia excluding China, the pace of economic growth softened in the third quarter of last year. There was a steep decline in Singapore's real GDP, which often exhibits wide quarterly swings. Considerable weakness in third-quarter economic activity was also observed in Malaysia, the Philippines, and Thailand. However, available indicators suggest that fourth-quarter GDP growth in the region has picked up again.

In Latin America, real GDP in Mexico and Brazil also decelerated in the third quarter. Mexican output has yet to recover fully from the financial crisis; total manufacturing output slowed over the final two quarters of the year, largely reflecting lower U.S. manufacturing growth, which has depressed demand for exports from Mexico. Economic activity in Brazil, though having slowed from a very brisk pace in the first half of the year, has remained solid, supported by continued fiscal stimulus and high commodity prices. Brazil's central bank tightened reserve requirements in December, prompted by concerns about both the pace of credit creation and the quality of the credit being extended. In addition, the Brazilian central bank raised its policy rate 50 basis points in January of this year. The new Brazilian government has announced some spending cuts to reduce aggregate demand and inflationary pressures.

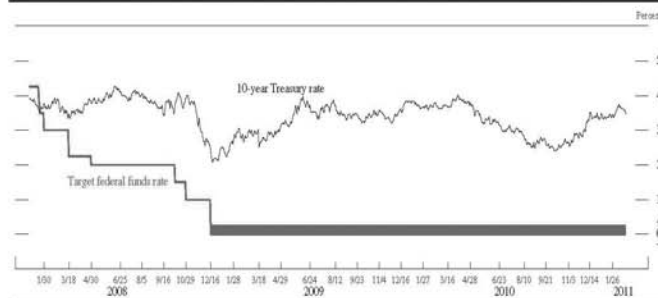
Part 3
Monetary Policy: Recent Developments and Outlook

Monetary Policy over the Second Half of 2010 and Early 2011

The Federal Open Market Committee (FOMC) maintained a target range for the federal funds rate of 0 to ¼ percent throughout the second half of 2010 and into 2011 (figure 58). In the statement accompanying each regularly scheduled FOMC meeting, the Committee noted that economic conditions, including low rates of resource utilization, subdued inflation trends, and stable inflation expectations, were likely to warrant exceptionally low levels of the federal funds rate for an extended period. With the unemployment rate elevated and measures of underlying inflation somewhat low relative to levels that the Committee judged to be consistent, over the long run, with its dual mandate of maximum employment and price stability, the FOMC took steps during the second half of 2010 to provide additional monetary accommodation in order to promote a stronger pace of economic recovery and to help ensure that inflation, over time, returns to levels consistent with its mandate. In August, the FOMC announced that it would keep constant the Federal Reserve's holdings of longer-term securities at their then-current level by reinvesting principal payments from agency debt and agency mortgage-backed securities (MBS) in longer-term Treasury securities. Then, in November, the FOMC announced that it intended to purchase an additional $600 billion of longer-term Treasury securities by the end of the second quarter of 2011. The Committee noted that it would regularly review the pace of its securities purchases and the overall size of the asset purchase program in light of incoming information.

The information reviewed at the August 10 FOMC meeting indicated that the pace of the economic recovery had slowed in recent months and that inflation remained subdued. Private employment had increased slowly in June and July, and industrial production was little changed in June after a large increase in May. Consumer spending continued to rise at a modest rate in June. However, housing activity dropped back, and nonresidential construction remained weak. In addition, the trade deficit widened sharply in May. Conditions in financial markets had become somewhat more supportive of economic growth since the June meeting, in part reflecting perceptions of diminished risk of financial dislocations in Europe. Moreover, partici-

58. Selected interest rates, 2008–11



NOTE: The data are daily and extend through February 22, 2011. The 10-year Treasury rate is the constant-maturity yield based on the most actively traded securities. The dates on the horizontal axis are those of regularly scheduled Federal Open Market Committee meetings.
SOURCE: Department of the Treasury and the Federal Reserve.

pants saw some indications that credit conditions for households and smaller businesses were beginning to improve, albeit gradually. A further decline in energy prices and unchanged prices for core goods and services led to a fall in headline consumer prices in June.

Against this backdrop, the Committee agreed to make no change in its target range for the federal funds rate at the August meeting. The economic expansion was seen as continuing, and most members believed that inflation was likely to stabilize in coming quarters at rates near recent low readings and then gradually rise toward levels they considered more consistent with the Committee's dual mandate. Nonetheless, members generally judged that the economic outlook had softened somewhat more than they had anticipated, and some saw increased downside risks to the outlook for both economic growth and inflation. The Committee noted that the decline in mortgage rates since the spring was generating increased mortgage refinancing activity, which would accelerate repayments of principal on MBS held in the System Open Market Account (SOMA), and that private investors would have to hold more longer-term securities as the Federal Reserve's holdings ran off, making longer-term interest rates somewhat higher than they would have been otherwise. The Committee concluded that it would be appropriate to begin reinvesting principal payments received from agency debt and MBS held in the SOMA by purchasing longer-term Treasury securities; such an action would keep constant the face value of securities held in the SOMA and thus avoid the upward pressure on longer-term interest rates that might result if those holdings were allowed to decline.

As of the September 21 FOMC meeting, the data continued to suggest that the economic expansion was decelerating and that inflation remained low. Private businesses increased employment modestly in August, but the length of the workweek was unchanged and the unemployment rate remained elevated. The rise in business outlays for equipment and software seemed to have moderated following outsized gains in the first half of the year. Housing activity weakened further, and nonresidential construction remained depressed. Industrial production advanced at a solid pace in July and rose further in August. Consumer spending continued to increase at a moderate rate in July and appeared to be moving up again in August. After falling in the previous three months, headline consumer prices had risen in July and August as energy prices retraced some of their earlier declines, and prices for core goods and services edged up slightly. Credit was viewed by participants as remaining readily available for larger corporations with access to capital markets, and some reports suggested that credit conditions had begun to improve for smaller firms. Asset prices had been relatively sensitive to incoming economic data over the intermeeting period but generally ended the period little changed on net. Stresses in European financial markets were seen by participants as broadly contained but were thought to bear watching going forward. Although participants did not expect that the economy would reenter a recession, many expressed concern that output growth, and the associated progress in reducing the level of unemployment, could be slow for some time. Participants noted a number of factors that were restraining economic growth, including low levels of household and business confidence, heightened risk aversion, and the still-weak financial conditions of some households and small businesses.

The Committee agreed at the September meeting to maintain the target range for the federal funds rate of 0 to ¼ percent and to leave unchanged the level of its combined holdings of Treasury securities, agency debt, and agency MBS in the SOMA. In addition, members agreed that the statement to be released following the meeting should be adjusted to clarify their assessment that underlying inflation had been running below levels that the Committee judged to be consistent with its dual mandate for maximum employment and price stability. The clarification was intended, in part, to help anchor inflation expectations and to reinforce the indication that economic conditions were likely to warrant exceptionally low levels of the federal funds rate for an extended period. In light of the considerable uncertainty about the trajectory of the economy, members saw merit in accumulating further information before reaching a decision about providing additional monetary stimulus. In addition, members wanted to consider further the most effective framework for calibrating and communicating any additional steps to provide such stimulus. They noted that unless the pace of economic recovery strengthened or underlying inflation moved up toward levels consistent with the FOMC's mandate, the Committee would consider taking appropriate action soon.

On October 15, the Committee met by videoconference to discuss issues associated with its monetary policy framework, including alternative ways to express and communicate the Committee's objectives, possibilities for supplementing the Committee's communication about its policy decisions, the merits of making smaller and more-frequent adjustments in the Federal Reserve's intended securities holdings rather than larger and less-frequent adjustments, and the potential

costs and benefits of targeting a term interest rate. The agenda did not encompass consideration of any policy actions, and none were taken.

The information reviewed at the November 2–3 FOMC meeting continued to indicate that the economic recovery was proceeding at a modest rate, with only a gradual improvement in labor market conditions. Moreover, measures of underlying inflation were somewhat low relative to levels that the Committee judged to be consistent, over the longer run, with its dual mandate. Consumer spending, business investment in equipment and software, and exports posted further gains in the third quarter, and nonfarm inventory investment stepped up. However, construction activity in both the residential and nonresidential sectors remained depressed, and a significant portion of the rise in domestic demand was again met by imports. U.S. industrial production slowed noticeably in August and September, hiring remained modest, and the unemployment rate stayed elevated. While participants considered it quite unlikely that the economy would slide back into recession, they noted that continued slow growth and high levels of resource slack could leave the economic expansion vulnerable to negative shocks. Participants saw financial conditions as having become more supportive of economic growth over the course of the intermeeting period; most, though not all, of the change appeared to reflect investors' increased anticipation of a further easing of monetary policy. Headline consumer price inflation had been subdued in recent months, despite a rise in energy prices, as core consumer price inflation trended lower.

Though the economic recovery was continuing, FOMC members considered progress toward meeting the Committee's dual mandate of maximum employment and price stability as having been disappointingly slow. Moreover, members generally thought that progress was likely to remain slow. Accordingly, most members judged it appropriate to provide additional policy accommodation. In their discussion of monetary policy for the period immediately ahead, Committee members agreed to maintain the target range for the federal funds rate at 0 to ¼ percent and to continue the Committee's existing policy of reinvesting principal payments from its securities holdings into longer-term Treasury securities. The Committee also announced its intention to purchase a further $600 billion of longer-term Treasury securities at a pace of about $75 billion per month through the second quarter of 2011. Purchases of additional Treasury securities were expected to put downward pressure on longer-term interest rates, boost asset prices, and lead to a modest reduction in the foreign exchange value of the dollar. These changes in financial conditions were expected to promote a somewhat stronger recovery in output and employment while also helping return inflation, over time, to levels consistent with the Committee's mandate.

The data presented at the December 14 FOMC meeting indicated that economic activity was increasing at a moderate rate but that the unemployment rate remained elevated. The pace of consumer spending picked up in October and November, exports rose rapidly in October, and the recovery in business spending on equipment and software appeared to be continuing. In contrast, residential and nonresidential construction activity was still depressed. Manufacturing production registered a solid gain in October. Nonfarm businesses continued to add workers in October and November, and the average workweek moved up. The fiscal package agreed to by the Administration and the Congress was generally expected by participants to support the pace of recovery in 2011. Participants noted that interest rates at intermediate and longer maturities had risen substantially over the intermeeting period, while credit spreads were roughly unchanged and equity prices had risen moderately. Financial pressures in peripheral Europe had increased, leading to a financial assistance package for Ireland. Longer-run inflation expectations were stable, but core inflation continued to trend lower. Overall, the information received during the intermeeting period pointed to some improvement in the near-term outlook, and participants expected economic growth to pick up somewhat going forward. A number of factors, however, were seen as likely to continue restraining the recovery, including the depressed housing market, employers' continued reluctance to add to payrolls, and ongoing efforts by some households and businesses to reduce leverage. Moreover, the recovery remained subject to some downside risks, such as the possibility of a more extended period of weak activity and lower prices in the housing sector as well as potential financial and economic spillovers if the banking and sovereign debt problems in Europe were to worsen further.

Members noted that, while incoming information over the intermeeting period had increased their confidence that the economic recovery would be sustained, progress toward the Committee's dual objectives of maximum employment and price stability continued to be modest, and unemployment and inflation appeared likely to deviate from the Committee's objectives for some time. Accordingly, in their discussion of monetary policy for the period immediately ahead, Committee members agreed to continue expanding the Federal Reserve's holdings of longer-term securities as

announced in November. The Committee also decided to maintain the target range for the federal funds rate at 0 to ¼ percent and to reiterate its expectation that economic conditions were likely to warrant exceptionally low levels of the federal funds rate for an extended period. While the economic outlook was seen as improving, members generally felt that the change in the outlook was not sufficient to warrant any adjustments to the asset purchase program, and some noted that more time was needed to accumulate information on the economy before considering any adjustment. Members emphasized that the pace and overall size of the purchase program would be contingent on economic and financial developments; however, some indicated that they had a fairly high threshold for making changes to the program.

On December 21, the Federal Reserve announced an extension through August 1, 2011, of its temporary U.S. dollar liquidity swap arrangements with the Bank of Canada, the Bank of England, the European Central Bank, the Bank of Japan, and the Swiss National Bank. The authorization of the swap arrangements had previously been set to expire on January 31, 2011.

The data reviewed at the January 25–26 FOMC meeting indicated that the economic recovery was gaining a firmer footing, though the expansion had not yet been sufficient to bring about a significant improvement in labor market conditions. Consumer spending had risen strongly late in 2010, and the ongoing expansion in business outlays for equipment and software appeared to have been sustained in recent months. Industrial production had increased solidly in November and December. However, construction activity in both the residential and nonresidential sectors remained weak. Modest gains in employment had continued, but the unemployment rate remained elevated. Conditions in financial markets were viewed by participants as having improved somewhat further over the intermeeting period, as equity prices had risen and credit spreads on the debt of nonfinancial corporations had continued to narrow while yields on longer-term nominal Treasury securities were little changed. Credit conditions were still tight for smaller, bank-dependent firms, although bank loan growth had picked up in some sectors. Despite further increases in commodity prices, measures of underlying inflation remained subdued and longer-run inflation expectations were stable.

The information received over the intermeeting period had increased members' confidence that the economic recovery would be sustained, and the downside risks to both economic growth and inflation were viewed as having diminished. Nevertheless, members noted that the pace of the recovery was insufficient to bring about a significant improvement in labor market conditions, and that measures of underlying inflation were trending downward. Moreover, the economic projections submitted for this meeting indicated that unemployment was expected to remain above, and inflation to remain somewhat below, levels consistent with the Committee's objectives for some time. Accordingly, the Committee decided to maintain its existing policy of reinvesting principal payments from its securities holdings and reaffirmed its intention to purchase $600 billion of longer-term Treasury securities by the end of the second quarter of 2011. Members emphasized that the Committee would continue to regularly review the pace of its securities purchases and the overall size of the asset purchase program. In addition, the Committee maintained the target range of 0 to ¼ percent for the federal funds rate and reiterated its expectation that economic conditions were likely to warrant exceptionally low levels of the federal funds rate for an extended period.

Tools for the Withdrawal of Monetary Policy Accommodation

Although the FOMC continues to anticipate that economic conditions are likely to warrant exceptionally low levels of the federal funds rate for an extended period, ultimately the Federal Reserve will need to begin to tighten monetary conditions to prevent the development of inflationary pressures as the economy recovers. The Federal Reserve has the tools it needs to remove policy accommodation at the appropriate time. One tool is the interest rate paid on reserve balances. By increasing the rate paid on reserves, the Federal Reserve will be able to put significant upward pressure on short-term market interest rates because banks will not supply short-term funds to the money markets at rates significantly below what they can earn by simply leaving funds on deposit at the Federal Reserve Banks. Two other tools, executing term reverse repurchase agreements (RRPs) with the primary dealers and other counterparties and issuing term deposits to depository institutions through the Term Deposit Facility (TDF), can be used to reduce the large quantity of reserves held by the banking system; such a reduction would improve the Federal Reserve's control of financial conditions by tightening the relationship between the interest rate paid on reserves and other short-term interest rates. The Federal Reserve could also reduce the quantity of reserves in the banking system by

redeeming maturing and prepaid securities held by the Federal Reserve without reinvesting the proceeds or by selling some of its securities holdings.

During the second half of 2010, the Federal Reserve Bank of New York (FRBNY) conducted a series of small-scale triparty RRP transactions with primary dealers using all eligible collateral types, including, for the first time, agency debt and agency MBS from the SOMA portfolio.[14] The Federal Reserve also conducted a series of small-scale triparty RRP transactions with a set of counterparties that had been expanded to include approved money market mutual funds, using Treasury securities, agency debt, and agency MBS as collateral.

On September 8, the Federal Reserve Board authorized a program of regularly scheduled small-value offerings of term deposits under the TDF.[15] The auctions, which are to occur about every other month, are intended to ensure the operational readiness of the TDF and to increase the familiarity of eligible participants with the auction procedures. Since September, the Federal Reserve has conducted three auctions, each of which offered $5 billion in 28-day deposits. All of these auctions were well subscribed.

Recent Steps to Increase Transparency

Transparency is an essential principle of modern central banking because it appropriately contributes to the accountability of central banks to the government and the public and because it can enhance the effectiveness of central banks in achieving macroeconomic objectives. The Federal Reserve provides detailed information concerning the conduct of monetary policy.[16] During the financial crisis, the Federal Reserve developed a public website that contains extensive information on its credit and liquidity programs, and, in 2009, the Federal Reserve began issuing detailed monthly reports on these programs.[17]

Recently, the Federal Reserve has taken further steps to enhance its transparency and expand the amount of information it provides to the public. First, on December 1, the Federal Reserve posted detailed information on its public website about the individual credit and other transactions conducted to stabilize markets during the financial crisis, restore the flow of credit to American families and businesses, and support economic recovery and job creation in the aftermath of the crisis.[18] As mandated by the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd–Frank Act), transaction-level details from December 1, 2007, to July 21, 2010, were provided about entities that participated in the agency MBS purchase program, used Federal Reserve liquidity swap lines, borrowed through the Term Auction Facility, or received loans or other financial assistance through a program authorized under section 13(3) of the Federal Reserve Act. Many of these transactions were conducted through a variety of broad-based lending facilities and provided liquidity to financial institutions and markets through fully secured, mostly short-term loans. Other transactions involved purchases of agency MBS and supported mortgage and housing markets; these transactions lowered longer-term interest rates and fostered economic growth. Dollar liquidity swap lines with foreign central banks posed no financial risk to the Federal Reserve because the Federal Reserve's counterparties were the foreign central banks themselves, not the institutions to which the foreign central banks then lent the funds; these swap facilities helped stabilize dollar funding markets abroad, thus contributing to the restoration of stability in U.S. markets. Other transactions provided liquidity to particular institutions whose disorderly failure could have severely stressed an already fragile financial system.

A second step toward enhanced transparency involves disclosures going forward. The Dodd–Frank Act established a framework for the disclosure of information on credit extended after July 21, 2010, through the discount window under section 10B of the Federal Reserve Act or from a section 13(3) facility, as

---

14. In a triparty repurchase agreement, both parties to the agreement must have cash and collateral accounts at the same triparty agent, which is by definition also a clearing bank. The triparty agent will ensure that collateral pledged is sufficient and meets eligibility requirements, and all parties agree to use collateral prices supplied by the triparty agent.

15. A few TDF auctions had occurred previously, but they were not part of a regular program.

16. Immediately following each meeting, the FOMC releases a statement that lays out the rationale for the policy decision. Detailed minutes of each FOMC meeting are made public three weeks following the meeting. Lightly edited transcripts of FOMC meetings are released to the public with a five-year lag. FOMC statements, minutes, and transcripts, as well as other related information, are available on the Federal Reserve Board's website. See Board of Governors of the Federal Reserve System, "Federal Open Market Committee," webpage, www.federalreserve.gov/monetarypolicy/fomc.htm.

17. See Board of Governors of the Federal Reserve System, "Credit and Liquidity Programs and the Balance Sheet," webpage, www.federalreserve.gov/monetarypolicy/bst.htm; and Board of Governors of the Federal Reserve System, "Monthly Report on Credit and Liquidity Programs and the Balance Sheet," webpage, www.federalreserve.gov/monetarypolicy/clbsreports.htm.

18. These data are available at Board of Governors of the Federal Reserve System, "Regulatory Reform: Usage of Federal Reserve Credit and Liquidity Facilities," webpage, www.federalreserve.gov/newsevents/reform_transaction.htm.

well as information on all open market operation (OMO) transactions. Generally, this framework requires the Federal Reserve to publicly disclose certain information about discount window borrowers and OMO counterparties approximately two years after the relevant loan or transaction; information about borrowers under future section 13(3) facilities will be disclosed one year after the authorization for the facility is terminated. The information to be disclosed includes the name and identifying details of each borrower or counterparty, the amount borrowed, the interest rate paid, and information identifying the types and amounts of collateral pledged or assets transferred in connection with the borrowing or transaction.

Finally, the Federal Reserve has also increased transparency with respect to the implementation of monetary policy. In particular, the Federal Reserve took steps to provide additional information about its security purchase operations with the objective of encouraging wider participation in such operations. The FRBNY publishes, on an ongoing basis, schedules of purchase operations expected to take place over the next four weeks; details provided include lists of operation dates, settlement dates, security types to be purchased, the maturity date range of eligible issues, and an expected range for the size of each operation. Results of each purchase operation are published shortly after it has concluded. In addition, the FRBNY has commenced publication of information on the prices paid for individual securities in its purchase operations.[19]

19. General information on OMOs, including links to the prices paid in recent purchases of Treasury securities, is available on the FRBNY's website at www.newyorkfed.org/markets/pomo/display/index.cfm.

Part 4
Summary of Economic Projections

The following material appeared as an addendum to the minutes of the January 25–26, 2011, meeting of the Federal Open Market Committee.

In conjunction with the January 25–26, 2011, Federal Open Market Committee (FOMC) meeting, the members of the Board of Governors and the presidents of the Federal Reserve Banks, all of whom participate in the deliberations of the FOMC, submitted projections for growth of real output, the unemployment rate, and inflation for the years 2011 to 2013 and over the longer run. The projections were based on information available through the end of the meeting and on each participant's assumptions about factors likely to affect economic outcomes, including his or her assessment of appropriate monetary policy. "Appropriate monetary policy" is defined as the future path of policy that each participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her interpretation of the Federal Reserve's dual objectives of maximum employment and stable prices. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge over time under appropriate monetary policy and in the absence of further shocks.

As depicted in figure 1, FOMC participants' projections for the next three years indicated that they expect a sustained recovery in real economic activity, marked by a step-up in the rate of increase in real gross domestic product (GDP) in 2011 followed by further modest acceleration in 2012 and 2013. They anticipated that, over this period, the pace of the recovery would exceed their estimates of the longer-run sustainable rate of increase in real GDP by enough to gradually lower the unemployment rate. However, by the end of 2013, participants projected that the unemployment rate would still exceed their estimates of the longer-run unemployment rate. Most participants expected that inflation would likely move up somewhat over the forecast period but would remain at rates below those they see as consistent, over the longer run, with the Committee's dual mandate of maximum employment and price stability.

As indicated in table 1, relative to their previous projections in November 2010, participants anticipated somewhat more rapid growth in real GDP this year, but they did not significantly alter their expectations for the pace of the expansion in 2012 and 2013 or for the longer run. Participants made only minor changes to their forecasts for the path of the unemployment

Table 1. Economic projections of Federal Reserve Governors and Reserve Bank presidents, January 2011

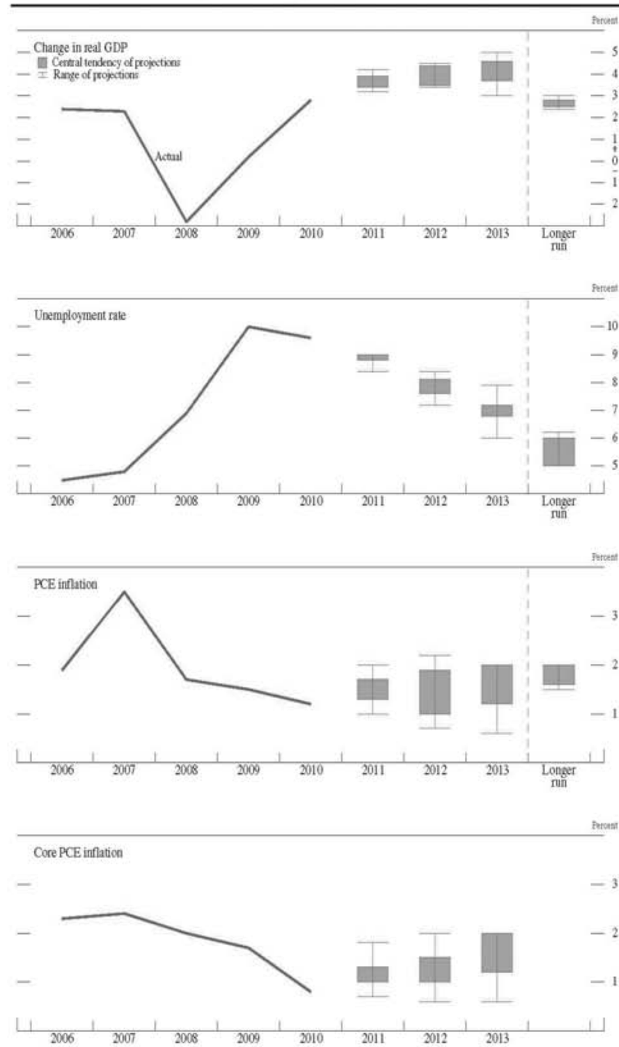
Percent

Variable	Central tendency[1]				Range[2]			
	2011	2012	2013	Longer run	2011	2012	2013	Longer run
Change in real GDP	3.4 to 3.9	3.5 to 4.4	3.7 to 4.6	2.5 to 2.8	3.2 to 4.2	3.4 to 4.5	3.0 to 5.0	2.4 to 3.0
November projection	3.0 to 3.6	3.6 to 4.5	3.5 to 4.6	2.5 to 2.8	2.5 to 4.0	2.6 to 4.7	3.0 to 5.0	2.4 to 3.0
Unemployment rate	8.8 to 9.0	7.6 to 8.1	6.8 to 7.2	5.0 to 6.0	8.4 to 9.0	7.2 to 8.4	6.0 to 7.9	5.0 to 6.2
November projection	8.9 to 9.1	7.7 to 8.2	6.9 to 7.4	5.0 to 6.0	8.2 to 9.3	7.0 to 8.7	5.9 to 7.9	5.0 to 6.3
PCE inflation	1.3 to 1.7	1.0 to 1.9	1.2 to 2.0	1.6 to 2.0	1.0 to 2.0	0.7 to 2.2	0.6 to 2.0	1.5 to 2.0
November projection	1.1 to 1.7	1.1 to 1.8	1.2 to 2.0	1.6 to 2.0	0.9 to 2.2	0.6 to 2.2	0.4 to 2.0	1.5 to 2.0
Core PCE inflation[3]	1.0 to 1.3	1.0 to 1.5	1.2 to 2.0		0.7 to 1.8	0.6 to 2.0	0.6 to 2.0	
November projection	0.9 to 1.6	1.0 to 1.6	1.1 to 2.0		0.7 to 2.0	0.6 to 2.0	0.5 to 2.0	

NOTE: Projections of change in real gross domestic product (GDP) and in inflation are from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The November projections were made in conjunction with the meeting of the Federal Open Market Committee on November 2–3, 2010.

1. The central tendency excludes the three highest and three lowest projections for each variable in each year.
2. The range for a variable in a given year consists of all participants' projections, from lowest to highest, for that variable in that year.
3. Longer-run projections for core PCE inflation are not collected.

Figure 1. Central tendencies and ranges of economic projections, 2011–13 and over the longer run



NOTE: Definitions of variables are in the notes to table 1. The data for the actual values of the variables are annual. The data for the change in real GDP, PCE inflation, and core PCE inflation shown for 2010 incorporate the advance estimate of GDP for the fourth quarter of 2010, which the Bureau of Economic Analysis released on January 28, 2011. This information was not available to FOMC meeting participants at the time of their meeting.

rate and for the rate of inflation over the next three years. Although most participants anticipated that the economy would likely converge to sustainable rates of increase in real GDP and prices over five or six years, a number of participants indicated that they expected that the convergence of the unemployment rate to its longer-run level would require additional time.

As they did in November, participants judged the level of uncertainty associated with their projections for real economic activity and inflation as unusually high relative to historical norms. Most continued to see the risks surrounding their forecasts of GDP growth, the unemployment rate, and inflation over the next three years to be generally balanced. However, fewer noted downside risks to the likely pace of the expansion and, accordingly, upside risks to the unemployment rate than in November; fewer also saw downside risks to inflation.

The Outlook

The central tendency of participants' forecasts for the change in real GDP in 2011 was 3.4 to 3.9 percent, somewhat higher than in the November projections. Participants stated that the economic information received since November indicated that consumer spending, business investment, and net exports increased more strongly at the end of 2010 than expected earlier; industrial production also expanded more rapidly than they previously anticipated. In addition, after the November projections were prepared, the Congress approved fiscal stimulus measures that were expected to provide further impetus to household and business spending in 2011. Moreover, participants noted that financial conditions had improved since November, including a rise in equity prices, a pickup in activity in capital markets, reports of easing of credit conditions in some markets, and an upturn in bank lending in some sectors. Many participants viewed the stronger tenor of the recent information, along with the additional fiscal stimulus, as suggesting that the recovery had gained some strength—a development seen as likely to carry into 2011—and that the expansion was on firmer footing. Participants expected that the expansion in real economic activity this year would continue to be supported by accommodative monetary policy and by ongoing improvement in credit and financial market conditions. The strengthening in private demand was anticipated to be led by increases in consumer and business spending; over time, improvements in household and business confidence and in labor market conditions would likely reinforce the rise in domestic demand. Nonetheless, participants recognized that the information available since November also indicated that the expansion remained uneven across sectors of the economy, and they expected that the pace of economic activity would continue to be moderated by the weakness in residential and nonresidential construction, the still relatively tight credit conditions in some sectors, an ongoing desire by households to repair their balance sheets, business caution about hiring, and the budget difficulties faced by state and local governments.

Participants expected that the economic expansion would strengthen further in 2012 and 2013, with the central tendencies of their projections for the growth in real GDP moving up to 3.5 to 4.4 percent in 2012 and then to 3.7 to 4.6 percent in 2013. Participants cited, as among the likely contributors to a sustained pickup in the pace of the expansion, a continued improvement in financial market conditions, further expansion of credit availability to households and businesses, increasing household and business confidence, and a favorable outlook for U.S. exports. Several participants noted that, in such an environment, and with labor market conditions anticipated to improve gradually, the restraints on household spending from past declines in wealth and the desire to rebuild savings should abate. A number of participants saw such conditions fostering a broader and stronger recovery in business investment, with a few noting that the market for commercial real estate had recently shown signs of stabilizing. Nonetheless, participants saw a number of factors that would likely continue to moderate the pace of the expansion. Most participants expected that the recovery in the housing market would remain slow, restrained by the overhang of vacant properties, prospects for weak house prices, and the difficulties in resolving foreclosures. In addition, some participants expected that the fiscal strains on the budgets of state and local governments would damp their spending for a time and that the federal government sector would likely be a drag on economic activity after 2011.

Participants anticipated that a gradual but steady reduction in the unemployment rate would accompany the pickup in the pace of the economic expansion over the next three years. The central tendency of their forecasts for the unemployment rate at the end of 2011 was 8.8 to 9.0 percent—a decline of less than 1 percentage point from the actual rate in the fourth quarter of 2010. Although participants generally expected further declines in the unemployment rate over the subsequent two years—to a central tendency of 6.8 to 7.2 percent at the end of 2013—they anticipated that, at the end of that period, unemployment would remain noticeably

higher than their estimates of the longer-run rate. Many participants thought that, with appropriate monetary policy and in the absence of further shocks, the unemployment rate would continue to converge gradually toward its longer-run rate within five to six years, but a number of participants indicated that the convergence process would likely be more extended.

While participants viewed the projected pace of the expansion in economic activity as the principal factor underlying their forecasts for the path of the unemployment rate, they also indicated that their projections were influenced by a number of other factors that were likely to contribute to a relatively gradual recovery in the labor market. In that regard, several participants noted that dislocations associated with the uneven recovery across sectors of the economy might retard the matching of workers and jobs. In addition, a number of participants viewed the modest pace of hiring in 2010 as, in part, the result of business caution about the durability of the recovery and of employers' efforts to achieve additional increases in productivity; several participants also cited the particularly slow recovery in demand experienced by small businesses as a factor restraining new job creation. With demand expected to strengthen across a range of businesses and with business confidence expected to improve, participants anticipated that hiring would pick up over the forecast period.

Participants continued to expect that inflation would be relatively subdued over the next three years and kept their longer-run projections of inflation unchanged. Many participants indicated that the persistence of large margins of slack in resource utilization should contribute to relatively low rates of inflation over the forecast horizon. In addition, participants noted that appropriate monetary policy, combined with stable longer-run inflation expectations, should help keep inflation in check. The central tendency of their projections for overall personal consumption expenditures (PCE) inflation in 2011 was 1.3 to 1.7 percent, while the central tendency of their forecasts for core PCE inflation was lower—1.0 to 1.3 percent. Increases in the prices of energy and other commodities, which were very rapid in 2010, were anticipated to continue to push headline PCE inflation above the core rate this year. The central tendency of participants' forecasts for inflation in 2012 and 2013 widened somewhat relative to 2011 and showed that inflation was expected to drift up modestly. In 2013, the central tendency of forecasts for both the total and core inflation rates was 1.2 to 2.0 percent. For most participants, inflation in 2013 was not expected to have converged to the longer-run rate of inflation that they individually considered most consistent with the Federal Reserve's dual mandate for maximum employment and stable prices. However, a number of participants anticipated that inflation would reach its longer-run rate within the next three years.

Table 2. Average historical projection error ranges

Percentage points

Variable	2011	2012	2013
Change in real GDP[1]	±1.3	±1.7	±1.8
Unemployment rate[1]	±0.7	±1.3	±1.5
Total consumer prices[2]	±1.0	±1.0	±1.1

NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 1990 through 2009 that were released in the winter by various private and government forecasters. As described in the box "Forecast Uncertainty," under certain assumptions, there is about a 70 percent probability that actual outcomes for real GDP, unemployment, and consumer prices will be in ranges implied by the average size of projection errors made in the past. Further information is in David Reifschneider and Peter Tulip (2007), "Gauging the Uncertainty of the Economic Outlook from Historical Forecasting Errors," Finance and Economics Discussion Series 2007-60 (Washington: Board of Governors of the Federal Reserve System, November).

1. For definitions, refer to general note in table 1.

2. Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projection is percent change, fourth quarter of the previous year to the fourth quarter of the year indicated.

Uncertainty and Risks

Most participants continued to share the view that their projections for economic activity and inflation were subject to a higher level of uncertainty than was the norm during the previous 20 years.[20] They identified a number of uncertainties that compounded the inherent difficulties in forecasting output growth, unemployment, and inflation. Among them were uncertainties about the nature of economic recoveries from recessions associated with financial crises, the effects of unconventional monetary policies, the persistence of structural dislocations in the labor market, the future course of federal fiscal policy, and the global economic outlook.

Almost all participants viewed the risks to their forecasts for the strength of the recovery in real GDP as broadly balanced. By contrast, in November, the distribution of views had been somewhat skewed to the downside. In weighing the risks to the projected growth rate of real economic activity, some participants noted the upside risk that the recent strengthening of aggre-

20. Table 2 provides estimates of forecast uncertainty for the change in real GDP, the unemployment rate, and total consumer price inflation over the period from 1990 to 2009. At the end of this summary, the box "Forecast Uncertainty" discusses the sources and interpretation of uncertainty in the economic forecasts and explains the approach used to assess the uncertainty and risks attending the participants' projections.

gate spending might mark the beginning of a more normal cyclical rebound in economic activity in which consumer spending might be spurred by pent-up demand for household durables and in which business investment might be accelerated by the desire to rebuild stocks of fixed capital. A more-rapid-than-expected easing of credit availability was also seen as a factor that might boost the pickup in private demand. As to the downside risks, many participants pointed to the recent declines in house prices and the potential for a slower resolution of existing problems in mortgage and real estate markets as factors that could have more-adverse-than-expected consequences for household spending and bank balance sheets. In addition, several participants expressed concerns that, in an environment of only gradual improvement in labor market and credit conditions, households might be unusually focused on reducing debt and boosting saving. A number of participants also saw a downside risk in the possibility that the fiscal problems of some state and local governments might lead to a greater retrenchment in their spending than currently anticipated. Finally, several participants expressed concerns that the financial and fiscal strains in the euro area might spill over to U.S. financial markets.

The risks surrounding participants' forecasts of the unemployment rate were also broadly balanced and generally reflected the risks attending participants' views of the likely strength of the expansion in real activity. However, a number of participants noted that the unemployment rate might decline less than they projected if businesses were to remain hesitant to expand their workforces because of uncertainty about the durability of the expansion or about employment costs or if mismatches of workers and jobs were more persistent than anticipated.

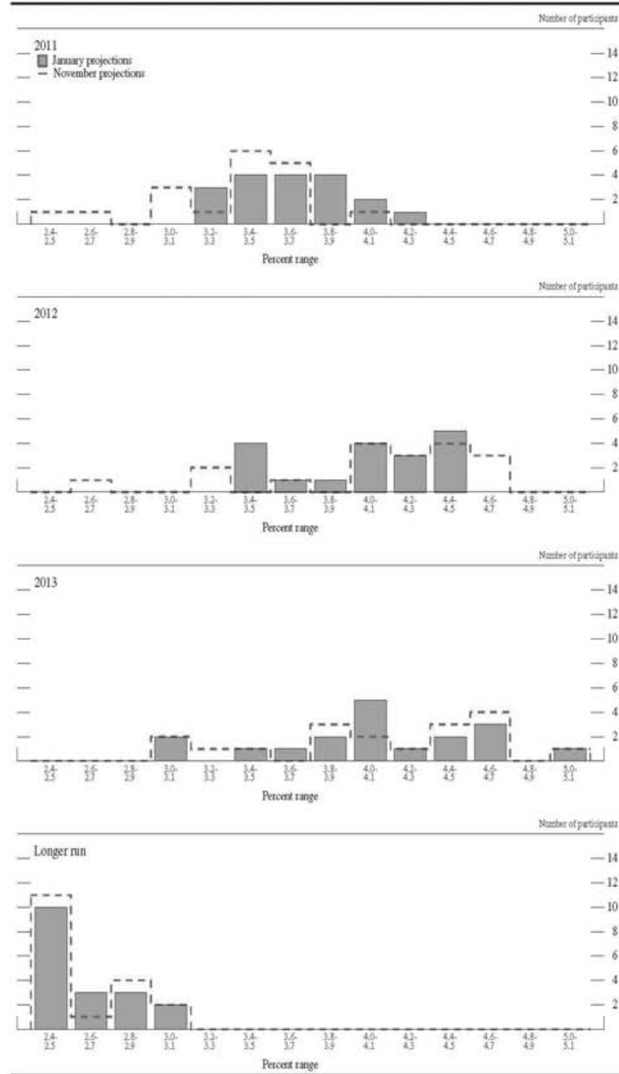
Most participants judged the risks to their inflation outlook over the period from 2011 to 2013 to be broadly balanced as well. Compared with their views in November, several participants no longer saw the risks as tilted to the downside, and an additional participant viewed the risks as weighted to the upside. In assessing the risks, a number of participants indicated that they saw the risks of deflation or further unwanted disinflation to have diminished. Many participants identified the persistent gap between their projected unemployment rate and its longer-run rate as a risk that inflation could be lower than they projected. A few of those who indicated that inflation risks were skewed to the upside expressed concerns that the expansion of the Federal Reserve's balance sheet, if left in place for too long, might erode the stability of longer-run inflation expectations. Alternatively, several participants noted that upside risks to inflation could arise from persistently rapid increases in the costs of energy and other commodities.

Diversity of Views

Figures 2.A and 2.B detail the diversity of participants' views regarding the likely outcomes for real GDP growth and the unemployment rate in 2011, 2012, 2013, and over the longer run. The dispersion in these projections reflected differences in participants' assessments of many factors, including the likely evolution of conditions in credit and financial markets, the timing and the degree to which various sectors of the economy and the labor market will recover from the dislocations associated with the deep recession, the outlook for economic and financial developments abroad, and appropriate future monetary policy and its effects on economic activity. For 2011 and 2012, the dispersions of participants' forecasts for the strength in the expansion of real GDP and for the unemployment rate were somewhat narrower than they were last November, while the ranges of views for 2013 and for the longer run were little changed.

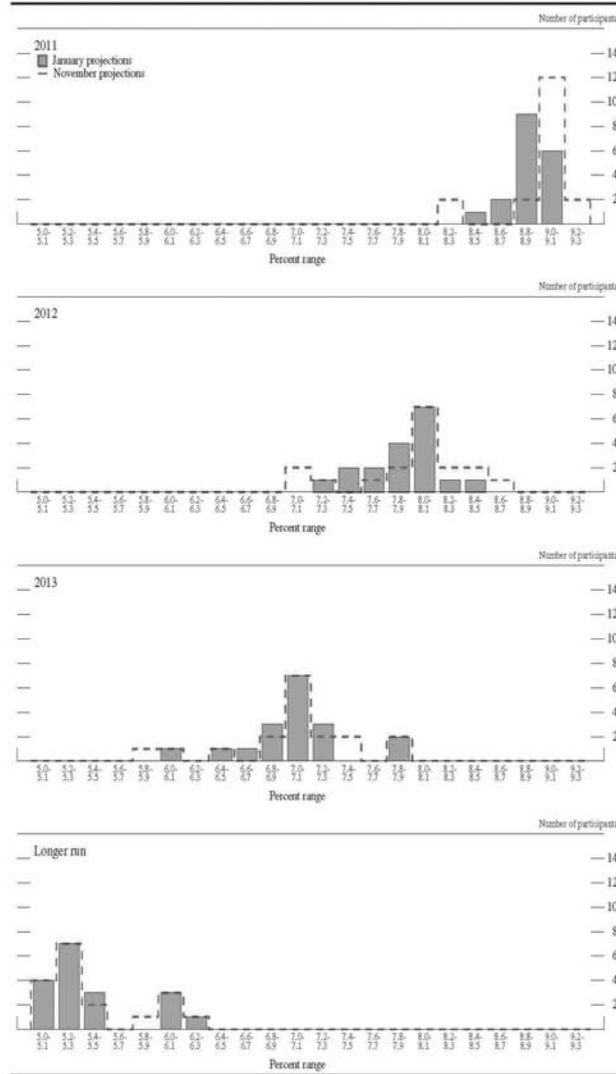
Figures 2.C and 2.D provide the corresponding information about the diversity of participants' views regarding the outlook for total and core PCE inflation. These distributions were somewhat more tightly concentrated for 2011, but for 2012 and 2013, they were much the same as they were in November. In general, the dispersion in the participants' inflation forecasts for the next three years represented differences in judgments regarding the fundamental determinants of inflation, including estimates of the degree of resource slack and the extent to which such slack influences inflation outcomes and expectations as well as estimates of how the stance of monetary policy may influence inflation expectations. Although the distributions of participants' inflation forecasts for 2011 through 2013 continued to be relatively wide, the distribution of projections of the longer-run rate of overall inflation remained tightly concentrated. The narrow range illustrates the broad similarity in participants' assessments of the approximate level of inflation that is consistent with the Federal Reserve's dual objectives of maximum employment and price stability.

Figure 2.A. Distribution of participants' projections for the change in real GDP, 2011–13 and over the longer run



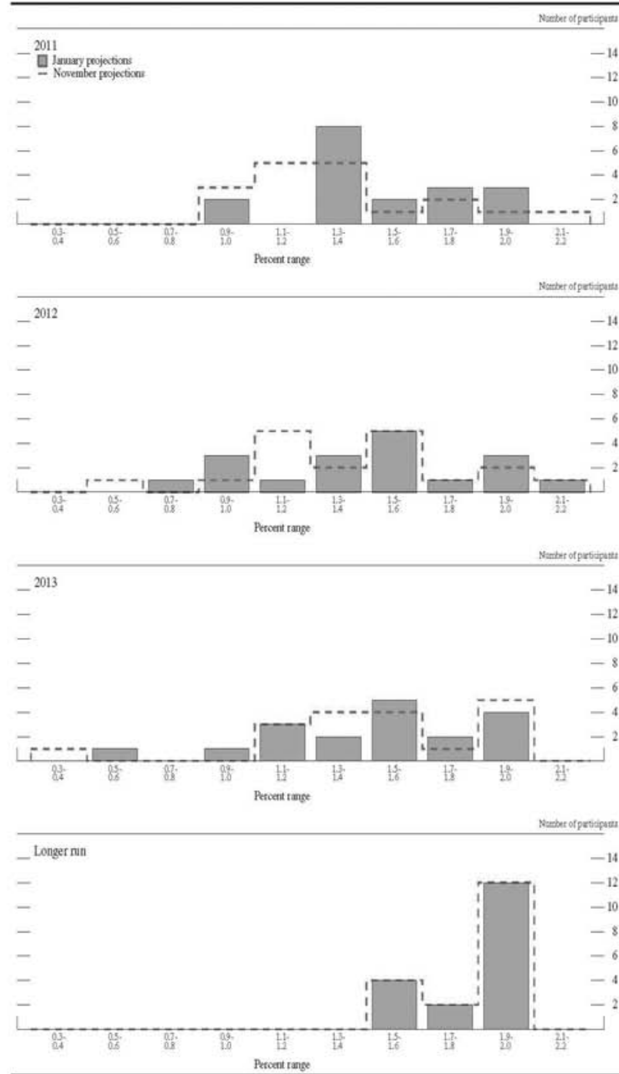
NOTE: Definitions of variables are in the general note to table 1.

Figure 2.B. Distribution of participants' projections for the unemployment rate, 2011–13 and over the longer run



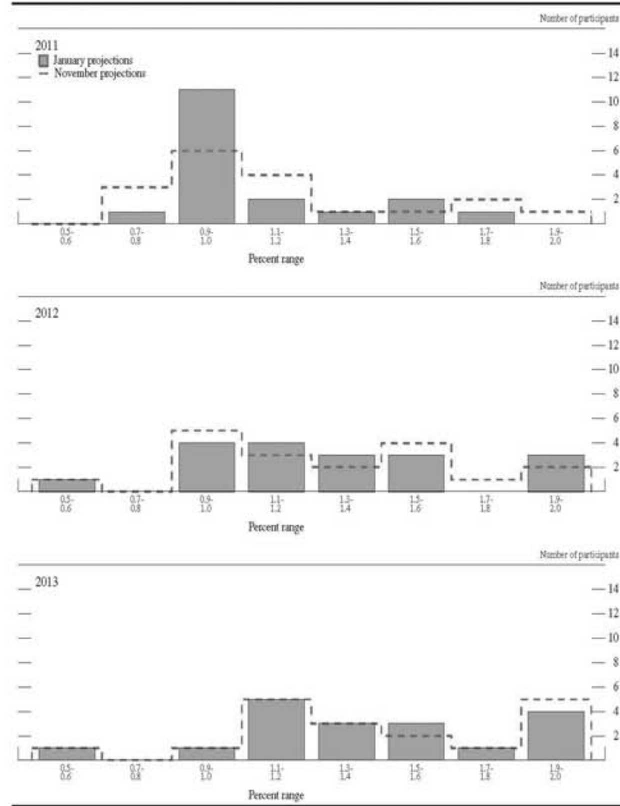
NOTE: Definitions of variables are in the general note to table 1.

Figure 2.C. Distribution of participants' projections for PCE inflation, 2011–13 and over the longer run



NOTE: Definitions of variables are in the general note to table 1.

Figure 2.D. Distribution of participants' projections for core PCE inflation, 2011–13



NOTE: Definitions of variables are in the general note to table 1.

Forecast Uncertainty

The economic projections provided by the members of the Board of Governors and the presidents of the Federal Reserve Banks inform discussions of monetary policy among policymakers and can aid public understanding of the basis for policy actions. Considerable uncertainty attends these projections, however. The economic and statistical models and relationships used to help produce economic forecasts are necessarily imperfect descriptions of the real world. And the future path of the economy can be affected by myriad unforeseen developments and events. Thus, in setting the stance of monetary policy, participants consider not only what appears to be the most likely economic outcome as embodied in their projections, but also the range of alternative possibilities, the likelihood of their occurring, and the potential costs to the economy should they occur.

Table 2 summarizes the average historical accuracy of a range of forecasts, including those reported in past *Monetary Policy Reports* and those prepared by Federal Reserve Board staff in advance of meetings of the Federal Open Market Committee. The projection error ranges shown in the table illustrate the considerable uncertainty associated with economic forecasts. For example, suppose a participant projects that real gross domestic product (GDP) and total consumer prices will rise steadily at annual rates of, respectively, 3 percent and 2 percent. If the uncertainty attending those projections is similar to that experienced in the past and the risks around the projections are broadly balanced, the numbers reported in table 2 would imply a probability of about 70 percent that actual GDP would expand within a range of 1.7 to 4.3 percent in the current year, 1.3 to 4.7 percent in the second year, and 1.2 to 4.8 percent in the third year. The corresponding 70 percent confidence intervals for overall inflation would be 1.0 to 3.0 percent in the current and second years, and 0.9 to 3.1 percent in the third year.

Because current conditions may differ from those that prevailed, on average, over history, participants provide judgments as to whether the uncertainty attached to their projections of each variable is greater than, smaller than, or broadly similar to typical levels of forecast uncertainty in the past as shown in table 2. Participants also provide judgments as to whether the risks to their projections are weighted to the upside, are weighted to the downside, or are broadly balanced. That is, participants judge whether each variable is more likely to be above or below their projections of the most likely outcome. These judgments about the uncertainty and the risks attending each participant's projections are distinct from the diversity of participants' views about the most likely outcomes. Forecast uncertainty is concerned with the risks associated with a particular projection rather than with divergences across a number of different projections.

Abbreviations

ABS	asset-backed securities
AIG	American International Group, Inc.
ARRA	American Recovery and Reinvestment Act
C&I	commercial and industrial
CMBS	commercial mortgage-backed securities
CRE	commercial real estate
Credit Card Act	Credit Card Accountability Responsibility and Disclosure Act
DPI	disposable personal income
ECB	European Central Bank
ECI	employment cost index
EME	emerging market economy
EU	European Union
FASB	Financial Accounting Standards Board
FOMC	Federal Open Market Committee; also, the Committee
FRBNY	Federal Reserve Bank of New York
GDP	gross domestic product
GSE	government-sponsored enterprise
IMF	International Monetary Fund
IRA	individual retirement account
IT	information technology
Libor	London interbank offered rate
LLC	limited liability company
MBS	mortgage-backed securities
NFIB	National Federation of Independent Business
NIPA	national income and product accounts
NOW	negotiable order of withdrawal
OMO	open market operation
PCE	personal consumption expenditures
repo	repurchase agreement
RRP	reverse repurchase agreement
SCOOS	Senior Credit Officer Opinion Survey on Dealer Financing Terms
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
TALF	Term Asset-Backed Securities Loan Facility
TARP	Troubled Asset Relief Program
TDF	Term Deposit Facility
WTI	West Texas Intermediate