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FEDERAL RESERVE'S FIRST MONETARY POLICY REPORT FOR 2013

HEARING

BEFORE THE

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

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

ON

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

FEBRUARY 26, 2013

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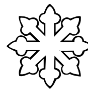

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FEDERAL RESERVE'S FIRST MONETARY POLICY REPORT FOR 2013

TUESDAY, FEBRUARY 26, 2013

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

The Committee met at 10:15 a.m., in room SD–106, Dirksen Senate Office Building, Hon. Tim Johnson, Chairman of the Committee, presiding.

OPENING STATEMENT OF CHAIRMAN TIM JOHNSON

Chairman JOHNSON. Today's hearing is with Chairman Bernanke on the Federal Reserve's Monetary Policy Report to Congress.

While progress toward maximum employment has been slow, it has been positive and steady, thanks in part to the Fed's thoughtful and well-measured monetary actions. Our economy has added private sector jobs for 35 straight months. During that time, over six million new jobs have been created, but we should not sacrifice those gains by slamming on the brakes now.

Without a fix, automatic spending cuts will take effect in just a few days and could send our economy into reverse at a time when we should continue moving forward on creating jobs. Projections suggest that the sequester will cost us 750,000 jobs this year. In addition to layoffs for cops, fire fighters, and teachers that could devastate our communities, these cuts will impact many of our Nation's most vulnerable citizens, including kids, seniors, and the disabled. At a time when the U.S. faces an array of national security threats, the sequester will affect our military readiness.

It is unacceptable that we are lurching from one manufactured crisis to the next, and Americans have had enough. These fights are bad for the economy and are making it harder for families to make ends meet.

The steep drops in consumer confidence during the fights over the debt limit and the fiscal cliff rival the fallout after Lehman Brothers' failure and 9/11. This has consequences. If consumers do not spend, businesses will not prosper and hire more workers. If businesses are not hiring, our economy will not grow. It is that simple.

We must do all we can to restore confidence in not only our financial system, but also in our ability as a country to tackle long-term challenges in a responsible, bipartisan manner. In addition to Congress acting on a deficit reduction plan that is balanced and promotes job creation, there are things this Committee can do to help achieve these goals. From rigorous oversight, to confirming

well-qualified nominees, to reauthorizing expiring laws, to reaching consensus on the future of housing finance, there are steps this Committee can take to promote consumer confidence, provide businesses clarity to move forward with long-term plans, and strengthen our economic recovery.

Chairman Bernanke, I look forward to hearing your views as both the Fed and the Congress pursue policies supporting our Nation's economic recovery.

I now turn to Ranking Member Crapo.

STATEMENT OF SENATOR MIKE CRAPO

Senator CRAPO. Thank you, Mr. Chairman.

Today, we will hear from our Federal Reserve Chairman Ben Bernanke, who will testify on the Fed's monetary policy and the state of the economy. Mr. Bernanke, I want to thank you at the outset for your ongoing initiatives to improve the transparency of the Federal Open Market Committee. Because so much is at stake for the U.S. economy, the Fed has the responsibility to make as much information available to the American people as possible on its actions.

I also thank Chairman Bernanke for his steadfast reminder to us that one of the most important risks to our economy is our fiscal situation. I completely agree with him. That is why I have consistently said that the fiscal reform and economic growth should top the list of our priorities in Congress. We need to address the Federal spending problem, reform our badly broken tax system, and promote a sustainable economic recovery that will result in increased jobs.

Unfortunately, with the fiscal cliff deal completed, some officials are looking for an easy way out by claiming that our fiscal problems are nearly solved. Nothing could be further from the truth. Our economy contracted in the last quarter. Our unemployment rate remains far too high. Medicare will be insolvent in just over 10 years, and Social Security will be insolvent after that. Until we take specific steps to reform our entitlements and to make them solvent for generations to come and reform our tax code to produce significant, sustained economic growth, our fiscal problems are far from solved.

In addition to our own fiscal situation, the ongoing fiscal and banking crisis in Europe also presents substantial risks to our economy. In response to unsustainable fiscal policies here and abroad, central bankers throughout the world have turned to unconventional monetary policies over the past few years. Near-zero interest rates, large-scale asset purchases, and record-size central bank balance sheets have become the norm.

However, some authorities have become increasingly concerned that the costs of prolonged easy money policy outweigh the benefits. In its annual report released last June, the Bank of International Settlements laid out the risks entailed with the worldwide expansion of central bank balance sheets and their extended low interest rate policies. Not only did the report conclude that such actions may delay the return to a self-sustaining recovery, but they create longer-term risks to central banks' credibility and operational independence.

More recently, the minutes of the Federal Open Market Committee's January meeting show that several FOMC members expressed concern that the Fed's prolonged easy money policies could result in excessive risk taking and threaten the financial stability of the United States. These concerns warrant serious consideration, given the scale, scope, and duration of the Fed's unconventional monetary policies.

The Fed has kept the target range for the Federal Funds Rate at zero to one-quarter percent for more than 4 years. The Fed has engaged in multiple rounds of asset purchases, commonly referred to as quantitative easing. The Fed is currently buying $40 billion of agency mortgage-backed securities per month and $45 billion of longer-term Treasury securities per month, for a total monthly pace of $85 billion, or an annualized pace of more than $1 trillion. And primarily as a result of its large-scale asset purchases, the Fed has ballooned its balance sheet to more than $3 trillion and growing.

I look forward to hearing from Chairman Bernanke about the concerns raised about the risks of the Fed's prolonged easy money policies and why they cannot overcome our bad fiscal policy.

I also look forward to hearing from Chairman Bernanke about how the uncertainty surrounding the Dodd-Frank implementation is hampering our recovery. In particular, what specific legislative fixes can be achieved to remove this uncertainty?

At our last Humphrey-Hawkins hearing, Chairman Bernanke confirmed that regardless of Congressional intent, the banking regulators view the plain language of the statute as requiring them to impose some kind of margin requirement on nonfinancial end users of derivatives unless Congress changes the statute. Chairman Bernanke also confirmed that the Fed is comfortable with an explicit statutory exemption. I look forward to hearing Chairman Bernanke's suggestions for other legislative fixes to Dodd-Frank that could garner bipartisan support. These and many other issues are critical to us and I appreciate again, Chairman Bernanke, your attendance at this hearing.

Chairman JOHNSON. Thank you, Senator Crapo.

This morning, opening statements will be limited to the Chairman and Ranking Member to allow more time for questions from the Committee Members. I want to remind my colleagues that the record will be open for the next 7 days for opening statements, questions for the record, and any other materials you would like to submit.

Now, I would like to introduce our witness. Ben Bernanke is Chairman of the Board of Governors of the Federal Reserve System, a position he has held since February 2006. I thank you for being here today to testify on the Monetary Policy Report to the Congress. Your written statement will be included in the hearing record. 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, Ranking Member, Members, I am pleased to present the Federal Reserve's Semiannual Monetary Policy Report. I am going to begin with a short

summary of current economic conditions and then discuss aspects of monetary and fiscal policy.

Since I last reported to this Committee in mid-2012, economic activity in the United States has continued to expand at a moderate if somewhat uneven pace. In particular, real GDP is estimated to have risen at an annual rate of about 3 percent in the third quarter, but to have been essentially flat in the fourth quarter. The pause in real GDP growth last quarter does not appear to reflect a stalling out of the recovery. Rather, economic activity was temporarily restrained by weather-related disruptions and by transitory declines in a few volatile categories of spending, even as demand by U.S. households and businesses continued to expand.

Available information suggests that economic growth has picked up again this year. Consistent with the moderate pace of economic growth, conditions in the labor market have been improving gradually. Since July, nonfarm payroll employment has increased by 175,000 jobs per month, on average, and the unemployment rate declined three-tenths of a percentage point, to 7.9 percent, over the same period. Cumulatively, private sector payrolls have now grown by about 6.1 million jobs since their low point in early 2010, and the unemployment rate has fallen a bit more than 2 percentage points since the cyclical peak in late 2009.

Despite these gains, however, the job market remains generally weak, with the unemployment rate well above its longer-run normal level. About 4.7 million of the unemployed have been without a job for 6 months or more, and millions more would like full-time employment but are able to find only part-time work.

High unemployment has substantial costs, including not only the hardship faced by the unemployed and their families, but also the harm done to the vitality and productive potential of our economy as a whole. Lengthy periods of unemployment and underemployment can erode workers' skills and attachment to the labor force or prevent young people from gaining skills and experience in the first place, developments that could significantly reduce their productivity and earnings in the longer term. The loss of output and earnings associated with high unemployment also reduces Government revenues and increases spending, thereby leading to larger deficits and higher levels of debt.

The recent increase in gasoline prices, which reflects both higher crude oil prices and wider refining margins, is hitting family budgets. However, overall inflation remains low. Over the second half of 2012, the price index for personal consumption expenditures rose at an annual rate of 1.5 percent, similar to the rate of increase in the first half of the year. Measures of longer-term inflation expectations have remained in the narrow ranges seen over the past several years. Against this backdrop, the Federal Open Market Committee, the FOMC, anticipates that inflation over the medium term will likely run at or below its 2 percent objective.

With unemployment well above normal levels and inflation subdued, progress toward the Federal Reserve's mandated objectives of maximum employment and price stability has required a highly accommodative monetary policy. Under normal circumstances, policy accommodation would be provided through reductions in the FOMC's target for the Federal Funds Rate, the interest rate on

overnight loans between banks. However, as this rate has been close to zero since December 2008, the Federal Reserve has had to use alternative policy tools.

These alternative tools have fallen into two categories. The first is forward guidance regarding the FOMC's anticipated path for the Federal Funds Rate. Since longer-term interest rates reflect market expectations for shorter-term rates over time, our guidance influences longer-term rates and thus supports a stronger recovery.

The formulation of this guidance has evolved over time. Between August 2011 and December 2012, the Committee used calendar dates to indicate how long it expected economic conditions to warrant exceptionally low levels for the Federal Funds Rate. At its December 2012 meeting, the FOMC agreed to shift to providing more explicit guidance on how it expects the policy rate to respond to economic developments. Specifically, the December post-meeting statement indicated that the current exceptionally low range for the Federal Funds Rate will, quote, "be appropriate at least as long as the unemployment rates above 6.5 percent, inflation between 1 and 2 years ahead is projected to be no more than half-a-percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored," close quote.

An advantage of the new formulation relative to the previous date-based guidance is that it allows market participants and the public to update their monetary policy expectations more accurately in response to new information about the economic outlook. The new guidance also serves to underscore the Committee's intention to maintain accommodation as long as needed to promote a stronger economic recovery with stable prices.

The second type of nontraditional policy tool employed by the FOMC is large-scale purchases of longer-term securities, which, like our forward guidance, are intended to support economic growth by putting downward pressure on longer-term interest rates. The Federal Reserve has engaged in several rounds of such purchases since 2008. Last September, the FOMC announced it would purchase agency mortgage-backed securities at a pace of $40 billion per month, as Senator Crapo noted, and in December, the Committee stated that, in addition, beginning in January, it would purchase Treasury securities at an initial pace of $45 billion per month.

These additional purchases of longer-term Treasury securities replace the purchases we were conducting under our now completed Maturity Extension Program, which lengthened the maturity of our securities portfolio without increasing its size. The FOMC has indicated that it will continue purchases until it observes a substantial improvement in the outlook for the labor market in a context of price stability.

The Committee also stated that in determining the size, pace, and composition of its asset purchases, it will take appropriate account of their likely efficacy and costs. In other words, with all of its policy decisions, the Committee continues to assess its program of asset purchases within a cost-benefit framework.

In the current economic environment, the benefits of asset purchases and of policy accommodation more generally are clear. Mon-

etary policy is providing important support to the recovery while keeping inflation close to the FOMC's 2 percent objective. Notably, keeping longer-term interest rates low has helped spark recovery in the housing market and led to increased sales and production of automobiles and other durable goods. By raising employment and household wealth, for example, through higher home prices, these developments have, in turn, supported consumer sentiment and spending.

Highly accommodative monetary policy also has several potential costs and risks, which the Committee is monitoring closely. For example, if further expansion of the Federal Reserve's balance sheet were to undermine public confidence in our ability to exit smoothly from our accommodative policies at the appropriate time, inflation expectations could rise, putting the FOMC's price stability objective at risk. However, the Committee remains confident that it has the tools necessary to tighten monetary policy when the time comes to do so. As I noted, inflation is currently subdued and inflation expectations appear well anchored. Neither the FOMC nor private forecasters are projecting the development of significant inflation pressures.

Another potential cost that the Committee takes very seriously is the possibility that very low interest rates, if maintained for a considerable time, could impair financial stability. For example, portfolio managers dissatisfied with low returns might reach for yield by taking on more credit risk, duration risk, or leverage. On the other hand, some risk taking, such as when an entrepreneur takes out a loan to start a new business, or an existing firm expands capacity, is a necessary element of a healthy economic recovery. Moreover, although accommodative monetary policies may increase certain types of risk taking, in the present circumstances, they also serve in some ways to reduce the risk in the system, most importantly by strengthening the overall economy, but also by encouraging firms to rely more on longer-term funding and by reducing debt service costs for households and businesses.

In any case, the Federal Reserve is responding actively to financial stability concerns through substantially expanded monitoring of emerging risks in the financial system, an approach to the supervision of financial firms that takes a more systemic perspective, and the ongoing implementation of reforms to make the financial system more transparent and resilient. Although a long period of low rates could encourage excessive risk taking and continued close attention to such developments is certainly warranted, to this point, we do not see potential costs of the increased risk taking in some financial markets as outweighing the benefits of promoting a stronger economic recovery and more rapid job creation.

Another aspect of the Federal Reserve's policies that has been discussed is their implications for the Federal budget. The Federal Reserve earns substantial interest on the assets it holds in its portfolio, and other than the amount needed to fund our cost of operations, all net income is remitted back to the Treasury. With the expansion of the Federal Reserve's balance sheet, yearly remittances have roughly tripled in recent years, with payments to the Treasury totaling approximately $290 billion between 2009 and 2012.

However, if the economy continues to strengthen, as we anticipate, and policy accommodation is accordingly reduced, these remittances would likely decline in coming years. Federal Reserve analysis shows that remittances to the Treasury could be quite low for a time in some scenarios, particularly if interest rates were to rise quickly.

However, even in such scenarios, it is highly likely that average annual remittances over the period affected by the Federal Reserve's purchases will remain higher than the precrisis norm, perhaps substantially so. Moreover, to the extent that monetary policy promotes growth and job creation, the resulting reduction in the Federal deficit would dwarf any variation in the Federal Reserve's remittances to the Treasury.

Although monetary policy is working to promote a more robust recovery, it cannot carry the entire burden of ensuring a speedier return to economic health. The economy's performance, both over the near term and in the longer run, will depend importantly on the course of fiscal policy. The challenge for the Congress and the Administration is to put the Federal budget on a sustainable long-run path that promotes economic growth and stability without unnecessarily impeding the current recovery.

Significant progress has been made recently toward reducing the Federal budget deficit over the next few years. The projections released earlier this month by the CBO indicate that under current law, the Federal deficit will narrow from 7 percent of GDP last year to 2½ percent in fiscal year 2015. As a result, the Federal debt held by the public, including that held by the Federal Reserve, is projected to remain roughly 75 percent of GDP through much of the current decade.

However, a substantial portion of the recent progress in lowering the deficit has been concentrated in near-term budget changes, which, taken together, could create a significant headwind for the economic recovery. The CBO estimates the deficit reduction policies in current law will slow the pace of real GDP growth by about 1½ percentage points this year relative to what it would have been otherwise. A significant portion of this effect is related to the automatic spending sequestration that is scheduled to begin on March 1, which, according to the CBO's estimates, will contribute about six-tenths of a percentage point to the fiscal drag on economic growth this year.

Given the still moderate underlying pace of economic growth, this additional near-term burden on the recovery is significant. Moreover, besides having adverse effects on jobs and incomes, a slower recovery would lead to less actual deficit reduction in the short run for any given set of fiscal actions.

At the same time, and despite progress in reducing near-term budget deficits, the difficult progress of addressing longer-term fiscal imbalances has only begun. Indeed, the CBO projects that the Federal deficit and debt as a percentage of GDP will begin rising again in the latter part of this decade, reflecting in large part the aging of the population and fast rising health care costs.

To promote economic growth in the longer term and to preserve economic and financial stability, fiscal policy makers will have to put the Federal budget on a sustainable long-run path that first

stabilizes the ratio of Federal debt to GDP, and given the current elevated level of debt, eventually places that ratio on a downward trajectory. Between 1960 and the onset of the financial crisis, Federal debt averaged less than 40 percent of GDP. This relatively low level of debt provided the Nation much needed flexibility to meet the economic challenges of the past few years. Replenishing this fiscal capacity will give future Congresses and Administrations greater scope to deal with unforseen events.

To address both the near and longer-term issues, the Congress and the Administration should consider replacing the sharp front-loaded spending cuts required by the sequestration with policies that reduce the Federal deficit more gradually in the near term but more substantially in the longer run. Such an approach could lessen the near-term fiscal headwinds facing the recovery while more effectively addressing the longer-term imbalances in the Federal budget.

Finally, the size of deficits and debt matter, of course, but not all tax and spending programs are created equal with respect to their effects on the economy. To the greatest extent possible, in their efforts to achieve sound public finances, fiscal policy makers should not lose sight of the need for Federal tax and spending policies that increase incentives to work and save, encourage investments in workforce skills, advance private capital formation, promote research and development, and provide necessary and productive public infrastructure. Although economic growth alone cannot eliminate Federal budget imbalances in either the short run or the longer term, a more rapidly expanding economic pie will ease the difficult choices that we face.

Thank you, Mr. Chairman.

Chairman JOHNSON. Thank you for your testimony.

As we begin questions, I will ask the Clerk to put 5 minutes on the clock for each Member.

Chairman Bernanke, what is your assessment—please elaborate—of the sequester's impact on our economy in the short term if Congress did nothing, and what would be the impact if Congress manufactures another crisis with a fight over the CR?

Mr. BERNANKE. Well, Mr. Chairman, as I mentioned in my remarks, with respect to the sequester, the CBO estimates that it would cost about six-tenths a percent of growth in this year and the equivalent of about 750,000 jobs, and so it would be a drag on near-term economic recovery. More broadly, all of the actions taken this year, according to the CBO, would be a drag of about 1½ percentage points, which is quite significant.

So in that respect, I think an appropriate balance would be to introduce these cuts more gradually and to compensate with larger and more sustained cuts in the longer run to address our long-run fiscal issues.

As you note, there are a couple of other issues this year, including the continuing resolution and the debt ceiling. Again, I hope that Congress can work together effectively to address these issues with a minimum of uncertainty, because the uncertainty itself, of course, is also costly in terms of the ability of the private sector to plan, to take risks, and to help grow the economy.

Chairman JOHNSON. Housing is important to our economic growth and the Fed is working on mortgage rules in Basel that will have a major impact on housing. Chairman Bernanke, do you agree with Governor Tarullo that nothing prevents QRM from being the same as QM, and what will you do to ensure new Basel rules do not hinder mortgage lending?

Mr. BERNANKE. Mr. Chairman, as you know, the QRM is required to be no more broad than the QM, so we have had to wait for the QM to be done before we could attack the QRM process, although we have put out previous proposed rulemakings.

The QM, of course, is intended to help consumers. The QRM is meant to try to strengthen the securitization market. They are somewhat different purposes. But I would say, responding to your question, that the six agencies which are currently discussing the QRM consider the idea of making the QRM essentially identical to the QM is a realistic option and is one that we are considering.

Chairman JOHNSON. Thank you for your answer.

Also regarding Basel, Ranking Member Crapo and I sent you a letter on the potential impact of Basel rules on insurance companies and community banks. I look forward to your response.

Chairman Bernanke, there is an increased focus on cybersecurity and the United States, including within our financial system. FSOC has noted the issue in its annual reports. What is the Fed doing, both with the banks you supervise and your own networks, to strengthen financial data protection and enhance the cybersecurity of the financial sector?

Mr. BERNANKE. Well, Mr. Chairman, as you know, your point is absolutely right, that cybersecurity concerns in the financial system have become more acute lately. Since last fall, there have been a number of so-called denial of service attacks on banks, which essentially flood the public-facing Web sites and prevent the public from accessing their accounts, for example. These are obviously quite disruptive and problematic.

The leadership on cybersecurity for the financial system is being taken, on the one hand, by the Treasury, and on the other hand by the various intelligence and securities agencies. The Federal Reserve is very much engaged in cooperating with these agencies, sharing information, and working with our banks to make sure that they have appropriate procedures and oversight in place to deal with such problems. But, I have to say, we do not have to press them very hard because they recognize it is very much in their own interest to do whatever they can to prevent these attacks from being effective.

Chairman JOHNSON. While some urge the Fed to focus solely on inflation, which has been a bigger threat to our economic prosperity since 2007, Chairman Bernanke, unemployment or inflation, what is the most important step the Fed has taken to promote maximum employment?

Mr. BERNANKE. Well, Senator, as you know, we have a dual mandate given to us by Congress. That is entirely appropriate. Congress should set our objectives and then the Federal Reserve should figure out how to meet them. So we are interested both in achieving higher levels of employment and in maintaining low inflation and price stability.

Our monetary policy, as I mentioned in my remarks, has been quite accommodative in that respect. It is very much like that essentially in all other advanced economies. In doing so, we have, obviously, in the first instance, provided support for the real economy and for job growth through strengthening housing, for example, through strengthening the demand for automobiles and other durables, through wealth effects and the like.

But I would note that with inflation at or below our 2 percent target, our policies have also had the effect of greatly reducing any risk of deflation, which at the moment does not seem like much of a concern, but at certain times, as inflation gets close to the zero critical level, that risk increases. And keeping inflation from going too low—I realize sometimes it is hard to explain to people why inflation that is too low is a problem—but if it is too low, you run the risk of a Japanese-style situation, where prolonged deflation is a barrier to economic growth and stability.

So our accommodative monetary policy has not really traded off one of these against the other. It has supported both real growth in employment and kept inflation close to our target. We have many other things that we do on the regulatory side and so on, but the monetary policy, of course, is the tool that the Fed has to try to address that mandate.

Chairman JOHNSON. Senator Crapo.

Senator CRAPO. Thank you, Mr. Chairman.

Chairman Bernanke, as you mentioned in your testimony, the Fed is currently monitoring whether its prolonged near-zero interest rate policy could result in excessive risk taking and threaten the financial stability of the United States. I am interested in what specific metrics you used to evaluate whether these risks are increasing.

Mr. BERNANKE. Well, first, Senator, we have greatly expanded our resources that we use in the monitoring process. We have created a new Office for Financial Stability. We are working very intensively with the Financial Stability Oversight Council. So the amount of effort we put into this has greatly increased. Our internal monitors, in turn, report regularly to the Board and they report to the Federal Open Market Committee. So our discussions of monetary policy include extensive discussions of financial stability issues.

The kind of metrics that are used include things like leverage, are people who are investing taking on too much leverage? Are asset valuations out of line according to standard metrics? Is interest rate risk or other kinds of risk too concentrated? As you know, of course, the Fed is also a bank supervisor, so we spend a lot of effort looking at banks and other financial institutions, trying to ensure that they have appropriate capital, appropriate liquidity, and are appropriately managing their risk. And so there's a wide range of ways in which we look at this.

Again, as I indicated, we are watching this very carefully. To this point, and I think this is a view shared by others on the Committee, while there are things that we really have to pay attention to, at this point, they are not of sufficient concern that they outweigh the important benefits of trying to support a continued recovery.

Senator CRAPO. Well, thank you. I probably would disagree with those conclusions. I know a number of my colleagues are going to get into this issue a little further, so I am going to go on because of the shortness of time.

I want to talk with you briefly about Dodd-Frank reform. If we are able to achieve some bipartisan consensus on steps to improve Dodd-Frank, what are some of the provisions that you think need clarification or improvement for reconsideration?

Mr. BERNANKE. Well, first, as a general matter, Senator, Dodd-Frank is a very big, complicated piece of legislation. It addresses many different issues and I am sure there are many aspects of it that could be improved in one way or another. I recall, in fact, that you yourself had a bill 5 or 6 years ago on regulatory reform and simplification——

Senator CRAPO. That is right.

Mr. BERNANKE. ——which was a bipartisan effort to find ways to reduce costs without losing the purposes of the regulation, and I think something along those lines would be very doable in this context. The Federal Reserve would certainly be willing to work with you closely.

In terms of specifics, we would want to do the work, of course, but you mentioned in your opening remarks the end user issue, clarity on what Congress would like us to do about end users, for example. Another area which is proving difficult is the push-out provision for derivatives. And I think, more generally, I think we all agree that the burden of regulation falls particularly heavily on small community banks, which do not have the resources to manage those regulations very effectively. So I would say as a general proposition that we ought to work together to try to find ways to lower that regulatory burden on those smaller institutions.

Senator CRAPO. Well, thank you, Mr. Chairman, and I appreciate your advice and your expression of willingness to work with us on these and others as we move forward to try to improve our regulatory climate.

The last issue, at least that I will have time for in this round, is I want to talk about the crisis in Europe. Last week, the European Union released its 2013 forecast for the eurozone economy and the E.U. economists predict that the eurozone economy will shrink for the second year in a row and the third in the last five. What specific risks does a prolonged recession in Europe present to the outlook for the U.S. economy?

Mr. BERNANKE. Well, the risks that we have been facing for the last couple of years have been primarily financial, given uncertainties about the stability of certain countries' sovereign debt, given the risk on, risk off behavior we have been seeing in financial markets as news comes in about financial developments.

The European Central Bank has taken a number of important steps, including most recently the outright monetary transactions, which have helped to bring down the sovereign debt yields for the more fiscally challenged countries. That has been helpful. There have been a number of other positive steps which have generally reduced the financial stresses in Europe, notwithstanding the issues raised by the Italian election yesterday and today. And so

while that remains a concern, I think the financial stresses are certainly less today than they were over the last 2 years.

At the same time, as you mentioned, even as the financial stresses have moderated to some extent, the European economy and the eurozone is in recession. Unemployment is rising, not falling. And that affects us in a number of ways, partly through the financial sector, but also simply through trade. Our economy prospers when we can export and the European market is an important market for us and we have noticed a decline in our ability to export to Europe. So that is a risk, as well.

Senator CRAPO. Thank you.

Chairman JOHNSON. Senator Reed.

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

Thank you, Mr. Chairman, for your testimony. Over the last several years, the Federal Reserve has been providing stimulus to the economy through QE3, through other programs, and particularly as we are on the verge of the sequestration, it seems that our fiscal policy is not complementary to your policy. In fact, contradictory. And as you suggest in your testimony, if we could in the short run have a complementary policy, that would also add jobs rather than subtract them in the short run, add growth that would actually do better in closing the deficit and, in fact, provide an opportunity in the long run to solve some of the challenging problems.

In addition, and I would like your comments, if we continue to sort of use austerity as our major approach, that, I presume, would complicate your ability, as you suggest you can do, to, in a measured way, move away from quantitative easing at the right time. Could you comment on those points?

Mr. BERNANKE. Well, as I have noted, and I noted again today, monetary policy is no panacea, is no cure all, and we do not have the ability—we can all disagree on how powerful these measures are, and I do think they are effective, but I do not think that they can offset the 1½ percentage points of fiscal restraint we are seeing this year, for example. So in terms of the near-term recovery, I think there is a sense in which monetary and fiscal policy are working at cross purposes.

Having said that, I want to just be clear that I am not in any way denying the importance of long-run fiscal stability. I just think that, to some extent, the fiscal policy decisions being made are mismatched with the timing of the problem. The problem is a longer-term problem and should be addressed over a longer timeframe and in a way that, to the extent possible, and perhaps it is not entirely possible, but to the extent possible, does no harm with respect to the ongoing recovery. And that is the kind of balance I hope that the Congress will consider.

Senator REED. So do I. I may be repeating myself, is that if our policies in the short run were complementary, that would probably bring down the deficit faster than the current sort of cross purposes. Is that your sense, too?

Mr. BERNANKE. Well, certainly the—I do not know if it would be literally faster in the short run, because on the one hand, you would have fewer cuts and tax increases. On the other hand, you have greater growth. So those two factors might be going in the other direction.

But it is true that you get less bang for the buck, so to speak, for a given cut or a given tax increase because of the effect on short-term growth. So you would get a longer and larger long-run deficit impact and do less damage to the growth process by looking at this over a longer timeframe.

Senator REED. Thank you very much.

Let me quickly turn to another issue, and that is the Basel Committee announced significantly weaker liquidity coverage ratio rules, allowing sort of the use of mortgage-backed securities as liquid assets, et cetera. Do you intend to follow that approach with respect to the Fed, particularly the cautionary words you gave us today about risk taking and adding leverage to the financial markets?

Mr. BERNANKE. Well, I think that will be our starting point. We need to start with the international agreement and ask ourselves, to what extent do we need to strengthen it? To what extent do we need to customize it for the U.S. context? You have to remember that, unlike capital, liquidity requirements are a new thing, and there was a significant amount of discussion about what was reasonable, what might be the side effects of liquidity requirements in other markets, and the like. And so there was a bit of iteration in terms of what the international agreement was. But we will certainly, of course, meet the international agreement, and then we will be looking to see whether additional steps or U.S. customization is necessary.

Senator REED. Finally, and very quickly, Senator Crapo touched on the European situation. From afar, it looks like their policies of austerity have not helped them grow at all, in fact, have complicated their economic situation. Is that a fair judgment?

Mr. BERNANKE. Well, austerity is not the only problem. They have, obviously, high interest rates and a variety of other factors that are affecting their economies. But, again, I would say that it is possible to achieve both objectives, short-term growth and longer-term financial sustainability, with a more judicious combination of short-term and long-term fiscal adjustments.

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

Chairman JOHNSON. Senator Shelby.

Senator SHELBY. Thank you.

Mr. Chairman, welcome again to the Committee. The portfolio or the balance sheet of the Fed, you said is $3 trillion, more or less, is that right?

Mr. BERNANKE. I did not say, but yes, that is about right.

Senator SHELBY. Is that about right?

Mr. BERNANKE. Yes, sir.

Senator SHELBY. But you said it then, did you not? It is about $3 trillion.

Mr. BERNANKE. Yes, sir.

Senator SHELBY. You studied the Fed a long time before you ever came to the Fed. Has there ever been that type of balance sheet, close to that?

Mr. BERNANKE. I do not think so.

Senator SHELBY. No. OK. Does it concern you, not how you add to the balance sheet, but how you might have to deleverage the balance sheet, and will that be a challenge for the Fed, or could it be?

Mr. BERNANKE. Well, Senator, I should comment that although the Fed has not had a balance sheet this size, other central banks, like the Japanese, for example, have——

Senator SHELBY. And they have paid for it, too, have they not?

Mr. BERNANKE. Well, it depends on your point of view. The current Prime Minister thinks they have not done enough.

Senator SHELBY. What do you think?

Mr. BERNANKE. I think that they should try to get rid of deflation. I support their attempts to get rid of deflation.

In terms of exiting from our balance sheet, we have put out—a couple years ago, we put out a plan. We have a set of tools. I think we have belts, suspenders, two pairs of suspenders. We have different ways that we can do it. So I am not—I think we have the technical means to unwind it at the appropriate time. Of course, picking the exact moment to do it, of course, is always difficult. You know, you want to withdraw the support at the right time, not too early, not too late. That is always a judgment call.

But in terms of the ability to get out and to normalize our balance sheet, we have, again, a set of tools, which I would be happy to go into, if you like, but which will allow us to normalize policy either by selling assets or by retaining assets and doing other things, like raising the interest rate we pay on reserves.

Senator SHELBY. Do you think you will grow to a $4 trillion balance sheet?

Mr. BERNANKE. Well, we do not have—we did not announce any number. What we are doing is we are looking—we are tying our asset purchases to the state of the economy. We want to continue purchases until we see a substantial improvement in the outlook for the labor market, conditional on inflation remaining stable. We are also, as I mentioned in my remarks, we are looking at the costs and benefits, including the financial stability issues that Senator Crapo alluded to. So we do not have—we have not given a specific number, but we are certainly paying close attention to all of these issues.

Senator Crapo mentioned the transparency of the Fed. We are having this debate in public. You may have noticed that many Members of the Committee talk in public. We want everyone to understand that we are looking at all these issues. We are taking them all into account. And we are trying to do the right balancing of our objectives.

Senator SHELBY. Is your portfolio public?

Mr. BERNANKE. Yes, sir.

Senator SHELBY. It is public. In other words, the $3 trillion value of your portfolio, it is public as to what securities you have and how they are doing, performing and nonperforming, is that——

Mr. BERNANKE. They are all performing, every single one. I mean, they are all Treasuries and Treasury-guaranteed agency securities.

Senator SHELBY. Just about all of them are Treasury and Treasury-related securities?

Mr. BERNANKE. By law, we can only buy Treasuries and agencies.

Senator SHELBY. And they are all performing right now?

Mr. BERNANKE. A hundred percent.

Senator SHELBY. OK. I want to discuss Basel III—I just have a minute. Where is Basel III as far as implementation in Europe and the U.S.? Bring us up to date.

Mr. BERNANKE. Yes, sir——

Senator SHELBY. Because I think this is a very important regulatory challenge for everybody.

Mr. BERNANKE. Right. Well, as you know, we put out a proposed rule on Basel III. We received lots of comments. We work to those comments. We have continued to talk to our international partners and we are planning to have a final rule out on Basel III—I cannot give you an exact date, but somewhere in the middle of this year, and with the aim of getting the implementation of Basel III during 2013.

I would point out, also, that as far as we can tell through our stress tests and other measures, virtually all of our banks are already well on track to meet the Basel III requirements. So it is not a question of the banks not being adequately capitalized. They are already either at or about to reach the Basel III capital levels.

Senator SHELBY. What about Europe and their banks?

Mr. BERNANKE. Europe is also in the process of implementing Basel III. Their banking system is weaker, I think. It has strengthened some in recent quarters. We are discussing with them some of the details of their plans, some of which differ from the international agreement, in our view. But they are also in the process of implementing this agreement.

Senator SHELBY. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Schumer.

Senator SCHUMER. Thank you, Mr. Chairman.

First, I want to welcome Senator Crapo as our new Ranking Member and look forward to working with you on the Committee. And to the other new Members of the Committee, welcome. It is a great Committee with a great group, and I hope we will have a good, productive time under the Chairman's leadership.

OK. My first few questions are about sequestration, and then I want to talk a little about Italy.

Estimates suggest that letting sequester take effect could reduce the GDP by as much as half a point over the remainder of the year. I first want to know if it is—I am going to ask you a series and you can answer them. Is that a fair estimate?

Instead of stopping sequestration, some have suggested letting the full amount of cuts take effect, but rearranging the cuts rather than imposing them across the board. In your opinion, would this reshuffling mitigate the negative effect of GDP growth in any meaningful way this year or next, or would the net effect on short-term GDP be more or less the same since the total amounts of cuts would be the same?

And my second question on sequestration is this. It goes into effect Friday. There is some debate about how quickly the cuts will take place and how quickly the impact on jobs and the economy will be felt. CBO says sequestration will cost 750,000 jobs. When

do you think we will start seeing the impact in the job market? In the March job numbers? In April? When? Those are my questions on sequestration.

Mr. BERNANKE. Sure. The six-tenths on GDP growth in 2013 is a CBO number, and we get very similar results to that. I think that is a reasonable estimate.

In terms of whether or not rearranging the cuts would be beneficial, it could be beneficial from the point of view of more efficient allocation of the cuts or cuts that are more consistent with the preferences of Congress, but that, of course, is a Congressional decision. I have no input there other than to say that I think the near-term effect on growth would probably not be substantially different if you did it that way.

In terms of the effects on jobs and employment, the spending implications of the sequester take place over a period of time, so I——

Senator SCHUMER. Mr. Chairman, you did not answer the second one. I asked you, would it—regardless of the political preferences that the Congress might have—would the rearrangement, if there is flexibility, affect economic growth in any real way——

Mr. BERNANKE. Oh, sorry——

Senator SCHUMER. ——if the cut level is the same?

Mr. BERNANKE. Not significantly. It would be about the same, I think.

Senator SCHUMER. Got you. Good.

Mr. BERNANKE. In terms of the impact, the sequestration takes place over time. Furloughs take place over time. Spending cuts take place over time. So I would not expect to see a big impact immediately. I think it would probably build over a period of months.

Senator SCHUMER. Right. One of my colleagues—I do not want to steal his thunder, he is not here—but at a meeting earlier described it like the metaphor of the frog who jumps into a pot and the water just starts boiling, and you do not feel it at first, but if you stay in that pot, you are going to be singed pretty badly. Is that a fair analogy?

Mr. BERNANKE. Well, again, I think that it would take effect over a period of time, and remember, it is also in conjunction with the other measures that have been taken this year, as well.

Senator SCHUMER. Yes. Thank you.

The next question is on Italy. So the markets reacted quite nervously, shall we say, to the elections in Italy and the idea that they might not be able to form a Government, or might form a Government that would be less willing to go along with the present economic policies. My question is, A, what do you think of that, but B, more importantly, what is the exposure of our American financial institutions to Italy's debt? How dangerous—let us say—let us take the worst case scenario and let us say they cannot form a Government and they go through a little bit of what Greece or Spain has. How big an effect would that have on the stability—not on the world economy, not on our selling to Italy, but on the stability of our American financial institutions?

Mr. BERNANKE. Well, the market is reacting, first and foremost, to uncertainty. It does not know which way the Italian Government is going to go and how those policies will be affected.

I am not an expert in Italian politics, but I do not think that any of the candidates have outright rejected either staying in the Euro or maintaining the policies that are being required of Italy in order to continue to receive—you know, in order to continue to be in the eurozone. But, again, there is a lot of uncertainty there to see what happens.

Italy is unusual in that its current deficits are not very large, but it has a very large outstanding debt, and so there is a lot of Italian debt held around the world. Our assessments, going back, is that our banking exposure to Italian and Spanish debt is moderate, that it would be meaningful, but—again, I am not forecasting in any way—would not inflict serious damage on our financial institutions.

There are, of course, also money market funds that lend a lot of funds to European banks, including Italian banks, and those are connected. The fate of those institutions is connected to the fate of the fiscal situation.

But, again, I think that the main effects would be more indirect. I think—and again, I want to emphasize, this is totally hypothetical—that serious concerns about, say, the ability of Italy to remain in the Euro would probably have much broader effects on other asset classes—stock market, bond yields around the world, bank stocks, et cetera—and those effects would be more unpredictable and more concerning probably than direct losses and exposures in terms of Italian debt holdings.

Senator SCHUMER. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Corker.

Senator CORKER. Thank you, Mr. Chairman.

When the Fed decided that it was going to stimulate a global currency war as it did, did you embark on that thinking, well, our country is in trouble and let us sort of the heck with everybody else, or did you think it would leverage the wealth effect, if you will, if everybody had a race to the bottom? I know the Fed has been really purposeful in trying to create this sort of faux wealth effect. Did you think it would multiply your efforts?

And speaking to that, so overall wealth effect, I know you all do calculations all the time, but could you tell us exactly what sort of the wealth effect is, the part of it that is not real, that if you were to stop doing what you are doing as it relates to monetary supply today, how much of a diminishment in national wealth would take place?

Mr. BERNANKE. On the first question, we are not engaged in a currency war. We are not targeting our currency. The G7 put out a statement which was very clear that it is entirely appropriate for countries to use monetary policy to address their domestic objectives, in our case, employment and price stability. Our position is that our expansionary monetary policies, which are being replicated, of course, in other industrial countries, are increasing demand globally and helping not only our businesses but also the businesses in other countries that export to us. And so this is not a "beggar thy neighbor" policy. It is one that benefits our trading partners.

Senator CORKER. But the wealth effect is something you have tried to stimulate here, and I wonder if you could tell me——

Mr. BERNANKE. Yes, that——

Senator CORKER. ——how much wealth diminishment would take place if you were to, if you will, move away from the punch bowl.

Mr. BERNANKE. Well, there would be some, but I would point out that if you look at the stock market, for example, that the so-called equity premium, the risk premium associated with stock prices, is actually quite wide. In other words, stock prices by that metric do not appear over-valued, given earnings and given interest rates. Now, if interest rates went up some, that would have some effect on stock prices.

But the point here is not to create what you call a faux wealth effect. The point here is to stimulate the economy, create some forward momentum in growth and employment, and that, in turn, shows up in earnings and that creates a genuine increase in wealth, the same with house prices.

Senator CORKER. So I think that, you know, I do not think there is any question that you would be the biggest dove, if you will, since World War II. I think that is something you are rather proud of. And we have a Federal Government that is spending more relative to GDP than at any time since World War II. Those are working well together in that the Fed is actually purchasing a large portion of the new debt issuances as we live beyond our means, and so it is working very well together in that regard.

I am just wondering if you all talk at all in your meetings about the degrading effect that is having on our society and how it is basically punishing people who have done the right things and throwing seniors under the bus and others that have saved money. Do you all ever talk about the longer-term degrading effect of these policies as we try to live for today?

Mr. BERNANKE. I think one concern we have is about the effect of long-term unemployment and people who do not have jobs for years. That means they are never going to acquire skills. They are never going to be a productive part of our workforce. So the jobs part is very important.

You called me a dove. Well, maybe in some respects, I am, but on the other hand, my inflation record is the best of any Federal Reserve Chairman in the postwar period, or at least one of the best, about 2 percent average inflation. So we have worked on both sides of the mandate and we are trying to achieve a stronger economy for everybody. I do not think there is any degrading going on.

You mentioned, in particular, the issue of savers, and I think that is an important issue. I would just point out that if we tried to raise interest rates from, say, the current 10-year yield is 2 percent—if we tried to raise it to three or four or 5 percent while the economy was still weak, it could not be sustained. Our economy is not weak enough to sustain high real returns to savers. If we tried to do that, we would throw our economy back into recession and we would have low interest rates like the Japanese do. The only way to get interest rates up for savers is to get a strong recovery, and the only way to get a strong recovery is to provide adequate support to the recovery. So I do not agree with that premise.

Senator CORKER. Do you concern yourself at all with just the whole notion of being perceived—you know, we watch regulatory capture take place here, where basically the regulators end up

working for the people that they regulate. You know, we have TARP, which most people who voted felt like that was a needed thing during a crisis, and then we have had this easy money policy which really allowed the big institutions, especially on Wall Street, to really reap tremendous benefits in the early stages without doing anything. And then you are getting ready, I guess, in a few years, as you alluded to, when interest rates rise, to basically have to print money to sell securities at losses and then pay interest on reserves, which people have pointed out, and I think all have talked about, is going to be billions and billions of dollars going to these institutions that, again, you regulate. Do you concern yourself at all with the Fed being viewed as not as independent as it used to be and working so closely with many of these institutions that you regulate?

Mr. BERNANKE. Well, we are concerned about perceptions, that is true, but none of the things you said are accurate. For example——

Senator CORKER. Well, yes, they are.

Mr. BERNANKE. Well, so to take the case of paying interest on reserves in the exit, for example, that is, number one, that is beneficial for the taxpayer because on the left hand side of the balance sheet is reserves, but on the right hand side is the securities that we hold, which pay a higher interest rate than the reserves. So by doing that, we actually make a profit which we remit to the Treasury.

Senator CORKER. Well, it is really good for the institutions.

Mr. BERNANKE. We are not helping the banks. We are not helping the banks because——

Senator CORKER. No, when you exit. When you begin to draw the money supply in, it is going to be very, very beneficial to these institutions.

Mr. BERNANKE. Why?

Senator CORKER. Oh, they are going to be yielding huge returns on their reserves as you pay the——

Mr. BERNANKE. We will be paying market rates. We will be paying exactly what they can be getting in the repo market, in the commercial paper market, anywhere else. There is no subsidy involved.

Senator CORKER. OK.

Chairman JOHNSON. Senator Menendez.

Senator MENENDEZ. Thank you, Mr. Chairman.

Chairman Bernanke, thanks for your testimony. You mentioned the housing market and that being important. It has always been one of the drivers of our economic recovery. And in that respect, Senator Boxer and I have reintroduced the Responsible Homeowner Refinancing Act, which would remove barriers to refinancing for borrowers with GSE mortgages and have a history of paying their mortgage on time. In the State of the Union, President Obama said too many families who have never missed a payment and want to refinance are being told no and urged the Congress to act.

In that respect, could you discuss the benefit to both individuals and the national economy of enabling more families to refinance mortgages at today's historically low interest rates?

Mr. BERNANKE. Well, on the side of the borrowers, if they are able to refinance, then they will have, obviously, lower payments,

lower debt burdens, and to some extent, more income and ability to spend. I guess the question on the other side is whether there are needed subsides or other costs and how large those would be. That would be the tradeoff I would look at.

But it is true from the borrower's point of view, being able to refinance at a lower rate is going to increase the chance that you can stay in your house and increase your income.

Senator MENENDEZ. Would we not be, in essence, solidifying an entire universe of responsible, so far responsible, borrowers to be able to ensure that they can continue to be a responsible borrower, be able to avert any movement toward foreclosure and create an economic stimulus, because if I have been patching the roof on my house because I do not have the money to fully repair it and now I am paying $300 or $400 less a month, I am going to have the wherewithal to spend that money in an economy that would ultimately have a ripple effect? Would that not be a fair statement?

Mr. BERNANKE. Well, Senator, as you know, I do not like to endorse specific legislative proposals. In this case——

Senator MENENDEZ. Well, forget about the proposal. Just the question in general of the possibility of refinancing at historically lower rates.

Mr. BERNANKE. Again, from the borrower's point of view, that is clearly better. They will have lower payments. They will have more income, discretionary income, a better chance of staying in their house. And I guess the question is, what implications would it have on the lenders' side or on the fiscal side. Would there be some money coming in from the Government to offset it on the other side, would be the question I think you would have to look at. But your basic point, would it help borrowers, obviously, it would.

Senator MENENDEZ. Let me ask you this. With reference—you said in your testimony—I do not know if you verbalized this, but I read it—it says, the sizes of deficits and debt matter, of course, but not all tax and spending programs are created equal with respect to their effects on the economy. To the greatest extent possible, in their efforts to achieve sound public finances, fiscal policy makers should not lose sight of the need for Federal tax and spending policies that increase incentives to work and save, encourage investments in workforce skills, advance private capital formation, promote research and development, and provide necessary and productive public infrastructure.

With that view being your statement, is not sequester—which is something I did not vote for because I saw exactly where we were going to be headed—is not the way sequester takes place totally in contrary to that view?

Mr. BERNANKE. I think there is a tendency, Senator, when you are thinking about the budget and the deficit, to just talk about total spending, total taxes, and I am saying, and I think it is consistent with your point, that it is also very important whether the tax policy is a good tax policy, whether the spending is productive spending that increases the productive capacity of our economy or achieves desirable social goals. So I hope it is not too controversial to say that I think the Congress ought to think carefully about how it taxes and spends and try and achieve the best outcomes it can.

Senator MENENDEZ. Well, in sequester, you have across-the-board cuts.

Mr. BERNANKE. That is right.

Senator MENENDEZ. Now, if you are in the private sector and you lost revenue, either you try to make up that revenue or, if you had to make cuts in your business, you would make it in accordance with what would pose you for growth again. So it might be in the context of one company human capital. In another company, it might be technology, whatever.

Mr. BERNANKE. Mm-hmm.

Senator MENENDEZ. Across-the-board cuts are indiscriminate and, therefore, do not have the balance that you suggest is necessary. Would that be a fair statement?

Mr. BERNANKE. That is fair, but the question is, will the Senate and the Congress be able to agree on how to replace the sequester with a different set of programs? If they can, obviously, if they can find a better combination, obviously, that would be better for our economy.

Senator MENENDEZ. Well, it would certainly be more desirable, assuming that that agreement could be achieved, than a meat axe approach, across the board, regardless of understanding the very issues that you raise. How do you create policies that create incentives to work and save, encourage workforce skills, capital formation, and what not.

Mr. BERNANKE. I agree.

Senator MENENDEZ. Thank you.

Chairman JOHNSON. Senator Toomey.

Senator TOOMEY. Thank you, Mr. Chairman, and thank you, Chairman Bernanke, for joining us.

I would just like to follow up for a moment on the point that the Senator from New Jersey was making, because I think, if I understood the gist of what he was saying, we might have a lot of agreement on this, and that is whether we like it or not, it is certainly possible and actually looks quite likely that the sequester will at least begin. And as it is currently codified, it is without regard to any sense of what are higher and lower priorities in the different agencies that would be affected.

It is hard to imagine that that is the optimal way to go about cutting spending. It is impossible for me to believe that all spending is equally meritorious and that every category of spending within every agency has equal merit and equal priority. And so it seems to me that the most sensible way to go about this would be to give some flexibility to the people who are closest to these spending decisions—the agency heads, the Administration, the OMB—so that they can at least make the cuts that are least disruptive. Some cuts are more disruptive than others, and it just seems that it could be less disruptive to our economy if they had a chance to do this through a thoughtful process than if it has to be done uniformly across the board. Does that make some sense?

Mr. BERNANKE. Yes, sir.

Senator TOOMEY. Thank you. Another point about the sequester I just have to make—I was not going to get into this, but I just have to strongly disagree with the notion that we have some kind of severe austerity program that is about to kick in. We have a

Federal Government that has doubled in size in the last 10 years, 100 percent growth in total spending. The sequestration contemplates 2.5 percent budget authority reduction, which, as you know, about half of that would be actually spent in this fiscal year. So we are talking less than 1.3 percent of Federal spending and outlays that would be curbed.

The fact is, if the sequestration fully goes into effect, in fiscal year 2013, the Federal Government will spend more money than it did in 2012. It is hard for me to understand that as draconian spending cuts and austerity. And, by the way, by my math, the actual outlay is a reduction that is equal to about one-quarter of 1 percent of GDP. How that has a disastrous impact on GDP growth escapes me.

And, frankly, the idea that we would somehow postpone it and promise that we will make cuts in the future, I think the credibility of those promises would be worth zero and our economy would respond in a very adverse way, because it would see that we have absolutely no willingness, no political ability, to begin even the slightest imposition of fiscal discipline. And so I think that has very negative implications.

My specific question is for you on monetary policy, Mr. Chairman. You talked about the fact that inflation has not manifested itself as a problem by conventional measures at this point. I take your point. To what extent are you concerned about asset bubbles? There are people who think we have bubbles in the works right now in Treasury securities and agricultural real estate, some even in the equity markets. How do you know when there is a bubble, and how concerned are you that this absolutely unprecedented monetary policy could manifest itself in inappropriate asset appreciation?

Mr. BERNANKE. It is a concern, as I said in my remarks. We are approaching it two ways. First, we are putting a lot of effort into measuring, monitoring, assessing asset prices and financial activities. Second, we are trying to make sure that, to the extent that there may be some frothiness in a particular asset class, that the holders of those assets are prepared to deal with the losses. So, for example, banks have twice as much capital today than they did a few years ago and we stress them according to different possible scenarios where asset prices move sharply and ask, would they still be able to lend and be stable.

Senator TOOMEY. And I have got very little time, so I acknowledge that, but I think you perhaps would agree that it can be very difficult to know when a bubble is really forming and it is getting frothy as opposed to being driven by fundamentals.

And the other concern that I have, as you mentioned earlier, I think, in conversation with Senator Shelby and perhaps Senator Corker, that you are confident that you have the ability to unwind the very large balance sheet that you have got. There is no question, you have the ability to unwind. What worries me is the impossibility of knowing the impact of the unwind.

For instance, just the suggestion of maybe a little bit more dissent within the FOMC than people previously thought existed precipitated a significant sell-off in equities a week or two ago. What

would the impact be of actually having to liquidate a big portion of your holdings on the bond market, on the equity markets?

Mr. BERNANKE. We do not anticipate having to do that. We think that we can——

Senator TOOMEY. Not ever?

Mr. BERNANKE. We could exit without ever selling by letting it run off, and we could tighten policy by raising interest rates that we pay on reserves. That would be one strategy, for example.

In any case, we have said that we will sell slowly, with lots of notice, and we will, of course, also be offering our forward guidance about rates so that there will not be a shift in rates, expectations on the part of the market. So we are giving a lot of thought to these issues.

Senator, if I could just make one very quick point, there is no risk-free approach to this situation. I mean, the risk of not doing anything is severe, as well. So we are trying to balance these things as best we can.

Senator TOOMEY. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman, and Chairman Bernanke, thank you for your work and your efforts to, as I think we all have some concerns, take extraordinary actions, oftentimes because, at least to date, it seems like we have failed to keep up our end of the bargain to put in place the kind of balanced, comprehensive, phased in deficit reduction plan that you have called for and many of us have worked on for years.

I would add, as well, that every one of those plans from Simpson-Bowles on had a revenue component that was substantially higher than the revenue secured on the New Year's Eve deal. I would also acknowledge all of those had an entitlement reform component that also has not been part of the agreements to date.

I do want to come back at one level on the sequestration, because I heard some of my colleagues say the hit to the economy of sequestrations, which was set up to be the stupidest option possible, such an outrageous option that rational people would never allow it to come to pass, we look at that kind of top-line number and its effect it would have on the economy, and one of the things—I know you have got great folks who do analysis—whether you have been able to kind of dig in at a kind of level below—beyond just the kind of top-line cut, the failure to have it phased in, the failure, for example, to have a balance with some revenue additions, but to actually get to the level of granularity where, in many cases, because of this across-the-board approach without any prioritization, 975 separate line items in the Navy not of equal value to the taxpayer or to our defense, where in many cases we will actually be costing the taxpayer more money by these cuts, where we will be either in one case breaking volume contract purchases on—not just on the DOD side, but on other sides, or the cases where—I had a university president here today with me where NIH grants that may have had three or 4 years' worth of research where the last year of research now cannot be let and consequently all of the previous work kind of goes down the drain. Or, while we talk about the economic costs of furloughing individuals, whether you have been able to do the analysis and say what that downstream might mean when it

is meat inspectors or poultry inspectors which then might have a subsequent driving up of prices to consumers because not as much food gets into the grocery store.

Has your analysis taken on the kind of, not just top line, but the kind of the extra added stupidity value that was not built into this legislation?

Mr. BERNANKE. Well, I agree with a couple of previous speakers on both sides that a thoughtful approach that looked at all these issues would be better if it could be agreed upon than a just across-the-board approach. But we do not get into line items and specific programs.

Senator WARNER. And I agree. Top line, the number is going to have an enormously detrimental effect, and again, why I think we need balance. But I would argue that there is a perhaps stupid and slightly less stupid way and I am, I think, only digging into some of the—literally some of the absurdities that will take place. And, actually, some of the costs that the taxpayers will incur under the guise of, quote-unquote, "cutting" is pretty remarkable.

I want to come back to—I have a host of questions, and my time is quickly going away, as well—two other items. One, a lot of conversation for those of us who have been wrestling with the fiscal issues on any kind of historic basis. Clearly, we are at historic spending levels, historically high spending levels. We are also at historically low, the last 50 years, at least, revenue levels.

One of the things that sometimes is cited is, well, our goal ought to be a 50-year running average of what our revenue should be as a percent of GDP. I guess I just really wonder, with the demographic bulge that we have, with the aging of our population, that even those of us who have been very strong proponents of major entitlement reform, do you really think that kind of a backwards-looking 50-year historic revenue target is appropriate as an economist when you look at both our aging population and the kind of demographic bulge of the baby boom coming in, even with meaningful entitlement reform?

Mr. BERNANKE. Well, the way I think about it is in terms of debt-to-GDP ratio. As I mentioned in my remarks, we had a national asset of a 40 percent debt-to-GDP ratio before the crisis and we have lost a lot of that asset. And given what is happening, you know, 10, 20, 30 years out, we should be trying to buildup over the next decade some fiscal capacity to deal with it.

Senator WARNER. My time is up, but just would you say what that debt-to-GDP goal should be going forward? You have made that comment at various times——

Mr. BERNANKE. I do not think there is a magic number, but historically, we have not been at 75 percent at any time since just after World War II. So if we can bring it down from here some, it would be helpful, I think.

Senator WARNER. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Coburn.

Senator COBURN. Thank you, Mr. Chairman, for being here. I appreciate your work.

Just a comment on Senator Warner. The revenue that was passed was certainly less than what Simpson-Bowles had agreed to, but I would remind my colleague, Simpson-Bowles revenue was

used to lower tax rates to stimulate the economy, not to raise taxes and not stimulate the economy. And what is outrageous is that we have not done anything to address our long-term problems. And I know my colleague from Virginia has been very effective in working across the aisle to try to accomplish that.

My questions really have to do with QE. Do you think—is there a diminishing return on your efforts at quantitative easing, in terms of its effect?

Mr. BERNANKE. That is a good question when we have debated. On the one hand, the first round in 2009 had some very substantial benefits in terms of market functioning. Markets were in turmoil. Our purchases helped calm markets and set the stage for recovery in financial markets. Of course, we do not have quite that situation today.

On the other hand, there are some things working in the other direction. For example, credit markets are more open today. Banks are lending more today. And so in some sense, the low interest rates can pass through more easily today than they could have a couple years ago.

So that is a good question. We do not know exactly which way it goes, but I think, as I said in my remarks, I think there is pretty good evidence that 3.5 percent mortgage rates are one of the reasons why housing looks like it is turning around, low auto rates one of the reasons why car sales are up. So whether it is bigger or less, I am not sure, but it does seem to be having some positive benefits in terms of growth.

Senator COBURN. Now that we have Japan actually pretty well duplicating some of our efforts in terms of QE to fight deflation, which I agree is a proper goal for them—they have struggled with that for 20 years—do you worry at all, now that the European countries have done a quantitative easing, in effect, Japan has done it, the Bank of China has done it, we have done it, that the competitive ratio or the net competitive differences might divert away and we see this in terms of trade protectionism in terms of the international markets?

Mr. BERNANKE. Well, first, Senator, you make a good point that the Fed is not at all extraordinary. In terms of balance sheets, in terms of long-term interest rates, we are very similar to a lot of other countries.

As I was saying before, we do not view monetary policy aimed at domestic goals as being a currency war. It is not like putting tariffs on your imports so that you can "beggar thy neighbor" to the benefit of your domestic industries. That is not what we are doing. If all the major economies that need support provide stimulus and extra aggregate demand, that is mutually beneficial because, for example, China depends on the strength of Europe and the U.S. as their export market, and we, too, depend on other countries, as well, as a market for our goods. So this is, I think, a positive sum game, not a zero sum game, that we have here.

Senator COBURN. But there was some concern in the last G20 meeting in terms of this target of the end being at 110 instead of 90—instead of 78, like it was 90 days ago, or maybe longer. But there is some concern that currencies can get out of balance and

that will have a significant impact on trade. Would you agree with that?

Mr. BERNANKE. Well——

Senator COBURN. There was certainly discussion in the press.

Mr. BERNANKE. There was certainly discussion of the issue. The emerging market economies, which are at full employment in many cases, are unhappy because low interest rates in the advanced economies give them a choice they do not like. Either they have to accept low interest rates, which they feel causes inflation or problems in their own economy, or, alternatively, they have to raise—let their exchange rate appreciate, which hurts their export market. So they have had some concerns with accommodative monetary policy in advanced economies, in general, but I do not think Japan really raises a special case, notwithstanding the rhetoric. Of course, we have not seen what they are going to do yet. I mean, they have not even officially appointed the new Governor. But, presumably, what they are going to do is monetary policy aimed at domestic objectives and not specifically at the exchange rate.

Senator COBURN. One final, and you do not have to answer this, but if you would give me your thoughts. A recent paper, "Crunch Time: Fiscal Crises and the Role of Monetary Policy," would you mind at some point in time giving me your thoughts on that? I think you have seen that.

Mr. BERNANKE. I will, but I think the main thing I would say is that—and I want to be very clear—the CBO agrees that the Federal Reserve's balance sheet policies are with very high probability going to be a very significant boom to the taxpayer in terms of returns to the Treasury.

Chairman JOHNSON. Senator Merkley.

Senator MERKLEY. Thank you, Mr. Chair, and thank you for your testimony.

I wanted to start with too big to jail. We had the situation with Hong Kong-Shanghai Bank Corporation, HSBC, where the United States decided not only not to investigate any individual, but not to investigate the bank as a whole, related to money laundering or related to terrorist organizations and drug organizations. It is no small thing, no small thing. Drug organizations in Northern Mexico are responsible for 40,000 deaths. Terrorist organizations, obviously, are a threat to the United States. And the too big to jail echoes the fact that we still have banks that are so large that we are concerned about creating any ripples. In this case, it sends a message, as well, about future behavior. If current behavior, be it manipulation of the LIBOR rate, which have had fines associated with it but not criminal prosecutions, I do not believe, or too big to jail for money laundering, does this not kind of undermine in a way our international regulatory structure for financial institutions?

Mr. BERNANKE. Well, I agree that no individual and no institution should be exempt from paying for crimes that they commit. On this particular case, we worked very closely with the Department of Justice. We cooperated in every possible way to give them information. In the end, the company paid a $2 billion fine. If it relates to the bigger issue you are thinking of, of too big to fail, we also agree that that is something that really needs to be addressed and

that many of the parts of Dodd-Frank are intended to address that and we are pushing those as hard as we can.

Senator MERKLEY. Thank you. And I think it does certainly say to us we are a long ways from getting there if we are that concerned about any form of shakiness in these large banks.

But there is another aspect of this, too, and that it continues to tell folks that it is safer to invest, if you will, in large banks than, say, community banks. A community bank would have been shut down or at least investigated thoroughly. And in what I see in the economy in Oregon is often it is the community banks that are willing to lend into the local economies because they understand it better. They are more comfortable with it. They understand they may have relationships to know the competency of any individual companies and so forth. And is this sort of bias kind of counterproductive to our overall health of our economy?

Mr. BERNANKE. Absolutely. It means the playing field is not level. It means that there is not market discipline, so there is too much risk taking. So getting rid of too big to fail is, I think, an incredibly important objective and we are working in that direction.

Senator MERKLEY. Thank you. I want to turn now to the fiscal cliff. We had a drop in GDP in the fourth quarter of last year. Do you share the view somehow that that was, in part, attributable to the December 31 fiscal cliff?

Mr. BERNANKE. Only incidentally. One of the factors that happened to contribute to the fourth quarter was a 22 percent annual rate drop in defense spending, and it is possible that in anticipation of the sequester, for example, there may have been some changes in spending patterns. But, as I said in my remarks, I think the fourth quarter was really a combination of transitory factors. I do not think it really signaled any real change in the pace of growth of the economy. On the other hand, the pace of growth of the economy remains around 2 percent, which is positive, but it is not as strong as we would like.

Senator MERKLEY. So now we are looking at the different items that you mentioned, the debt ceiling, continuing resolution, the sequester, which does convey a feeling of lurching from crisis to crisis. We have heard many companies have put substantial money aside, that they have not reinvested. They have had some very profitable years. Is this style that we seem to have adopted, of being unable to get our act together and plan a year at a time, if you will, in the traditional sense, really kind of shooting ourselves in the foot?

Mr. BERNANKE. I think so, Senator. We have not been able to identify with accuracy the quantitative impact of uncertainty about policy, but we certainly, around the FOMC table, hear many anecdotes from businesses about their reluctance to expand or hire, given that they are not sure what the fiscal situation is going to be.

Senator MERKLEY. Switching gears, the Volcker Rule, or Volcker firewall between hedge fund -style activities and banks that take deposits and make loans, still has not—the rulemaking has not been completed. We are well past the 2-year mark headed toward 3 years. Does this need to get done so that institutions know what the appropriate boundaries are and also so that here, we can dem-

onstrate that we actually have the ability to pass laws and the rules that go with them and operate as a competent society?

Mr. BERNANKE. We would like to get it done and we have made a lot of progress on it. The issue at this point is that there really—the Volcker Rule is really three or four different rules. The CFTC, the SEC, and the banking agencies each has a Volcker Rule which applies to the institutions that they supervise and there is a strong sense that we have that we would be much better served if those rules were closely coordinated and as close to being identical as possible. So I think the issues at this point are not the work that we have done at the Federal Reserve, for example, the issues are finding agreement and closure among the different agencies who are working on the rule.

Senator MERKLEY. Thank you.

Chairman JOHNSON. Senator Heller.

Senator HELLER. Thank you, Mr. Chairman, and Mr. Chairman, thank you for being here today. I have not had a chance to raise some questions since 2008 on the Financial Services Committee on the other side, so it is good to have you in front of me and thanks for taking time.

Mr. BERNANKE. Sure.

Senator HELLER. You know, we ask a lot of questions a lot of different ways, and I am probably not going to be any different, but let us give it a shot.

You know, we have not passed a budget around here in 4 years. Are you optimistic that sometime in your lifetime we may pass another budget around here in Washington, DC? For that matter, let me ask you another question, and you can answer them together. Do you think we will ever balance a budget, have a balanced budget in your lifetime?

Mr. BERNANKE. Well, I would settle for stabilization of the ratio of debt-to-GDP, which is a slightly less tough level.

Senator HELLER. It sounds like a "no."

Mr. BERNANKE. I have—you know, it is easy to criticize, but the politics is very difficult. I understand that there are a lot of very different views and strongly held views and it is not easy to come to an agreement. So I do not think Congress is not trying. I know you are trying, and I hope that you can find the agreement to see these important objectives.

Senator HELLER. Well, the reason I raise the question, I think the sequestration issue that we have in front of us on Friday is a result of our lack of budgeting and effort to budget. I am from Nevada, so if I am putting money down, I am putting $100 down that sequestration comes and goes on Friday. Then as soon as that occurs, we get into our Budget Committee markups that are supposed to happen on March 11 through the 15th. I am putting another $100 down that that does not happen.

Then we are supposed to bring those bills down to the floor sometime on March 18, and then March 27, Government funding expires because we do not budget, and I am arguing that that day comes and goes and we have a big argument. All I am talking about is the instability that we have and how difficult does that make your job?

Mr. BERNANKE. Well, it makes my job difficult, but it also makes the economy's job difficult. Again, as Senator Merkley mentioned, the uncertainty associated with not knowing how policy is going to be developed and what tax rates will be and what spending will be and what programs will be and which contractors will be receiving funding, et cetera, those are important concerns.

Senator HELLER. And I know your policies are based on monetary policy and also unemployment and employment, and I have to believe that our indecisiveness and inability to get things done is causing a lot of consternation.

You made a comment, and you have actually repeated this in this hearing, that you will continue—I want to go to quantitative easing, that is your purchasing of these assets—will continue until substantial improvements in the outlook of the labor market in the context of price stability. Will you explain to me a little bit more in depth what that means?

Mr. BERNANKE. Well, sure. We are going to be looking at a variety of variables. We will be looking at payroll employment, is it strengthening, is it sustainably strengthening? Is the unemployment rate coming down? So those are indications——

Senator HELLER. Do you have a target?

Mr. BERNANKE. We do not have a specific target. We have given thresholds for our rate policy. We have not extended those to our asset purchases, and there are a couple of reasons. One is, as you mentioned, there are a lot of other things happening in our economy, like the fiscal issues that you referred to. But in addition, we are paying very close attention, as a number of you have mentioned, to the efficacy and cost of these policies and that makes it very difficult to say this is the number we are going to achieve.

So we are doing our best to communicate the criteria for action, but we have not been able to come to a specific number which encapsulates both the change in outlook for the labor market and the assessment of costs and efficacy, which is another part of the decision process.

Senator HELLER. Do you believe that your asset purchases are causing any kind of an equity bubble?

Mr. BERNANKE. I do not see much evidence of an equity bubble. Earnings are very high. As I said, the equity risk premium is above normal. That is, in other words, equity holders are still being somewhat risk averse in their behavior.

But again, we have a two-part plan. First is to monitor these different asset markets. The second is to try to understand what would be the implications if we are wrong. What would happen? Who would be hurt? What would happen to financial institutions? Would there be broad knock-on effects if, in fact, some particular asset turned out to be in a bubble? So we are trying to do both of those things and we do not rule out that if these problems become sufficiently worrisome, that they would be taken into account in our monetary policy.

Senator HELLER. Mr. Chairman, thank you.

Mr. Chairman, thank you.

Chairman JOHNSON. Senator Warren.

Senator WARREN. Thank you, Mr. Chairman, and I also want to say thank you, Mr. Chairman. This has been my first chance to say

in public how grateful I am for your help in setting up the consumer agency and how helpful all the people were at the Fed during the time of transition of the consumer function, so thank you very much.

I would like to go to the question about too big to fail, that we have not gotten rid of it yet, and so now we have a double problem and that is that the big banks, big at the time that they were bailed out the first time, have gotten bigger, and at the same time that investors believe with too big to fail out there that it is safer to put your money into the big banks and not the little banks, in effect creating an insurance policy for the big banks, that the Government is creating this insurance policy not there for the small banks.

And now some economists, including an economist at the IMF, have started to document exactly how much that subsidy is worth. Last week, Bloomberg did the math on it and came up with the number $83 billion that the big banks get in what is essentially a free insurance policy. They borrow cheaper than the small banks do.

So I understand that we are all trying to get to the end of too big to fail, but my question, Mr. Chairman, is, until we do, should those biggest financial institutions be repaying the American taxpayer that $83 billion subsidy that they are getting?

Mr. BERNANKE. Well, the subsidy is coming because of market expectations that the Government would bail out these firms if they failed. Those expectations are incorrect. We have an orderly liquidation authority. And even in the crisis, in the cases of AIG, for example, we wiped out the shareholders——

Senator WARREN. Excuse me, Mr. Chairman. You did not wipe out the shareholders of the largest financial institutions, did you, the big banks?

Mr. BERNANKE. Because we did not have the tools. Now, we could.

Senator WARREN. Well, but the——

Mr. BERNANKE. Now we have the tools.

Senator WARNER. Eighty-three billion dollars says that whatever you are saying, Mr. Chairman, $83 billion says that there really will be a bailout for the largest financial institutions if they fail.

Mr. BERNANKE. No, that is the expectation of markets, but that does not mean that we have to do it. I think what we have to do is solve the problem, Senator. I think we are really in agreement on this. Too big to fail is not absolute. There are spreads. The credit default swaps say there is some probability of failure. Moody's and others have downgraded these firms. They have taken down some of their Government support ratings, as you know. But we have a lot more to do, I agree, and I think that is a good debate to have, but we are in complete agreement that we need to stop too big to fail.

Senator WARREN. But I do not understand. It is working like an insurance policy. Ordinary folks pay for homeowners' insurance. Ordinary folks pay for car insurance. And these big financial institutions are getting cheaper borrowing to the tune of $83 billion in a single year simply because people believe that the Government

would step in and bail them out. And I am just saying, if they are getting it, why should they not pay for it?

Mr. BERNANKE. I think we should get rid of it.

Senator WARREN. Well, all right, then I will ask the other question. You were here in July and you said that you were—you commended Dodd-Frank for providing a blueprint to get rid of too big to fail. We have now understood this problem for nearly 5 years. So when are we going to get rid of too big to fail?

Mr. BERNANKE. Well, as we have been discussing, some of these rules take time to develop. The orderly liquidation authority, I think we made a lot of progress on that. We have got the living wills. I think we are moving in the right direction. If additional steps are needed, then Congress obviously can discuss those. But we do have a plan and I think it is moving in the right direction.

Senator WARREN. Any idea about when we are going to arrive in the right direction?

Mr. BERNANKE. It is not a zero, one kind of thing. It is over time you will see increasing market expectations that these institutions can fail. And I would make another prediction, and predictions are always dangerous, that the benefits of being large are going to decline over time, which means that some banks are going to voluntarily begin to reduce their size because they are not getting the benefit that they used to get.

Senator WARREN. I read you on this. I read your predictions on this in your earlier testimony. But so far, it looks like they are getting $83 billion for staying big.

Mr. BERNANKE. Well, that is one study, Senator. You do not know whether that is an accurate number or——

Senator WARREN. Well, OK. We will go back and look at it again if you think there is a problem with it. But does it worry you?

Mr. BERNANKE. Of course. I think this is very important, and we are putting a lot of effort into this. It is a problem that we have had for a very long time and I do not think we can solve it immediately, but I assure that, as somebody who has spent a lot of late nights trying to deal with these problems and the crisis, I would very much like to have the confidence that we could close down a large institution without causing damage to the rest of the economy.

Senator WARREN. Fair enough. I know we are both trying to go in the same direction. I am just pointing out that in all that space in between, what is happening is the big banks are getting a terrific break and the little banks are just getting smashed on this. They are not getting that kind of break, and that has long-term impact for all of the financial system.

Mr. BERNANKE. I agree with you 100 percent.

Senator WARREN. Thank you.

Chairman JOHNSON. Senator Vitter.

Senator VITTER. Thank you, Mr. Chairman, and thank you, Mr. Chairman, for being here.

My top concern is actually exactly the same as Ms. Warren's, and I think that is a statement in and of itself that there is growing bipartisan concern across the whole political spectrum about the fact—I believe it is a fact—that too big to fail is alive and well.

First of all, in terms of the study, Ms. Warren cited the Bloomberg calculations, but that is clearly not the only thing out there. There is an FDIC study released in September that concludes that, quote, "The largest banks do, in fact, pay less for comparable deposits. Furthermore, we show that some of the difference in the cost of funding cannot be attributed to either differences in balance sheet risk or any non- risk-related factors. The remaining unexplained risk premium gap is on the order of 45 basis points. Such a gap is consistent with an economically significant too big to fail subsidy paid to the largest banks," close quote.

In addition, an IMF working paper has attempted to quantify this subsidy and it said the subsidy, quote, "was already sizable, 60 basis points, as of the end of 2007, before the crisis. It increased to 80 basis points by the end of 2009," close quote.

Then we have the Bloomberg quantification which was working off that IMF work that was mentioned, and also a Board member, Daniel Tarullo, who says, quote, "To the extent that a growing systemic footprint increases perceptions of at least some residual too big to fail quality in such a firm, notwithstanding the panoply of measures in Dodd-Frank and our regulations, there may be funding advantages for the firm which reinforces the impulse to grow," close quote.

So my first point is it is not just one outlier study. Given all of that, what specifically is in process in terms of regulations or should be put in process to counteract that, because my concern is even if this problem is solved 2 years from now, the entire landscape of American banking will be different by then, including a lot of solid smaller firms gone, and I think that is a real loss to our financial system.

Mr. BERNANKE. There is a three-part plan under Dodd-Frank. Part number one is to impose costs on large institutions that offset the benefits they get in the funding markets, for example, capital surcharges, activity restrictions, liquidity requirements, living wills, a whole bunch of other things that impose greater cost and force the largest firms to take into account their systemic footprint. That is number one.

Number two is the orderly liquidation authority, which we are working closely with the FDIC and with our foreign counterparts to figure out how we would take down a large institution without bringing down the system.

And part three is a whole raft of measures to try to strengthen the overall financial system so that it would be more credible that we could take down a large institution without bringing down the system.

That is sort of the three-part plan. It is working to some extent. For example, even though U.S. banks are stronger financially than European banks. Frequently, U.S. banks have wider credit default swap spreads, indicating a higher probability of actual failure, because the differences between U.S. and Europe in terms of Government—perceived Government support. So that is the process. That is the plan.

There have been additional ideas, such as, essentially reinstating Glass-Steagall, separating the commercial banking and investment banking activities. We are doing that to some extent, for example,

with the Volcker Rule, but I do not think that Glass-Steagall by itself really would be all that helpful because, after all, in the crisis, some of the firms that failed were straight investment banks and some of the firms that were in trouble were straight commercial banks.

So I am open to discussing additional measures, but the plan is to impose costs on the largest banks to make them internalize their systemic imprint, to develop a liquidation authority, and to strengthen the overall system. And over time, that ought to improve the situation, but if it does not, I think we ought to consider alternative and additional steps.

Senator VITTER. Well, in closing, I would really continue to encourage you all doing that now. And again, I think this is a bipartisan concern. I have expressed this concern and several ideas, for instance, with Senator Brown on the Committee.

The three components you described are understood by the market. In my opinion, they have been digested and valued by the market and the market still says there is too big to fail. In particular, I would continue to urge you to revisit higher capital requirements beyond the marginally higher requirements that you have instituted so far for megabanks and I would continue to urge you all to think of alternatives to Basel III, as well, in the same spirit. Thank you.

Mr. BERNANKE. Thank you, Senator.

Chairman JOHNSON. Senator Manchin.

Senator MANCHIN. Mr. Chairman, thank you.

Chairman Bernanke, thank you for being here.

First of all, when I first came to the Senate 2½ years ago, I was in the Armed Services Committee and Admiral Mullins at that time was asked, what is the greatest threat the United States faces, and I thought I would hear some military challenge. And he did not even hesitate by saying that the debt of this Nation is our greatest threat, and I did not know if you shared that same thought.

Mr. BERNANKE. It is certainly an important economic risk and I think it is very important that, over the longer term, that we develop a sustainable fiscal plan, no question about it.

Senator MANCHIN. I mean, his assessment was it was the greatest threat we faced.

Mr. BERNANKE. I do not know. There are many possible candidates for that.

Senator MANCHIN. Also, I know they talked a lot about sequestering today, and we were talking back and forth the consequences if we do and if we do not. The bottom line, sequestering came into being because in 2011, the summer of 2011, we thought we put a supercommittee together that had a goal of $1.5 trillion. If they did not reach that goal, they had a minimum penalty of $1.2 trillion across the board in defense and nondefense. We voted on that as a body. Now, we are looking for every way to get out of that, saying it was too draconian. We should never have done it.

But we did it. And what we were saying is if we do not do it at all and negate that responsibility and promise of a vote that we made for the public, what effect would that have on the market? I know I have heard everything about the effects that it would

have if we do it. What effects would it have on the market if we do not do it?

Mr. BERNANKE. Well, my recommendation, and, of course, I can only recommend to you——

Senator MANCHIN. Sure. I agree.

Mr. BERNANKE. ——it is obviously Congress's decision how to proceed—is a two-part recommendation. Look at both the short run and the long run. I think it is true that just canceling the sequester would not solve the overall problem——

Senator MANCHIN. No——

Mr. BERNANKE. ——which is the long-term fiscal issue. So if you cut the sequester or delay it, however you modify it——

Senator MANCHIN. Right.

Mr. BERNANKE. ——you ought to compensate for that with, in my recommendation, by looking at measures that address the longer-term fiscal concerns, which is what the CBO shows to be the point where the debt really begins to explode. And that is the trade-off I would suggest.

Senator MANCHIN. It would be irresponsible for us not to do something. We have two alternatives, two paths to take here. Either fix the financial problems in a longer-term, bigger fix, or do something with sequestering that we punished ourself basically because we have been unable as a body to come together. So I think that was also said. If we are going to do a sequestering, should it not be done in a more or smarter way to where there is more flexibility?

Mr. BERNANKE. Well, as you point out, it was done to be sort of like Dr. Strangelove——

Senator MANCHIN. Right. Right.

Mr. BERNANKE. ——you know, the bomb that goes off. So obviously, if you can find a way to, in a bipartisan way, to make it more effective and better prioritized, that would be a good thing.

Senator MANCHIN. OK.

Mr. BERNANKE. And people disagree on the second point, but again, what I suggested today is trying to make some tradeoff between the effects on the near-term recovery and aligning the policy with the timing. The timing says that you have made progress in the very near term as far as the budget is concerned. Where the problem still remains unaddressed is in the longer term. And so it does not quite match to be doing tough policies today when the real problem is a somewhat longer-term problem.

Senator MANCHIN. Sure.

Mr. BERNANKE. That is what I am trying to suggest.

Senator MANCHIN. Well, I am just saying that there are a lot of us concerned about we keep kicking the can down the road, but that is a whole another conversation.

My final question would be, sir, how big is our national debt?

Mr. BERNANKE. Well, there are a lot of different measures of it. The——

Senator MANCHIN. What would be your explanation of it?

Mr. BERNANKE. Well, the basic measure, which is the debt held by the public, which includes the debt held by the Fed, it is about $11 trillion——

Senator MANCHIN. Right.

Mr. BERNANKE. ——about 75 or 73 percent of GDP.

Senator MANCHIN. Correct.

Mr. BERNANKE. That does not include, though, for example, so-called unfunded liabilities, such as the promises that have been made to future Medicare recipients, for example——

Senator MANCHIN. Well, the average person would understand that they have a responsibility and their ability to pay back in good faith. So how much of what is our total national debt that is responsible by the good faith of this country and the people in this country?

Mr. BERNANKE. It is currently about $11 trillion.

Senator MANCHIN. OK, but if you had everything when you—our gross Federal debt?

Mr. BERNANKE. Gross Federal debt includes debt owed by parts of the Government to other parts of the Government, like the Social Security Trust Fund, for example——

Senator MANCHIN. Responsibilities of Fannie and Freddie?

Mr. BERNANKE. So that is another element. That is guarantees. That is not direct debt. That is a potential liability. So it is complicated.

Senator MANCHIN. Yes.

Mr. BERNANKE. As I said at the beginning, it is hard to——

Senator MANCHIN. If you looked at all of the——

Mr. BERNANKE. ——get a single number.

Senator MANCHIN. ——the worst case scenario, the faith and full credit of this country, what would you say it would be?

Mr. BERNANKE. Well, I saw the article I think you are referring to and it included the possibility that——

Senator MANCHIN. Is it accurate?

Mr. BERNANKE. It included the possibility that the Government would have to pay off every deposit in the United States through the FDIC——

Senator MANCHIN. Yes.

Mr. BERNANKE. ——which is not a realistic possibility. There are some alternative measures which are certainly bigger than $11 trillion——

Senator MANCHIN. I think they were saying——

Mr. BERNANKE. ——but I do not have those numbers——

Senator MANCHIN. They said as much as $30 trillion it could be, total exposure.

Mr. BERNANKE. If you include all of the Medicare and——

Senator MANCHIN. But it is definitely higher than $16 trillion.

Mr. BERNANKE. Yes, I would say that is fair.

Senator MANCHIN. Thank you.

Chairman JOHNSON. There is a vote pending, but does the Senator from Tennessee care to make a brief——

Senator CORKER. Just one very quick question, and I was interested—I went back to the office and did not expect to come back, but listening to the exchange with Senator Warren and Senator Vitter, it reminded me of—the questioning was Tarullo, who was in last, who you served with on the Fed Board, and just—he had mentioned—I asked him about systemic risk, and I know that the Fed is obviously a member of the FSOC and your goal is to identify systemic risk and deal with that. And that was much like the an-

swer that you gave to Senator Warren a minute ago. It is kind of, we are on this journey.

But I would ask the question. Is there any entity in our country that if it failed would create systemic risk, and if so, why is that still the case after the creation of Dodd-Frank? I mean, why have we not moved more quickly? Why are we taking so long on this journey? And is there an institution that if it failed would pose systemic risk to our country? And if so, would you identify it?

Mr. BERNANKE. The only answer I can give you is that Dodd-Frank is a complicated bill. Many of the rules are not——

Senator CORKER. But that piece of it is not very complicated. It is only about eight words, and so that is not complicated. It is a directive to you, and you are a big part of this and you came out a big winner in Dodd-Frank. And I guess I would just ask the question, why would you not go ahead and identify that, and if there is an entity that is in our Nation, if it failed, something that poses systemic risk, you would know that. Why do we not go ahead and move to deal with that?

Mr. BERNANKE. Well, the FSOC actually has the authority to designate nonbank firms that it views as systemic and they come under the oversight of the Fed.

Senator CORKER. Well, let me ask you, if we have firms, though, are we going to—is it your thought that under this power that you have been given, is it your thought that we could continue to have firms operating in our country that if they failed, they would pose systemic risk, or are we going to try to mitigate that in some other way? I would just be curious.

Mr. BERNANKE. The goal of the powers that you gave to the Fed and other agencies is to, as much as possible, eliminate that problem over time. Additional steps, I think, would require Congressional action beyond what we have implemented.

Senator CORKER. I do not think so. I am going to follow up with a letter. I thank you for your testimony——

Mr. BERNANKE. Sure.

Senator CORKER. And I do not think that is the case.

Chairman JOHNSON. Thank you again, Chairman Bernanke, for your testimony and for being here with us today.

This hearing is adjourned.

[Whereupon, at 12:10 p.m., the hearing was adjourned.]

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

PREPARED STATEMENT OF CHAIRMAN TIM JOHNSON

The Committee will come to order.

Today's hearing is with Chairman Bernanke on the Federal Reserve's Monetary Policy Report to Congress. While progress toward maximum employment has been slow, it has been positive and steady thanks in part to the Fed's thoughtful and well-measured monetary actions. Our economy has added private sector jobs for 35 straight months. During that time, over 6 million new jobs have been created, but we should not sacrifice those gains by slamming on the brakes now.

Without a fix, automatic spending cuts will take effect in just a few days, and could send our economy into reverse at a time we should continue moving forward on creating jobs. Projections suggest the sequester will cost us 750,000 jobs this year. In addition to layoffs for cops, fire fighters, and teachers that could devastate our communities, these cuts will impact many of our Nation's most vulnerable citizens including children, seniors, and the disabled. At a time when the U.S. faces an array of national security threats, the sequester will affect our military readiness.

It is unacceptable that we are lurching from one manufactured crisis to the next, and Americans have had enough. These fights are bad for the economy and are making it harder for families to make ends meet.

The steep drops in consumer confidence during the fights over the debt limit and the fiscal cliff rival the fallout after Lehman Brothers' failure and 9/11. This has consequences. If consumers do not spend, businesses will not prosper and hire more workers. If businesses are not hiring, our economy will not grow. It is that simple.

We must do all we can to restore confidence in not only our financial system, but also in our ability as a country to tackle long-term challenges in a responsible, bipartisan manner. In addition to Congress acting on a deficit reduction plan that is balanced and promotes job creation, there are things this Committee can do to help achieve these goals. From rigorous oversight, to confirming well-qualified nominees, to reauthorizing expiring laws, to reaching consensus on the future of housing finance, there are steps this Committee can take to promote consumer confidence, provide businesses clarity to move forward with long-term plans, and strengthen our economic recovery.

Chairman Bernanke, I look forward to hearing your views as both the Fed and the Congress pursue policies supporting our Nation's economic recovery.

PREPARED STATEMENT OF BEN S. BERNANKE

CHAIRMAN, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

FEBRUARY 26, 2013

Chairman Johnson, Ranking Member Crapo, and other Members of the Committee, I am pleased to present the Federal Reserve's Semiannual Monetary Policy Report. I will begin with a short summary of current economic conditions and then discuss aspects of monetary and fiscal policy.

Current Economic Conditions

Since I last reported to this Committee in mid-2012, economic activity in the United States has continued to expand at a moderate if somewhat uneven pace. In particular, real gross domestic product (GDP) is estimated to have risen at an annual rate of about 3 percent in the third quarter but to have been essentially flat in the fourth quarter.[1] The pause in real GDP growth last quarter does not appear to reflect a stalling-out of the recovery. Rather, economic activity was temporarily restrained by weather-related disruptions and by transitory declines in a few volatile categories of spending, even as demand by U.S. households and businesses continued to expand. Available information suggests that economic growth has picked up again this year.

Consistent with the moderate pace of economic growth, conditions in the labor market have been improving gradually. Since July, nonfarm payroll employment has increased by 175,000 jobs per month on average, and the unemployment rate declined 0.3 percentage point to 7.9 percent over the same period. Cumulatively, private-sector payrolls have now grown by about 6.1 million jobs since their low point in early 2010, and the unemployment rate has fallen a bit more than 2 percentage points since its cyclical peak in late 2009. Despite these gains, however, the job market remains generally weak, with the unemployment rate well above its longer-run

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[1] Data for the fourth quarter of 2012 from the national income and product accounts reflect the advance estimate released on January 30, 2013.

normal level. About 4.7 million of the unemployed have been without a job for 6 months or more, and millions more would like full-time employment but are able to find only part-time work. High unemployment has substantial costs, including not only the hardship faced by the unemployed and their families, but also the harm done to the vitality and productive potential of our economy as a whole. Lengthy periods of unemployment and underemployment can erode workers' skills and attachment to the labor force or prevent young people from gaining skills and experience in the first place—developments that could significantly reduce their productivity and earnings in the longer term. The loss of output and earnings associated with high unemployment also reduces Government revenues and increases spending, thereby leading to larger deficits and higher levels of debt.

The recent increase in gasoline prices, which reflects both higher crude oil prices and wider refining margins, is hitting family budgets. However, overall inflation remains low. Over the second half of 2012, the price index for personal consumption expenditures rose at an annual rate of 1½ percent, similar to the rate of increase in the first half of the year. Measures of longer-term inflation expectations have remained in the narrow ranges seen over the past several years. Against this backdrop, the Federal Open Market Committee (FOMC) anticipates that inflation over the medium term likely will run at or below its 2 percent objective.

Monetary Policy

With unemployment well above normal levels and inflation subdued, progress toward the Federal Reserve's mandated objectives of maximum employment and price stability has required a highly accommodative monetary policy. Under normal circumstances, policy accommodation would be provided through reductions in the FOMC's target for the Federal funds rate—the interest rate on overnight loans between banks. However, as this rate has been close to zero since December 2008, the Federal Reserve has had to use alternative policy tools.

These alternative tools have fallen into two categories. The first is "forward guidance" regarding the FOMC's anticipated path for the Federal funds rate. Since longer-term interest rates reflect market expectations for shorter-term rates over time, our guidance influences longer-term rates and thus supports a stronger recovery. The formulation of this guidance has evolved over time. Between August 2011 and December 2012, the Committee used calendar dates to indicate how long it expected economic conditions to warrant exceptionally low levels for the Federal funds rate. At its December 2012 meeting, the FOMC agreed to shift to providing more explicit guidance on how it expects the policy rate to respond to economic developments. Specifically, the December postmeeting statement indicated that the current exceptionally low range for the Federal funds rate "will be appropriate at least as long as the unemployment rate remains above 6½ percent, inflation between 1 and 2 years ahead is projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored."[2] An advantage of the new formulation, relative to the previous date-based guidance, is that it allows market participants and the public to update their monetary policy expectations more accurately in response to new information about the economic outlook. The new guidance also serves to underscore the Committee's intention to maintain accommodation as long as needed to promote a stronger economic recovery with stable prices.[3]

The second type of nontraditional policy tool employed by the FOMC is large-scale purchases of longer-term securities, which, like our forward guidance, are intended to support economic growth by putting downward pressure on longer-term interest rates. The Federal Reserve has engaged in several rounds of such purchases since late 2008. Last September the FOMC announced that it would purchase agency mortgage-backed securities at a pace of $40 billion per month, and in December the Committee stated that, in addition, beginning in January it would purchase longer-

[2] *See,* Board of Governors of the Federal Reserve System (2012), "Federal Reserve Issues FOMC Statement", press release, December 12, *www.federalreserve.gov/newsevents/press/monetary/20121212a.htm.*

[3] The numerical values for unemployment and inflation included in the guidance are thresholds, not triggers; that is, depending on economic circumstances at the time, the Committee may judge that it is not appropriate to begin raising its target for the Federal funds rate as soon as one or both of the thresholds is reached. The 6½ percent threshold for the unemployment rate should not be interpreted as the Committee's longer-term objective for unemployment; because monetary policy affects the economy with a lag, the first increase in the target for the funds rate will likely have to occur when the unemployment rate is still above its longer-run normal level. Likewise, the Committee has not altered its longer-run goal for inflation of 2 percent, and it neither seeks nor expects a persistent increase in inflation above that target.

term Treasury securities at an initial pace of $45 billion per month.[4] These additional purchases of longer-term Treasury securities replace the purchases we were conducting under our now-completed maturity extension program, which lengthened the maturity of our securities portfolio without increasing its size. The FOMC has indicated that it will continue purchases until it observes a substantial improvement in the outlook for the labor market in a context of price stability.

The Committee also stated that in determining the size, pace, and composition of its asset purchases, it will take appropriate account of their likely efficacy and costs. In other words, as with all of its policy decisions, the Committee continues to assess its program of asset purchases within a cost-benefit framework. In the current economic environment, the benefits of asset purchases, and of policy accommodation more generally, are clear: Monetary policy is providing important support to the recovery while keeping inflation close to the FOMC's 2 percent objective. Notably, keeping longer-term interest rates low has helped spark recovery in the housing market and led to increased sales and production of automobiles and other durable goods. By raising employment and household wealth—for example, through higher home prices—these developments have in turn supported consumer sentiment and spending.

Highly accommodative monetary policy also has several potential costs and risks, which the Committee is monitoring closely. For example, if further expansion of the Federal Reserve's balance sheet were to undermine public confidence in our ability to exit smoothly from our accommodative policies at the appropriate time, inflation expectations could rise, putting the FOMC's price-stability objective at risk. However, the Committee remains confident that it has the tools necessary to tighten monetary policy when the time comes to do so. As I noted, inflation is currently subdued, and inflation expectations appear well anchored; neither the FOMC nor private forecasters are projecting the development of significant inflation pressures.

Another potential cost that the Committee takes very seriously is the possibility that very low interest rates, if maintained for a considerable time, could impair financial stability. For example, portfolio managers dissatisfied with low returns may "reach for yield" by taking on more credit risk, duration risk, or leverage. On the other hand, some risk-taking—such as when an entrepreneur takes out a loan to start a new business or an existing firm expands capacity—is a necessary element of a healthy economic recovery. Moreover, although accommodative monetary policies may increase certain types of risk-taking, in the present circumstances they also serve in some ways to reduce risk in the system, most importantly by strengthening the overall economy, but also by encouraging firms to rely more on longer-term funding, and by reducing debt service costs for households and businesses. In any case, the Federal Reserve is responding actively to financial stability concerns through substantially expanded monitoring of emerging risks in the financial system, an approach to the supervision of financial firms that takes a more systemic perspective, and the ongoing implementation of reforms to make the financial system more transparent and resilient. Although a long period of low rates could encourage excessive risk-taking, and continued close attention to such developments is certainly warranted, to this point we do not see the potential costs of the increased risk-taking in some financial markets as outweighing the benefits of promoting a stronger economic recovery and more-rapid job creation.[5]

Another aspect of the Federal Reserve's policies that has been discussed is their implications for the Federal budget. The Federal Reserve earns substantial interest on the assets it holds in its portfolio, and, other than the amount needed to fund our cost of operations, all net income is remitted to the Treasury. With the expansion of the Federal Reserve's balance sheet, yearly remittances have roughly tripled in recent years, with payments to the Treasury totaling approximately $290 billion between 2009 and 2012.[6] However, if the economy continues to strengthen, as we anticipate, and policy accommodation is accordingly reduced, these remittances would likely decline in coming years. Federal Reserve analysis shows that remittances to the Treasury could be quite low for a time in some scenarios, particularly

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[4] *See,* Board of Governors of the Federal Reserve System (2012), "Federal Reserve Issues FOMC Statement", press release, September 13, *www.federalreserve.gov/newsevents/press/monetary/20120913a.htm;* and Board of Governors, "FOMC Statement", December 12, in n. 2.

[5] The Federal Reserve is also monitoring financial markets to ensure that asset purchases do not impair their functioning.

[6] *See,* Board of Governors of the Federal Reserve System (2013), "Reserve Bank Income and Expense Data and Transfers to the Treasury for 2012", press release, January 10, *www.federalreserve.gov/newsevents/press/other/20130110a.htm.*

if interest rates were to rise quickly.[7] However, even in such scenarios, it is highly likely that average annual remittances over the period affected by the Federal Reserve's purchases will remain higher than the precrisis norm, perhaps substantially so. Moreover, to the extent that monetary policy promotes growth and job creation, the resulting reduction in the Federal deficit would dwarf any variation in the Federal Reserve's remittances to the Treasury.

Thoughts on Fiscal Policy

Although monetary policy is working to promote a more robust recovery, it cannot carry the entire burden of ensuring a speedier return to economic health. The economy's performance both over the near term and in the longer run will depend importantly on the course of fiscal policy. The challenge for the Congress and the Administration is to put the Federal budget on a sustainable long-run path that promotes economic growth and stability without unnecessarily impeding the current recovery.

Significant progress has been made recently toward reducing the Federal budget deficit over the next few years. The projections released earlier this month by the Congressional Budget Office (CBO) indicate that, under current law, the Federal deficit will narrow from 7 percent of GDP last year to 2½ percent in fiscal year 2015.[8] As a result, the Federal debt held by the public (including that held by the Federal Reserve) is projected to remain roughly 75 percent of GDP through much of the current decade.

However, a substantial portion of the recent progress in lowering the deficit has been concentrated in near-term budget changes, which, taken together, could create a significant headwind for the economic recovery. The CBO estimates that deficit-reduction policies in current law will slow the pace of real GDP growth by about 1½ percentage points this year, relative to what it would have been otherwise. A significant portion of this effect is related to the automatic spending sequestration that is scheduled to begin on March 1, which, according to the CBO's estimates, will contribute about 0.6 percentage point to the fiscal drag on economic growth this year. Given the still-moderate underlying pace of economic growth, this additional near-term burden on the recovery is significant. Moreover, besides having adverse effects on jobs and incomes, a slower recovery would lead to less actual deficit reduction in the short run for any given set of fiscal actions.

At the same time, and despite progress in reducing near-term budget deficits, the difficult process of addressing longer-term fiscal imbalances has only begun. Indeed, the CBO projects that the Federal deficit and debt as a percentage of GDP will begin rising again in the latter part of this decade, reflecting in large part the aging of the population and fast-rising health care costs. To promote economic growth in the longer term, and to preserve economic and financial stability, fiscal policy makers will have to put the Federal budget on a sustainable long-run path that first stabilizes the ratio of Federal debt to GDP and, given the current elevated level of debt, eventually places that ratio on a downward trajectory. Between 1960 and the onset of the financial crisis, Federal debt averaged less than 40 percent of GDP. This relatively low level of debt provided the Nation much-needed flexibility to meet the economic challenges of the past few years. Replenishing this fiscal capacity will give future Congresses and Administrations greater scope to deal with unforeseen events.

To address both the near- and longer-term issues, the Congress and the Administration should consider replacing the sharp, frontloaded spending cuts required by the sequestration with policies that reduce the Federal deficit more gradually in the near term but more substantially in the longer run. Such an approach could lessen the near-term fiscal headwinds facing the recovery while more effectively addressing the longer-term imbalances in the Federal budget.

The sizes of deficits and debt matter, of course, but not all tax and spending programs are created equal with respect to their effects on the economy. To the greatest extent possible, in their efforts to achieve sound public finances, fiscal policy makers should not lose sight of the need for Federal tax and spending policies that increase incentives to work and save, encourage investments in workforce skills, advance private capital formation, promote research and development, and provide necessary and productive public infrastructure. Although economic growth alone cannot eliminate Federal budget imbalances, in either the short or longer term, a more rapidly expanding economic pie will ease the difficult choices we face.

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[7] *See,* Carpenter, Seth B., Jane E. Ihrig, Elizabeth C. Klee, Daniel W. Quinn, and Alexander H. Boote (2013), "The Federal Reserve's Balance Sheet and Earnings: A Primer and Projections", Finance and Economics Discussion Series 2013-01 (Washington: Federal Reserve Board, January), available at *http://www.federalreserve.gov/pubs/feds/2013/201301/201301pap.pdf.*

[8] *See,* Congressional Budget Office (2013), "The Budget and Economic Outlook: Fiscal Years 2013 to 2023" (Washington: CBO, February), available at *www.cbo.gov/publication/43907.*

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

Q.1. The United Kingdom has had a Financial Transactions Tax (FTT), in the form of stamp duty on stock purchases, for more than 300 years. It does not seem to have hindered London's financial development. And now 11 European countries are about to impose a new FTT of 10 basis points on trading. They say it will discourage certain kinds of quick in-and-out transactions that benefit traders but not investors—and pull in about $41B in revenue. Today, there is widespread belief in this country that a lot of trading activity is unproductive, and we also have a serious deficit problem. My colleague Senator Tom Harkin has a bill for a FTT that would be 3 basis points and that the Joint Tax Committee has scored at $350 billion in revenue.

Do you think that this tax would succeed at raising revenue while making our stock markets less about flash trading and more about real value investing?

A.1. Existing studies present mixed evidence on the net effect of FTTs on revenues. A 2011 European Commission working paper presents evidence that, despite a relatively low tax rate, the U.K. stamp duty has generated substantial revenue over the last decade. However, a different academic study found that when Sweden implemented an FTT in the 1980s, the country experienced a net loss in revenue as investors, in an effort to avoid the tax, moved trades offshore.

While an FTT likely would discourage high frequency trading in financial markets that are subject to the tax, studies of the effect of FTTs on asset market price volatility show mixed results. One study by staff at the International Monetary Fund found that FTTs are associated with an increase in volatility, possibly resulting from lower trading volume and reduced liquidity caused by FTTs. Another study of the U.K. stamp tax found no significant effect of the tax on the volatility of U.K. equity prices, though intermediaries like broker-dealers are exempt from the U.K. stamp duty (but would not be under the European FTT). A study by Federal Reserve staff of the 2010 U.S. "flash crash," a day in which U.S. equity markets exhibited extremely high volatility, found that although high frequency trading did not cause or prevent the "flash crash," it did exacerbate volatility on that day. [1]

Further considerations of the FTT may include its impact on market efficiency, security valuation, and the cost of capital for corporations. Some academic studies have suggested that if FTTs result in reduced trading volume and diminished market liquidity, then they may hamper the price discovery process in financial markets, so that asset prices are less able to quickly reflect changes in economic and financial market conditions. Other studies have found that the implementation of FTTs is associated with lower equity prices, and thus higher costs of capital for domestic firms, which may discourage investment.

[1] Kirilenko, Andrei A., Kyle, Albert S., Samadi, Mehrdad, and Tuzun, Tugkan, "The Flash Crash", *The Impact of High Frequency Trading on an Electronic Market* (May 26, 2011). Available at SSNR: *http://ssrn.com/abstract=1686004* or *http://dx.doi.org/10.2139/ssrn.1686004.*

Q.2. What do you think the impact will be on the markets of the FTT taking affect across Europe?

A.2. The impact is very difficult to assess at this stage. The FTT proposal is still at a relatively early stage, with many important details yet to be determined, and the details matter to its impact. Moreover, as noted previously, existing evidence about the impact of FTTs is inconclusive.

As with any tax, market participants will try to avoid it, and in the case of trading may try to do so by locating their trading activity elsewhere in the world. Their ability and willingness to do so is likely to depend greatly on the details of the tax and on the details of transaction taxes in other jurisdictions. At the margin, trading activity is likely to migrate to jurisdictions without such taxes, especially in the case of over-the-counter trading that does not require an exchange.

Q.3. It has been exactly a century since Congress designed the Fed structure that is still to a large extent in place today, and a lot of people might be surprised to know that bankers get to select the Class A and Class B boards of directors of the regional Federal Reserve banks. That means, of course, that oftentimes they select themselves. So, for example, when the New York Federal Reserve Bank played a central role in the 2008 bank bailouts, it had big bank CEOs on its boards at that time. There are real advantages of Federal Reserve officials consulting with banks to understand what is going on, but, at the same time, a lot of people worry about the influence the biggest banks have on our Government.

Do you think it still makes sense for bank executives to be able to select Class A and Class B directors at the regional Feds?

A.3. Congress designed the structure of the Federal Reserve System to give it a broad perspective on the economy and on economic activity in all parts of the Nation and to provide the Reserve Banks, as the operational arms of the central bank, with banking experience on their boards of directors. The public–private structure of a Government agency composed of presidentially appointed and Senate-confirmed members that oversee 12 banks with stock ownership and some directors chosen by member banks also allowed Congress to fund the Federal Reserve System with capital paid-in by member banks rather than the taxpayer. Congress chose also to include a two-thirds majority of representatives of other parts of the economy, including representatives from agriculture, commerce, industry, services, labor, and consumers, including three nonbankers chosen by the Board of Governors.

The Federal Reserve recognizes the potential conflicts of interest that could arise from the statutory requirement that the boards of directors of Reserve Banks be comprised of the presence of bankers and other private citizens. As a result, the Federal Reserve has long had policies in place that prevent members of the Reserve Bank boards of directors (from any class of directors) from participating in any lending decisions involving the discount window or an emergency credit facility, having access to confidential supervisory information, or participating in setting regulatory or supervisory policies.

The GAO, in its Report No. 12-18 regarding Federal Reserve Bank governance, confirmed that the Federal Reserve has policies in place that are effective in addressing these conflicts of interest. The GAO also noted in that report that, in choosing Class C directors, the Federal Reserve Board makes it a priority to encourage selection of directors that represent broad and diverse perspectives.

Q.4. What would be the advantages and disadvantages of Congress taking action to make the regional Fed boards more independent of the bankers they regulate?

A.4. As explained above, the Federal Reserve has taken important steps to ensure that the boards of directors of Reserve Banks are not involved in supervision or regulation of banking entities. Moreover, Congress in the Dodd-Frank Act reinforced these policies by eliminating the role of Class A directors in the selection of the Reserve Bank presidents. The GAO recognized that the Federal Reserve Board and Reserve Banks have been sensitive to avoid both potential and perceived conflicts of interest associated with a statutorily mandated governance structure that includes bankers on the boards of Reserve Banks. For example, the report confirmed that Reserve Bank directors are not involved in supervision and regulation activities, such as examinations and enforcement actions. The GAO also confirmed that Reserve Bank directors took no part in approving loans extended to banks through the discount window or other emergency liquidity facilities, and that institutions with representatives on Reserve Bank boards were not given special treatment at the discount window or at emergency liquidity facilities.

The Federal Reserve Board believes that representation on Reserve Bank boards of directors by local bankers, as well as participants in other aspects of the real economy helps provide a broad perspective on the economy in various Reserve Bank districts. Reducing this avenue of information would weaken that insight without providing any significant advantage to Federal Reserve supervision or regulation of banks.

Q.5. In the wake of *Canning v. NLRB,* some commentators have questioned whether CFPB Director Rich Cordray's recess appointment in 2011 was a valid use of the President's executive powers. While there is abundant evidence that Director Cordray's appointment was valid and that assertions to the contrary are based on flawed legal reasoning, the ongoing assault on the President's attempts to nominate a Director to the CFPB has nonetheless created additional anxiety in the marketplace. In particular, some commentators have argued that, if the Director's recess appointment was invalid, then the CFPB's recently issued mortgage rules are also invalid, and thus various Dodd-Frank default mortgage requirements in Title IV were instead operative as of January 21, 2013. While I disagree strongly with that view, some have expressed concern that many financial institutions would be out of compliance with the law if the Dodd-Frank rules are in fact in effect.

Can you reassure investors or others who are concerned about mortgage issuers' potential legal exposure from noncompliance with the Dodd-Frank automatic rules that the risks are not sufficient to

pose a safety and soundness threat to individual banks or systemic threat to the economy?

A.5. We expect banking organizations and other entities that are subject to oversight by the prudential regulators to assess the legal and other applicable risks in connection with their mortgage lending activities and to properly manage these risks, which includes using prudent underwriting standards. It is not clear how courts might eventually rule in determining whether the Dodd-Frank Act's default effective date applies, or the potential liabilities that might stem from any court decision.

Q.6. What do you believe is the cost to the ongoing uncertainty about CFPB's future?

A.6. The Federal Reserve has not conducted any qualitative or quantitative analysis regarding the cost of any uncertainty about the CFPB's future and thus has no estimates as to any such cost.

Q.7. Has the Federal Reserve conducted any analysis regarding the ongoing cost of uncertainty about CFPB's future? If so, can you share it with the Committee?

A.7. Please see response for [Question 6].

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

Q.1. Are there any individual financial institutions whose failure would pose a systemic risk to the United States? Are there currently any financial institutions so large or so complex that their failure would threaten the financial stability of the United States? If so, how do you plan to resolve this issue?

A.1. The Dodd-Frank Act contemplates three types of financial institution whose failure could potentially pose a systemic risk to the United States. These include bank holding companies with greater than $50 billion in assets, nonbank financial companies designated by the Financial Stability Oversight Council ("FSOC" or "Council"), and financial market utilities (FMUs) designated by the Council. In accordance with the Dodd-Frank Act, the Federal Reserve has developed enhanced prudential standards under Section 165 and 166 to reduce the risk posed by the first two of these categories of institutions, including regular stress tests, capital requirements, counterparty credit limits, and more. Bank holding companies with $50 billion or greater in assets have been identified and are subject to these standards. In addition, the Council has issued a final rule and interpretive guidance pursuant to which the Council is considering nonbank financial companies for designation. The Council also designated eight FMUs under its Dodd-Frank authority, and those firms are now subject to the enhanced standards issued by the relevant supervisory agencies, including the Federal Reserve.

As a supervisory agency, the Federal Reserve has also instituted a merger screen that considers the financial stability implications of mergers or acquisitions proposed by its largest firms, and, as a member of the Basel Committee on Banking Supervision and the Financial Stability Board, has supported additional capital requirements for firms that are found to be systemically important internationally. While these measures have not eliminated the risk

posed by these firms, measures such as the capital requirements and surcharges on the largest financial institutions will help to equalize their cost of funding with other banks and make them safer so that the risk of their failure is more limited.

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

Q.1. Mr. Chairman, as you know, numerous Senators have weighed in with the Board of Governors that, in enacting Dodd-Frank, Congress intended to utilize State-risk based capital rules governing capital for insurance-based SLHCs. As you have heard in your recent appearances before the House Financial Services and Senate Banking Committees, many of us remain deeply troubled by the Federal Reserve's insistence in applying bank-centric standards to such companies. In particular, Senator Collins has written to you pointing out that "it was not Congress' intent that Federal regulators supplant prudential State-based insurance regulation with a bank-centric capital regime." In your recent appearance before the House Financial Services Committee, however, you indicated the Board of Governors was constrained by the Collins Amendment in addressing the insurance-banking distinction.

Given that the statute does not preclude utilizing insurance capital standards to satisfy minimum capital requirements that are equivalent to Basel standards, and that congressional intent is now clear on permitting the use of such insurance standards, will the Board continue to insist that the Collins Amendment mandates the use of bank-centric standards for insurance-based SLHCs and grants the Board no flexibility or discretion in this area? If so, could you provide the legal rationale as to why the Board of Governors believes it has no such flexibility and discretion?

A.1. Section 171 of the Dodd-Frank Act, by its terms, requires the appropriate Federal banking agencies to establish minimum capital requirements for bank holding companies (BHCs) and savings and loan holding companies (SLHCs) that "shall not be less than" "nor quantitatively lower than" the generally applicable capital requirements for insured depository institutions. Section 171 does not contain an exception from these requirements for an insurance company that is a BHC or an SLHC, or for a BHC or an SLHC that controls an insurance company.

To allow the Board an additional opportunity to consider prudent approaches to establish capital requirements for SLHCs that engage substantially in insurance activities within the requirements of the terms of section 171, the Board, on July 2, 2013, determined to defer application of the new Basel III capital framework to SLHCs with significant insurance activities (i.e., those with more than 25 percent of their assets derived from insurance underwriting activities other than credit insurance) and to SLHCs that are themselves state regulated insurance companies. After considering the concerns raised by commenters regarding the proposed application of the proposed regulatory capital rules to SLHCs with significant insurance activities, the Board concluded that it would be appropriate to take additional time to evaluate the appropriate capital requirements for these companies in light of their business

models and risks. Among other issues, commenters argued that the final capital rules should take into account insurance company liabilities and asset-liability matching practices, the risks associated with separate accounts, the interaction of consolidated capital requirements with the capital requirements of State insurance regulators, and differences in accounting practices for banks and insurance companies. The Board is carefully considering these issues in determining how to move forward in developing a capital framework for these SLHCs, consistent with section 171 of the Dodd-Frank Act.

ADDITIONAL MATERIAL SUPPLIED FOR THE RECORD

LETTER OF TRANSMITTAL

BOARD OF GOVERNORS OF THE
FEDERAL RESERVE SYSTEM

Washington, D.C., February 26, 2013

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

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

Sincerely,

Ben Bernanke, Chairman

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Summary

The U.S. economy continued to expand at a moderate rate, on average, over the second half of 2012. The housing recovery appeared to gain additional traction, consumer spending rose moderately, and business investment advanced further. Financial conditions eased over the period but credit remained tight for many households and businesses, and concerns about the course of federal fiscal policy and the ongoing European situation likely restrained private-sector demand. In addition, total government purchases continued to move lower in an environment of budget restraint, while export growth was held back by slow foreign economic growth. All told, real gross domestic product (GDP) is estimated to have increased at an average annual rate of 1½ percent in the second half of the year, similar to the pace in the first half.

Conditions in the labor market gradually improved. Employment increased at an average monthly pace of 175,000 in the second half of the year, about the same as in the first half. The unemployment rate moved down from 8¼ percent last summer to a little below 8 percent in January. Even so, the unemployment rate was still well above levels observed prior to the recent recession. Moreover, it remained the case that a large share of the unemployed had been out of work for more than six months, and that a significant portion of the employed had part-time jobs because they were unable to find full-time employment. Meanwhile, consumer price inflation remained subdued amid stable long-term inflation expectations and persistent slack in labor markets. Over the second half of the year, the price index for personal consumption expenditures increased at an annual rate of 1½ percent.

During the summer and fall, the Federal Open Market Committee (FOMC) judged that the economic recovery would strengthen only gradually over time, as some of the factors restraining activity—including restrictive credit for some borrowers, continuing concerns about the domestic and international economic environments, and the ongoing shift toward tighter federal fiscal policy—were thought likely to recede only slowly. Moreover, the Committee judged that the possibility of an escalation of the financial crisis in Europe and uncertainty about the course of fiscal policy in the United States posed significant downside risks to the outlook for economic activity. However, the Committee expected that, with appropriate monetary accommodation, economic growth would proceed at a moderate pace, with the unemployment rate gradually declining toward levels consistent with the FOMC's dual mandate of maximum employment and price stability. Against this backdrop, and with long-run inflation expectations well anchored, the FOMC projected that inflation would remain at or below the rate consistent with the Committee's dual mandate.

Accordingly, to promote its objectives, the FOMC provided additional monetary accommodation during the second half of 2012 by both strengthening its forward guidance regarding the federal funds rate and initiating additional asset purchases. In September, the Committee announced that it would continue its program to extend the average maturity of its Treasury holdings and would begin purchasing additional agency-guaranteed mortgage-backed securities (MBS) at a pace of $40 billion per month. The Committee also stated its intention to continue its purchases of agency MBS, undertake additional asset purchases, and employ its other policy tools as appropriate until the outlook for the labor market improves substantially in a context of price stability. The Committee agreed that in determining the size, pace, and composition of its asset purchases,

it would, as always, take account of the likely efficacy and costs of such purchases. The Committee also modified its forward guidance regarding the federal funds rate at the September meeting, noting that exceptionally low levels for the federal funds rate were likely to be warranted at least through mid-2015, longer than had been indicated in previous FOMC statements. Moreover, the Committee stated its expectation that a highly accommodative stance of monetary policy would remain appropriate for a considerable time after the economic recovery strengthens.

In December, the Committee announced that in addition to continuing its purchases of agency MBS, it would purchase longer-term Treasury securities, initially at a pace of $45 billion per month, starting after the completion at the end of the year of its program to extend the maturity of its Treasury holdings. It also further modified its forward rate guidance, replacing the earlier date-based guidance with numerical thresholds for the unemployment rate and projected inflation. In particular, the Committee indicated that it expected the exceptionally low range for the federal funds rate would remain appropriate at least as long as the unemployment rate remains above 6½ percent, inflation between one and two years ahead is projected to be no more than ½ percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored.

Partly in response to this additional monetary accommodation, as well as to improved sentiment regarding the situation in Europe, broad financial conditions eased over the second half of 2012. Although yields on nominal Treasury securities rose, on net, yields on inflation-protected Treasury securities declined, and longer-term interest rates paid by households and firms generally fell. Yields on agency MBS and investment- and speculative-grade corporate bonds touched record lows, and broad equity price indexes rose. Conditions in short-term dollar funding markets eased over the summer and remained stable thereafter, and market sentiment toward the banking industry improved. Nonetheless, credit remained tight for borrowers with lower credit scores, and borrowing conditions for small businesses continued to improve more gradually than for large firms.

At the time of the most recent FOMC meeting in January, Committee participants saw the economic outlook as little changed or modestly improved from the time of their December meeting, when the most recent Summary of Economic Projections (SEP) was compiled. (The December SEP is included as Part 3 of this report.) Participants generally judged that strains in global financial markets had eased somewhat, and that the downside risks to the economic outlook had lessened. Under the assumption of appropriate monetary policy—that is, policy consistent with the Committee's Statement on Longer-Run Goals and Monetary Policy Strategy (see box)—FOMC participants expected the economy to expand at a moderate pace, with the unemployment rate gradually declining and inflation remaining at or below the Committee's 2 percent longer-run goal.

Statement on Longer-Run Goals and Monetary Policy Strategy

As amended effective on January 29, 2013

The Federal Open Market Committee (FOMC) is firmly committed to fulfilling its statutory mandate from the Congress of promoting maximum employment, stable prices, and moderate long-term interest rates. The Committee seeks to explain its monetary policy decisions to the public as clearly as possible. Such clarity facilitates well-informed decisionmaking by households and businesses, reduces economic and financial uncertainty, increases the effectiveness of monetary policy, and enhances transparency and accountability, which are essential in a democratic society.

Inflation, employment, and long-term interest rates fluctuate over time in response to economic and financial disturbances. Moreover, monetary policy actions tend to influence economic activity and prices with a lag. Therefore, the Committee's policy decisions reflect its longer-run goals, its medium-term outlook, and its assessments of the balance of risks, including risks to the financial system that could impede the attainment of the Committee's goals.

The inflation rate over the longer run is primarily determined by monetary policy, and hence the Committee has the ability to specify a longer-run goal for inflation. The Committee judges that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. Communicating this inflation goal clearly to the public helps keep longer-term inflation expectations firmly anchored, thereby fostering price stability and moderate long-term interest rates and enhancing the Committee's ability to promote maximum employment in the face of significant economic disturbances.

The maximum level of employment is largely determined by nonmonetary factors that affect the structure and dynamics of the labor market. These factors may change over time and may not be directly measurable. Consequently, it would not be appropriate to specify a fixed goal for employment; rather, the Committee's policy decisions must be informed by assessments of the maximum level of employment, recognizing that such assessments are necessarily uncertain and subject to revision. The Committee considers a wide range of indicators in making these assessments. Information about Committee participants' estimates of the longer-run normal rates of output growth and unemployment is published four times per year in the FOMC's Summary of Economic Projections. For example, in the most recent projections, FOMC participants' estimates of the longer-run normal rate of unemployment had a central tendency of 5.2 percent to 6.0 percent, unchanged from one year ago but substantially higher than the corresponding interval several years earlier.

In setting monetary policy, the Committee seeks to mitigate deviations of inflation from its longer-run goal and deviations of employment from the Committee's assessments of its maximum level. These objectives are generally complementary. However, under circumstances in which the Committee judges that the objectives are not complementary, it follows a balanced approach in promoting them, taking into account the magnitude of the deviations and the potentially different time horizons over which employment and inflation are projected to return to levels judged consistent with its mandate.

The Committee intends to reaffirm these principles and to make adjustments as appropriate at its annual organizational meeting each January.

Part 1
Recent Economic and Financial Developments

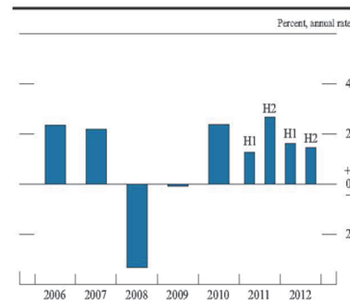
Real gross domestic product (GDP) increased at a moderate annual rate of 1½ percent, on average, in the second half of 2012—similar to the rate of increase in the first half—as various headwinds continued to restrain growth. Financial conditions eased over the second half in response to the additional monetary accommodation provided by the Federal Open Market Committee (FOMC) and to improved sentiment regarding the crisis in Europe. However, credit availability remained tight for many households and businesses. In addition, declines in real government purchases continued to weigh on economic activity, as did household and business concerns about the economic outlook, while weak foreign demand restrained exports. In this environment, conditions in the labor market continued to improve gradually but remained weak. At a little under 8 percent in January, the unemployment rate was still well above levels prevailing prior to the recent recession. Inflation remained subdued at the end of last year, with consumer prices rising at about a 1½ percent annual rate in the second half, and measures of longer-run inflation expectations remained in the narrow ranges seen over the past several years.

Domestic Developments

GDP increased moderately but continued to be restrained by various headwinds

Real GDP is estimated to have increased at an annual rate of 3 percent in the third quarter but to have been essentially flat in the fourth, as economic activity was temporarily restrained by weather-related disruptions and declines in some erratic categories of spending, including inventory investment and federal defense spending.[1] On average, real GDP expanded at an annual rate of 1½ percent in the second half of 2012, similar to the pace of increase in the first half of the year (figure 1). The housing recovery gained additional traction, consumer spending continued to increase moderately, and business investment rose further. However, a severe drought in much of the country held down farm production, and disruptions from Hurricane Sandy also likely held back economic activity somewhat in the fourth quarter. More fundamentally, some of the same factors that restrained growth in the first half of last year likely continued to weigh on activity. Although financial conditions continued to

1. Change in real gross domestic product, 2006–12



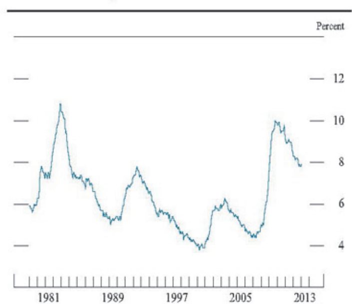
Note: Here and in subsequent figures, except as noted, change for a given period is measured to its final quarter from the final quarter of the preceding period.
Source: Department of Commerce, Bureau of Economic Analysis.

1. Data for the fourth quarter of 2012 from the national income and product accounts reflect the advance estimate released on January 30, 2013.

2. Net change in payroll employment, 2006–13

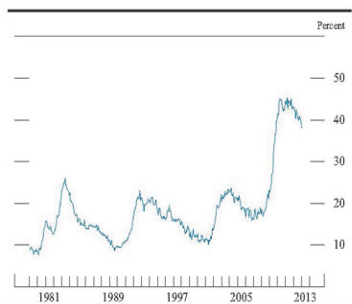
NOTE: The data are three-month moving averages and extend through January 2013.
SOURCE: Department of Labor, Bureau of Labor Statistics.

3. Civilian unemployment rate, 1979–2013



NOTE: The data are monthly and extend through January 2013.
SOURCE: Department of Labor, Bureau of Labor Statistics.

4. Long-term unemployed, 1979–2013



NOTE: The data are monthly and extend through January 2013. The series shown is the percentage of total unemployed persons who have been unemployed for 27 weeks or more.
SOURCE: Department of Labor, Bureau of Labor Statistics.

improve overall, the financial system has not fully recovered from the financial crisis, and banks remained cautious in their lending to many households and businesses. In particular, restricted financing for home mortgages and new-home construction projects, along with the depressing effects on housing demand of an uncertain outlook for house prices and jobs, kept the level of activity in the housing sector well below longer-run norms. Budgetary pressures at all levels of government also continued to weigh on GDP growth. Moreover, businesses and households remained concerned about many aspects of the economic environment, including the uncertain course of U.S. fiscal policy at the turn of the year as well as the still-worrisome European situation and the slow recovery more generally.

The labor market improved somewhat, but the unemployment rate remained high

In this economic environment, firms increased their workforces moderately. Over the second half of last year, nonfarm payroll employment rose an average of about 175,000 per month, similar to the average increase in the first half (figure 2). These job gains helped lower the unemployment rate from 8.2 percent in the second quarter of last year to 7.9 percent in January (figure 3). Nevertheless, the unemployment rate remained much higher than it was prior to the recent recession, and long-term unemployment continued to be widespread. In the fourth quarter, about 40 percent of the unemployed had been out of work for more than six months (figure 4). Moreover, the proportion of workers employed part time because they were unable to find full-time work remained elevated. Some of the increase in the unemployment rate since the beginning of the recent recession could reflect structural changes in the labor market—such as a greater mismatch between the types of jobs that are open and the skills of workers available to fill them—that would reduce the maximum sustainable level of employment. However, most of the economic analysis

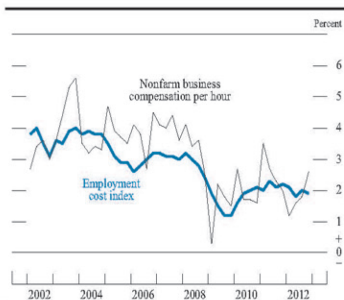
on this subject suggests that the bulk of the increase in unemployment probably reflects a deficiency in labor demand.[2] As a result, the unemployment rate likely remains well above levels consistent with maximum sustainable employment.

As described in the box "Assessing Conditions in the Labor Market," the unemployment rate appears to be a very good indicator of labor market conditions. That said, other indicators also provide important perspectives on the health of the labor market, and the most accurate assessment of labor market conditions can be obtained by combining the signals from many such indicators. Aside from the decline in the unemployment rate, probably the most important other pieces of evidence corroborating the gradual improvement in labor market conditions over the second half of last year were the gains in nonfarm payrolls noted earlier and the slight net reduction in initial claims for unemployment insurance.

Restrained by the ongoing weak conditions in the labor market, labor compensation has increased slowly. The employment cost index for private industry workers, which encompasses both wages and the cost to employers of providing benefits, increased only 2 percent over the 12 months of 2012, similar to the rate of gain since 2010 (figure 5). Similarly, nominal compensation per hour in the nonfarm business sector—a measure derived from the labor compensation data in the national income and product accounts (NIPA)—increased 2½ percent over the four quarters of 2012, well below average increases

2. See, for example, Mary C. Daly, Bart Hobijn, Ayşegül Şahin, and Robert G. Valletta (2012), "A Search and Matching Approach to Labor Markets: Did the Natural Rate of Unemployment Rise?" *Journal of Economic Perspectives*, vol. 26 (Summer), pp. 3–26; Michael W. L. Elsby, Bart Hobijn, Ayşegül Şahin, and Robert G. Valletta (2011), "The Labor Market in the Great Recession—An Update to September 2011," *Brookings Papers on Economic Activity*, Fall, pp. 353–71; and Jesse Rothstein (2012), "The Labor Market Four Years into the Crisis: Assessing Structural Explanations," *ILRReview*, vol. 65 (July), pp. 467–500.

5. Measures of change in hourly compensation, 2002–12



NOTE: The data are quarterly and extend through 2012: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.

Assessing Conditions in the Labor Market

No single statistic can provide a complete picture of a labor market as large and diverse as that in the United States. The evidence suggests that the unemployment rate is probably the most useful single summary indicator of labor market conditions. However, other indicators, prominently including but not limited to nonfarm payroll employment, provide important additional information.

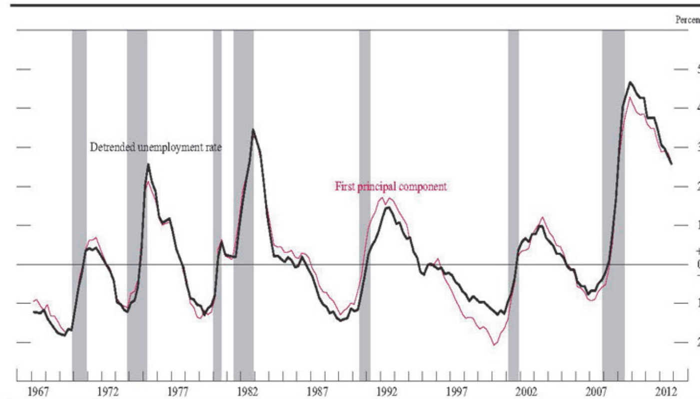
The unemployment rate is intended to measure the extent of the most obvious, and arguably the most important, problem in a slack labor market: the inability of some people who are looking for work to find acceptable jobs. The unemployment rate is also well correlated with, and representative of, a broad set of labor market indicators that portray many aspects of the job market. This relationship is demonstrated in figure A, which plots the detrended unemployment rate along with the first principal component from a factor model of labor market indicators described in a paper by Barnes and others.[1] In addition, other research suggests that the unemployment rate is generally a reliable indicator of the overall state of the business cycle.[2]

Of course, the unemployment rate does not, by itself, provide a complete and fully accurate portrait of labor market conditions. As with most indicators, the unemployment rate is subject to sampling and other measurement errors, so month-to-month movements should be interpreted with some caution. Even over longer periods, the unemployment rate may not always characterize the situation in the labor market altogether accurately. For example, if many unemployed individuals cease looking for work (and so are no longer counted as unemployed) because they have become discouraged about their job prospects, the measured unemployment rate could decline even if the demand for labor has not improved. Also, the unemployment rate may not always move in step with other types of underemployment, such as

1. The first principal component is a summary statistic that captures the common movement among a variety of indicators. See Michelle Barnes, Ryan Chahrour, Giovanni Olivei, and Gaoyan Tang (2007), "A Principal Components Approach to Estimating Labor Market Pressure and Its Implications for Inflation," Public Policy Briefs 07-2 (Boston: Federal Reserve Bank of Boston, December), www.bostonfed.org/economic/ppb/2007/ppb072.pdf.

2. For two examples, see Charles A. Fleischman and John M. Roberts (2011), "From Many Series, One Cycle: Improved Estimates of the Business Cycle from a Multivariate Unobserved Components Model," Finance and Economics Discussion Series 2011-46 (Washington: Board of Governors of the Federal Reserve System, October), www.federalreserve.gov/pubs/feds/2011/201146/201146pap.pdf; and Jeremy J. Nalewaik (2011), "Forecasting Recessions Using Stall Speeds," Finance and Economics Discussion Series 2011-24 (Washington: Board of Governors of the Federal Reserve System, April), www.federalreserve.gov/pubs/feds/2011/201124/201124pap.pdf.

A. Detrended unemployment rate and principal component, 1967–2012



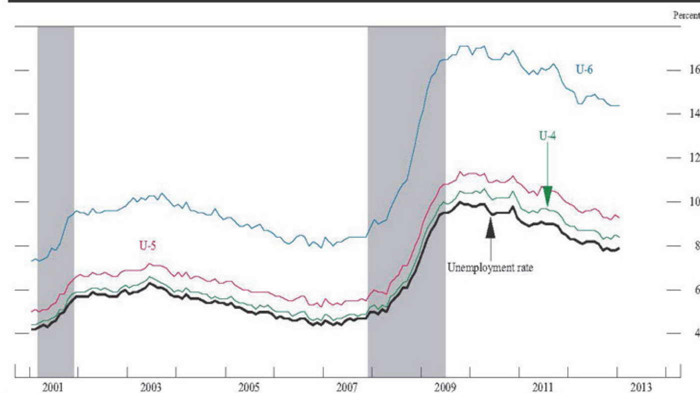
Note: The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research.
Source: Federal Reserve Bank of Boston staff.

persons working part time because they cannot find full-time jobs. For this reason, broader measures of labor underutilization, such as the Bureau of Labor Statistics' (BLS) U-4, U-5, and U-6 rates, can be useful supplements to the standard unemployment rate. These measures include the number of discouraged workers and part-time workers who are unable to find a full-time job, and they are derived from the same survey of households as is the official unemployment rate (figure B).

Other than the unemployment rate, payroll employment as measured in the BLS survey of establishments may be the most useful labor market indicator. A decline in the unemployment rate that is accompanied by a roughly proportionate increase in payroll employment is more likely to truly reflect improvement in the labor market. Of course, payroll employment is also an imperfect measure, and on some occasions the initial estimates of payrolls have been revised to show a substantially different picture than they originally did. Therefore, it can be useful to also look at a variety of other labor market indicators. These indicators may be less broad-based than either the unemployment rate or payroll employment, but—collectively—they may reduce the uncertainty surrounding the message from the primary measures and provide information about some specific aspects of the labor market.

One set of useful supplementary indicators consists of measures of job losses and hiring. These measures describe the large gross flows of workers in and out of employment that underlie the net changes reflected in the unemployment rate and payroll employment. For example, the improvements in the employment situation thus far during the current recovery have been driven more by reductions in job losses than by increases in hiring. A second set of indicators, the rate of job vacancies and measures of firms' hiring plans, may be informative about the sustainability of any increase in hiring. Quit rates, a third set, are useful because workers have, historically, been much more likely to quit their jobs when they perceive or anticipate a strong labor market. In addition, surveys of consumers and businesses provide information about the perceptions of a large number of individuals about labor market conditions. As with the unemployment rate and payroll employment, these other indicators have, for the most part, improved considerably during the economic recovery but remain substantially weaker than would normally be associated with a healthy labor market.

B. Measures of labor underutilization, 2001–13



NOTE: The data are monthly and extend through January 2013. U-4 measures total unemployed plus discouraged workers, as a percent of the labor force plus discouraged workers. Discouraged workers are not currently looking for work because they believe no jobs are available for them. U-5 measures total unemployed plus all marginally attached to the labor force, as a percent of the labor force plus persons marginally attached to the labor force. Marginally attached workers are not in the labor force, want and are available for work, and have looked for a job in the prior 12 months. U-6 measures total unemployed plus all marginally attached workers plus total employed part time for economic reasons, as a percent of labor force plus all marginally attached workers. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research.

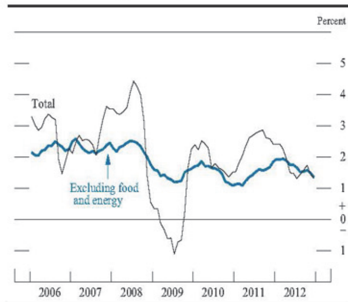
SOURCE: Department of Labor, Bureau of Labor Statistics.

of close to 4 percent in the years prior to the recent recession. As a result of these modest gains, nominal compensation has increased only about as fast as consumer prices over the recovery.

Inflation remained low . . .

Consumer price inflation was low over the second half of 2012. With considerable slack in labor markets and limited increases in labor costs, relatively stable prices for commodities and imports, and well-anchored longer-term inflation expectations, prices for personal consumption expenditures (PCE) increased at an annual rate of 1½ percent in the second half of the year, similar to the rate of increase in the first half (figure 6). Excluding food and energy prices, consumer prices increased only 1 percent in the second half of the year, down from 2 percent in the first half. A deceleration in prices of imported goods likely contributed to the low rate of inflation seen in the second half, though price increases for non-energy services were also low.

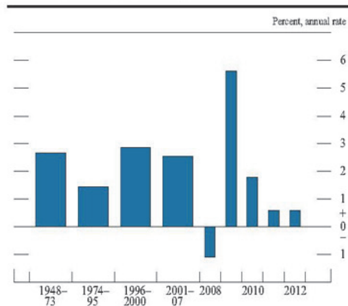
6. Change in the chain-type price index for personal consumption expenditures, 2006–12



NOTE: The data are monthly and extend through December 2012; changes are from one year earlier.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

As noted, gains in labor compensation have been subdued given the weak conditions in labor markets, and unit labor costs—which measure the extent to which compensation rises in excess of productivity—have increased very little over the recovery. That said, compensation per hour rose more rapidly last year, and productivity growth, which has averaged 1½ percent per year over the recovery, was relatively low (figure 7). As a result, unit labor costs rose 2 percent in 2012, well above average increases earlier in the recovery.

7. Change in output per hour, 1948–2012



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.

Global oil prices rose in early 2012 but subsequently gave up those gains and remained about flat through the later part of the year (figure 8). Developments related to Iran, including a tightening embargo on Iranian oil exports, likely put upward pressure on prices, but these pressures were apparently offset by continued concerns about weak global demand. However, in recent weeks, global oil

prices have increased in response to generally positive demand indicators from China and some reductions in Saudi production. Partly in response to this rise, retail gasoline prices, which changed little, on net, over 2012, have moved up appreciably.

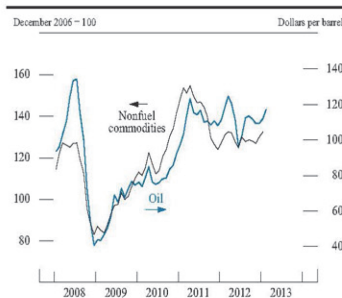
Nonfuel commodity prices have remained relatively flat over the past year despite significant movements in the prices of a few specific commodities. Of particular interest, prices for corn and soybeans eased some over the fall after having risen sharply during the summer as the scale of the drought affecting much of the United States became apparent. Given this easing and the small share of grain costs in the retail price of food, the effect of the drought on U.S. consumer food prices is likely to be modest: Consumer food prices rose at an annual rate of 2 percent in the fourth quarter following increases of less than 1 percent in the middle of last year.

In line with these flat overall commodity prices, as well as earlier dollar appreciation, prices for imported goods excluding oil were about unchanged on average over the last five months of 2012 and the early part of 2013.

. . . and longer-term inflation expectations stayed in their historical range

Survey measures of longer-term inflation expectations have changed little, on net, since last summer. Median expected inflation over the next 5 to 10 years, as reported in the Thomson Reuters/University of Michigan Surveys of Consumers, was 3 percent in early February, within the narrow range of the past 10 years (figure 9). In the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, the median expectation for the increase in the price index for PCE over the next 10 years was 2 percent in the first quarter of this year, similar to its level in recent years. A measure of 5-year inflation compensation derived from nominal and inflation-protected

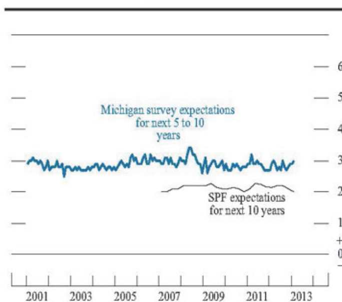
8. Prices of oil and nonfuel commodities, 2008–13



NOTE: The data are monthly. The oil price is the spot price of Brent crude oil, and the last observation is the average for February 1–21, 2013. The price of nonfuel commodities is an index of 45 primary-commodity prices and extends through January 2013.

SOURCE: For oil, the Commodity Research Bureau; for nonfuel commodities, International Monetary Fund.

9. Median inflation expectations, 2001–13



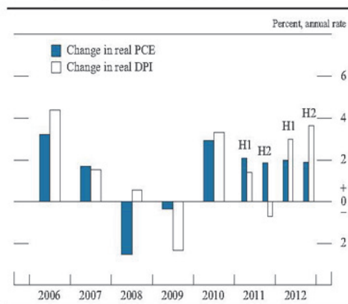
NOTE: The Michigan survey data are monthly and extend from January 2001 through a preliminary estimate for February 2013. The SPF data are quarterly and extend from 2007:Q1 through 2013:Q1.

SOURCE: Thomson Reuters/University of Michigan Surveys of Consumers and Survey of Professional Forecasters (SPF).

10. Inflation compensation, 2004–13

NOTE: The data are weekly averages of daily data and extend through February 15, 2013. Inflation compensation is the difference between yields on nominal Treasury securities and Treasury inflation-protected securities (TIPS) of comparable maturities, based on yield curves fitted to off-the-run nominal Treasury securities and on- and off-the-run TIPS. The 5-year measure is adjusted for the effect of indexation lags.
SOURCE: Federal Reserve Bank of New York; Barclays; Federal Reserve Board staff estimates.

11. Change in real personal consumption expenditures and disposable personal income, 2006–12



NOTE: The data are quarterly and extend through 2012:Q4.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

Treasury securities has increased 55 basis points since the end of June, while a similar measure of inflation compensation for the period 5 to 10 years ahead has increased about 30 basis points; both measures are within their respective ranges observed in the several years before the recent financial crisis (figure 10). While the increases in these measures could reflect changes in market participants' expectations of future inflation, they may also have been affected by improved investor risk sentiment and an associated reduction in demand for the relatively greater liquidity of nominal Treasury securities.

Consumer spending continued to increase moderately

Turning to some important components of final demand, real PCE increased at a moderate annual rate of 2 percent over the second half of 2012, similar to the rate of increase in the first half (figure 11). Household wealth—buoyed by increases in house prices and equity values—moved up over the second half of the year and provided some support for consumer spending (figure 12). In addition, for those households with access to credit, low interest rates spurred spending on motor vehicles and other consumer durables, which increased at an annual rate of 11 percent over the second half of last year. But increases in real wages and salaries were modest over the second half of the year, and overall growth in consumer spending continued to be held back by concerns about the economic outlook and limited access to credit for some households. After rising earlier in the year, consumer sentiment—which reflects household views on their own financial situations as well as broader economic conditions—fell back at the end of the year and stood well below longer-run norms (figure 13).

Real disposable personal income (DPI) rose at an annual rate of 3½ percent over the second half of 2012. However, much of this increase was a result of unusually large increases in dividends and employee bonuses, as many firms apparently shifted income disbursements

into 2012 in anticipation of an increase in marginal tax rates for high-income households at the beginning of this year. Excluding these special payments, real DPI is estimated to have increased at a modest annual rate of 1¼ percent over the second half of the year, similar to the average pace of increase over the recovery. The surge in dividend and bonus payments also led the personal saving rate to jump from 3.8 percent in the second quarter to 4.7 percent in the fourth quarter (figure 14). In their absence, the saving rate would have likely been little changed over the second half of the year.

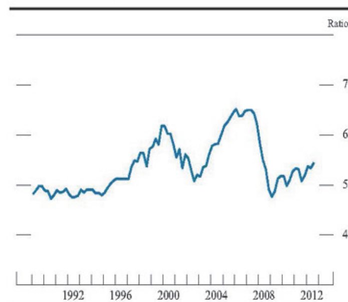
Households continue to pay down debt and gain access to credit

Household debt—the sum of mortgage and consumer debt—edged down further in the third quarter of 2012 as a continued contraction in mortgage debt more than offset a solid expansion in consumer credit. With the reduction in household debt, low levels of most interest rates, and modest income growth, the household debt service ratio—the ratio of required principal and interest payments on outstanding household debt to DPI—decreased further and, at the end of the third quarter, stood at a level last seen in 1983 (figure 15).

Consumer credit expanded at an annual rate of about 5¼ percent in the second half of 2012. Nonrevolving credit (mostly auto loans and student loans), which accounts for about two-thirds of total consumer credit outstanding, drove the increase. Revolving consumer credit (primarily credit card lending) was about flat on net. Overall, the increase in nonrevolving consumer credit is consistent with banks' recent responses to the Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), which indicated that demand had strengthened and standards eased, on net, for auto loans (figure 16).[3]

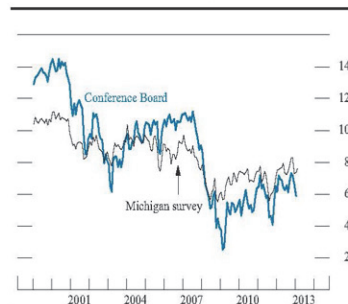
3. The SLOOS is available on the Federal Reserve Board's website at www.federalreserve.gov/boarddocs/SnLoanSurvey.

12. Wealth-to-income ratio, 1989–2012



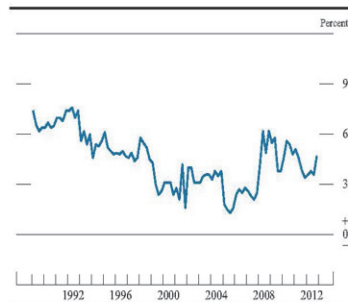
NOTE: The data are quarterly and extend through 2012:Q3. The series is the ratio of household net worth to disposable personal income.
SOURCE: For net worth, Federal Reserve Board, flow of funds data; for income, Department of Commerce, Bureau of Economic Analysis.

13. Consumer sentiment indexes, 1999–2013



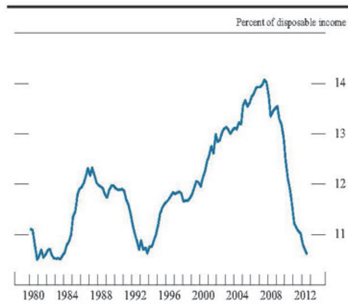
NOTE: The Conference Board data, indexed to 100 in 1985, are monthly and extend through Jan. 2013. The Mich. survey data, indexed to 100 in 1966, are monthly and extend through a preliminary Feb. 2013 estimate.
SOURCE: The Conference Board and Thomson Reuters/University of Michigan Surveys of Consumers.

14. Personal saving rate, 1989–2012



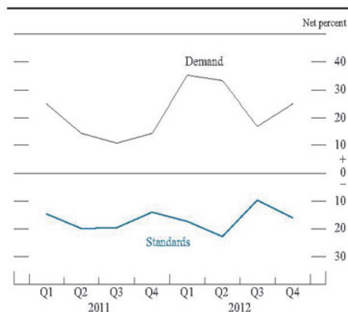
NOTE: The data are quarterly and extend through 2012:Q4.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

15. Household debt service, 1980 2012



NOTE: The data are quarterly and extend through 2012: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.

16. Change in standards and demand for auto loans, 2011 12



NOTE: The data are from a survey generally conducted 4 times per year; the last observation is from the Jan. 2013 survey, which covers 2012:Q4. Each series represents the net percent of surveyed banks that reported a tightening of standards or stronger demand for auto loans over the past 3 months.
SOURCE: Federal Reserve Board, Senior Loan Officer Opinion Survey on Bank Lending Practices.

Changes in interest rates on consumer loans were mixed over the second half of 2012. Interest rates on auto loans declined a bit, as did most measures of the spreads of rates on these loans over yields on Treasury securities of comparable maturity. Interest rates on credit card debt quoted by banks generally declined slightly, while rates observed in credit card offer mailings continued to increase.

The housing market recovery gained traction . . .

The housing market has continued to recover. Housing starts, sales of new and existing homes, and builder and realtor sentiment all increased over the second half of last year, and residential investment rose at an annual rate of nearly 15 percent. Combined, single-family and multifamily housing starts rose from an average annual rate of 740,000 in the second quarter of last year to 900,000 in the fourth quarter (figure 17). Activity increased most noticeably in the smaller multifamily sector—where starts have nearly reached pre-recession levels—as demand for new housing has apparently shifted toward smaller rental units and away from larger, typically owner-occupied single-family units.

. . . as mortgage interest rates reached record lows and house prices rose . . .

Mortgage interest rates declined to historically low levels toward the end of 2012—importantly reflecting Federal Reserve policy actions—making housing quite affordable for households with good credit ratings (figure 18). However, the spread between mortgage rates and yields on agency-guaranteed mortgage-backed securities (MBS) remained elevated by historical standards. This unusually wide spread probably reflects still-elevated risk aversion and some capacity constraints among mortgage originators. Overall, refinance activity increased briskly over the second half of 2012—though it was still less than might have been expected, given the level of interest rates—while the pace of mortgage applications for home purchases

remained sluggish (figure 19). Recent responses to the SLOOS indicate that banks' lending standards for residential mortgage loans were little changed over the second half of 2012.

House prices, as measured by several national indexes, continued to increase in the second half of 2012. For example, the CoreLogic repeat-sales index rose 3½ percent (not an annual rate) over the last six months of the year to reach its highest level since late 2008 (figure 20). This recent improvement notwithstanding, this measure of house prices remained 27 percent below its peak in early 2006.

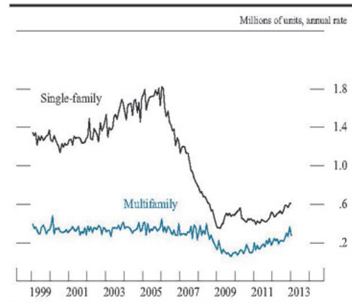
. . . but the level of new construction remained low, and mortgage delinquencies remained elevated

Despite the improvements seen over the second half of 2012, housing starts remained well below the 1960–2000 average of 1.5 million per year, as concerns about the job market and tight mortgage credit for less-credit-worthy households continued to restrain demand for housing. In addition, although the number of vacant homes for sale has declined significantly, the stock of vacant homes held off the market remained quite elevated. Once put on the market, this "shadow" inventory, which likely includes many bank-owned properties, may redirect some demand away from new homes and toward attractively priced existing homes. With home values depressed and unemployment still high, measures of late-stage mortgage delinquency, such as the inventory of properties in foreclosure, remained elevated, keeping high the risk of homes transitioning to vacant bank-owned properties (figure 21).

Growth of business investment has slowed since earlier in the recovery

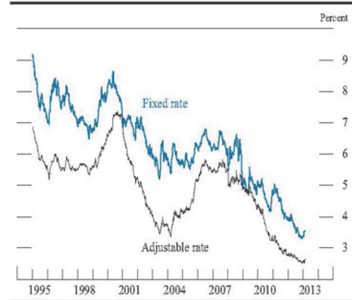
After increasing at double-digit rates in 2010 and 2011, business expenditures on equipment and software (E&S) decelerated in 2012 (figure 22). Pent-up demand for capital goods, an important contributor to earlier increases

17. Private housing starts, 1999–2013



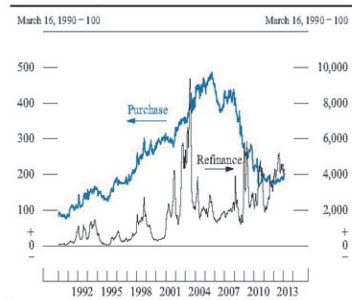
NOTE: The data are monthly and extend through January 2013.
SOURCE: Department of Commerce, Bureau of the Census.

18. Mortgage interest rates, 1995–2013



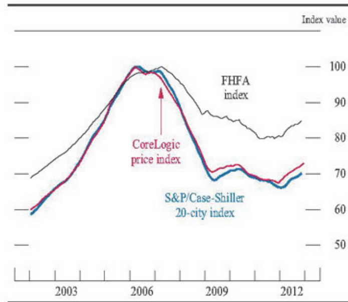
NOTE: The data, which are weekly and extend through February 20, 2013, are contract rates on 30-year mortgages.
SOURCE: Federal Home Loan Mortgage Corporation.

19. Mortgage Bankers Association purchase and refinance indexes, 1990–2013



NOTE: The data, which are seasonally adjusted, are a four-week moving average and extend through February 15, 2013.
SOURCE: Mortgage Bankers Association.

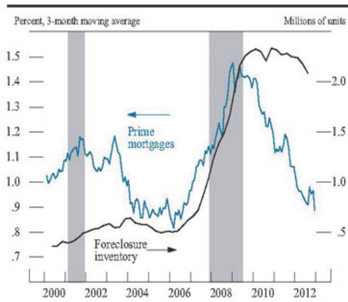
20. Prices of existing single-family houses, 2002–12



NOTE: The data are monthly and extend into 2012:Q4. Each index has been normalized so that its peak is 100. Both the CoreLogic price index and the FHFA index 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.

21. Current prime mortgages becoming delinquent and foreclosure inventory, 2000–12



NOTE: The data for prime mortgages becoming delinquent are monthly and extend through December 2012. The data represent the percentage of mortgages that transition from being current to being at least 30 days delinquent each month. The data for foreclosure inventory are quarterly and extend through 2012:Q3. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research.

SOURCE: For prime mortgages, LPS Applied Analytics; for foreclosure inventory, Federal Reserve Board staff calculations based on data from Mortgage Bankers Association.

in E&S spending, has likely diminished as the recovery has aged. In addition, concerns about possible threats to economic growth and stability from U.S. fiscal policy and the situation in Europe may have contributed to soft investment spending in the middle of last year. As a result, despite a pickup in the pace of gains toward the end of the year, E&S investment increased at an annual rate of 5 percent in the second half of the year, similar to the first-half pace. As for business investment in structures, a sustained recovery has yet to take hold, as high vacancy rates, tight credit for new construction, and low prices for commercial real estate (CRE) are still hampering investment in new buildings. However, in the drilling and mining sector, elevated oil prices and new drilling technologies have kept investment in structures at a relatively high level.

Inventory investment remained at a moderate level in the second half of last year, as limited growth in final sales and the uncertain economic environment continued to limit firms' incentives to accumulate inventories. Census Bureau measures of book-value inventory-to-sales ratios, as well as surveys of private inventory satisfaction and plans, generally suggest that stocks were fairly well aligned with sales at the end of 2012.

Corporate earnings growth slowed, but firms' balance sheets remained strong

After having risen 6 percent over the first half of 2012, aggregate operating earnings per share for S&P 500 firms were about flat on a seasonally adjusted basis in the second half of 2012, held down, in part, by weak demand from Europe and some emerging market economies (EMEs). However, the ratio of corporate profits to gross national product in the second half of 2012 hovered around its historical high, and cash flow remained solid. In addition, the ratio of liquid assets to total assets for nonfinancial corporations was close to its highest level in more than 20 years, and the aggregate debt-to-asset ratio remained low by historical standards (figure 23).

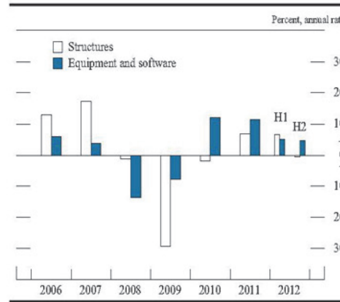
With corporate credit quality remaining robust and interest rates at historically low levels, nonfinancial firms continued to raise funds at a strong pace in the second half of 2012. Bond issuance by both investment- and speculative-grade nonfinancial firms was extraordinarily strong, although much of the proceeds from bond issuance appeared to be earmarked for the refinancing of existing debt (figure 24). Meanwhile, nonfinancial commercial paper (CP) outstanding was about unchanged. Issuance in the institutional segment of the syndicated leveraged loan market accelerated in the second half of the year, boosted by rapid growth of newly established collateralized loan obligations. Commercial and industrial (C&I) loans outstanding at commercial banking organizations in the United States continued to expand at a brisk pace in the second half of 2012. Moreover, according to the SLOOS, modest net fractions of banks continued to report having eased their lending standards on C&I loans over the second half of the year, and large net fractions of banks indicated having reduced the spread of rates on C&I loans over their cost of funds, largely in response to increased competition from other banks or nonbank lenders (figure 25).

Gross public equity issuance by nonfinancial firms slowed a bit in the second half of 2012, held down by a moderate pace of initial public offerings. Meanwhile, data for the third quarter of 2012 indicate that net equity issuance remained deeply negative, as share repurchases and cash-financed mergers by nonfinancial firms remained robust (figure 26).

Borrowing conditions for small businesses continued to improve, albeit more gradually than for large firms

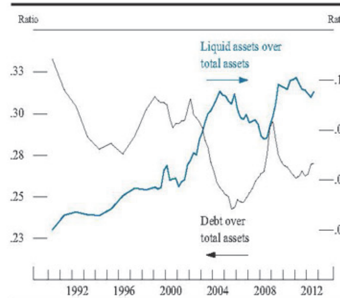
Borrowing conditions for small businesses continued to improve over the second half of 2012, but as has been the case in recent years, the improvement was more gradual than for larger firms. Moreover, the demand for credit from small firms apparently remained subdued. C&I loans with original amounts

22. Change in real business fixed investment, 2006–12



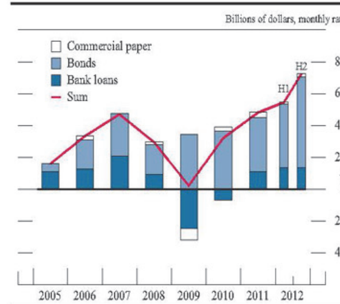
SOURCE: Department of Commerce, Bureau of Economic Analysis.

23. Financial ratios for nonfinancial corporations, 1990–2012



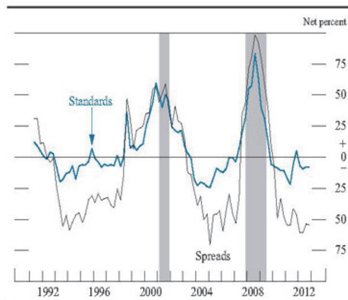
NOTE: The data are annual through 1998, quarterly thereafter, and extend through 2012:Q3.
SOURCE: Compustat.

24. Selected components of net financing for nonfinancial businesses, 2005–12



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

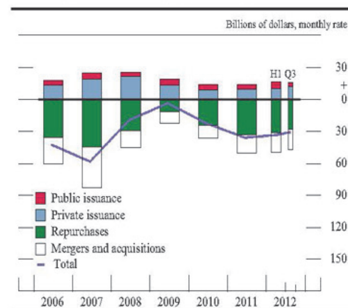
25. Change in standards and spreads of loan rates over banks' cost of funds for commercial and industrial loans, 1991–2012



NOTE: The data are drawn from a survey generally conducted four times per year; the last observation is from the January 2013 survey, which covers 2012:Q4. Each series represents the net percent of surveyed banks that reported a tightening of standards or increasing spreads of loan rates over the bank's cost of funds for commercial and industrial loans over the past three months. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research.

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

26. Components of net equity issuance, 2006–12



NOTE: 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 Reuters Financial, Investment Benchmark Report; PricewaterhouseCoopers and National Venture Capital Association, MoneyTree Report.

of $1 million or less—a large share of which likely consist of loans to small businesses—rose slightly in the second half of 2012, at about the same rate that prevailed in the first half. Recent readings from the Survey of Terms of Business Lending indicate that the spreads charged by commercial banks on newly originated C&I loans with original amounts less than $1 million, while still quite elevated, continued to decline.[4]

According to surveys conducted by the National Federation of Independent Business during the second half of 2012, the fraction of small businesses with borrowing needs stayed low. The net percentage of respondents that found credit more difficult to obtain than three months prior edged up, on balance, over this period, as did the net percentage that expected tighter credit conditions over the next three months; both measures remained at relatively high levels in the January survey.

Financial conditions in the commercial real estate sector eased but remained relatively tight

Financial conditions in the CRE sector continued to ease but remained relatively tight amid weak fundamentals. According to the SLOOS, a modest net fraction of banks reported having eased standards on CRE loans over the second half of last year, and a significant net fraction of banks reported increased demand for such loans. Consistent with these readings, the multiyear contraction in banks' holdings of CRE loans continued to slow and, indeed, came roughly to a halt as banks' holdings of CRE loans were about flat over the last quarter of 2012. Issuance of commercial mortgage-backed securities (CMBS) continued to increase over the second half of 2012 from the low levels observed in 2011. Nonetheless, the delinquency rate on loans in CMBS pools remained extremely

4. Data releases for the Survey of Terms of Business Lending are available on the Federal Reserve Board's website at www.federalreserve.gov/releases/e2/default.htm.

high, as some borrowers with five-year loans issued in 2007 were unable to refinance upon the maturity of those loans because of high loan-to-value ratios. While delinquency rates for CRE loans at commercial banks continued to decline, they remained somewhat elevated, especially for construction and land development loans.

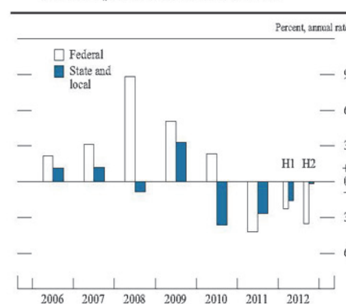
Budget strains for state and local governments eased, but federal purchases continued to decline

Strains on state and local government budgets appear to have lessened some since earlier in the recovery. Although federal grants provided to state governments in the American Recovery and Reinvestment Act have essentially phased out, state and local tax receipts, which have been increasing since 2010, rose moderately further over the second half of last year. Accordingly, after declining at an annual rate of 1½ percent in the first half of last year, real government purchases at the state and local level changed little in the second half (figure 27). Similarly, employment levels at states and municipalities, which had been declining since 2009, changed little, on balance, over the second half of last year.

Federal purchases continued to decline over the second half of 2012, reflecting ongoing efforts to reduce the budget deficit and the scaling back of overseas military activities. As measured in the NIPA, real federal expenditures on consumption and gross investment—the part of federal spending included in the calculation of GDP—fell at an annual rate of 3½ percent over the second half of 2012. Real defense spending fell at an annual rate of a little over 6 percent, while nondefense purchases increased at an annual rate of 2 percent.

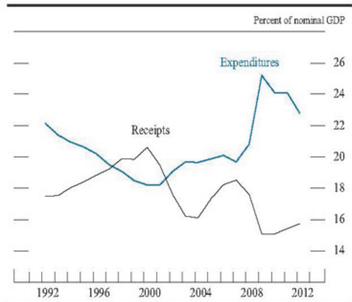
The deficit in the federal unified budget remains high. The budget deficit for fiscal year 2012 was $1.1 trillion, or 7 percent of nominal GDP, down from the deficit recorded in 2011 but still sharply higher than the

27. Change in real government expenditures on consumption and investment, 2006–12



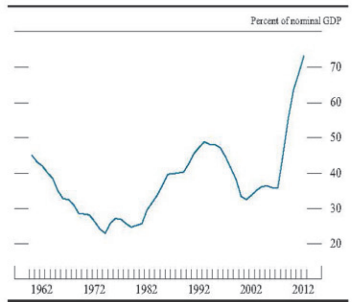
SOURCE: Department of Commerce, Bureau of Economic Analysis.

28. Federal receipts and expenditures, 1992 2012



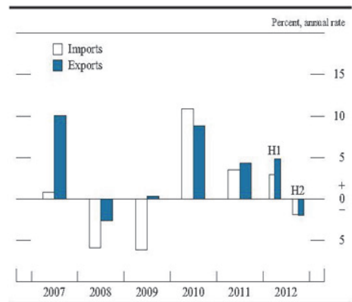
NOTE: The receipts and expenditures data are on a unified-budget basis and are for fiscal years (October through September); gross domestic product (GDP) is for the four quarters ending in Q3.
SOURCE: Office of Management and Budget.

29. Federal government debt held by the public, 1960–2012



NOTE: The data for debt through 2012 are as of year-end, and 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: Bureau of Economic Analysis; Department of the Treasury, Financial Management Service.

30. Change in real imports and exports of goods and services, 2007–12



SOURCE: Department of Commerce, Bureau of Economic Analysis.

deficits recorded prior to the onset of the last recession. The narrowing of the budget deficit relative to fiscal 2011 reflected an increase in tax revenues that largely stemmed from the gradual increase in economic activity as well as a decline in spending. Despite the rise in tax revenues, the ratio of federal receipts to national income, at 16 percent in fiscal 2012, remained near the low end of the range for this ratio over the past 60 years (figure 28). The ratio of federal outlays to GDP declined but was still high by historical standards, at 23 percent. With deficits still large, federal debt held by the public rose to 73 percent of nominal GDP in the fourth quarter of 2012, 5 percentage points higher than at the end of 2011 (figure 29).

Net exports added modestly to real GDP growth

Real imports of goods and services contracted at an annual rate of nearly 2 percent over the second half of 2012, held back by the sluggish pace of U.S. demand (figure 30). The decline in imports was fairly broad based across major trading partners and categories of trade.

Real exports of goods and services also fell at an annual rate of about 2 percent in the second half despite continued expansion in demand from EMEs. Exports were dragged down by a steep falloff in demand from the euro area and declining export sales to Japan, consistent with weak economic conditions in those areas. In contrast, exports to Canada remained essentially flat. Across the major categories of exports, industrial supplies, automotive products, and agricultural goods contributed to the overall decrease.

Overall, real net exports added an estimated 0.1 percentage point to real GDP growth in the second half of 2012, according to the advance estimate of GDP from the Bureau of Economic Analysis, but data received since then suggest a somewhat larger positive contribution.

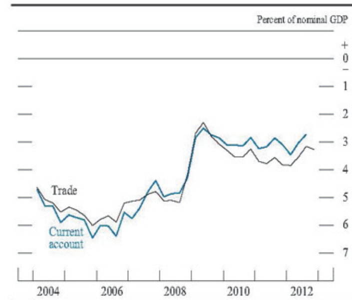
The nominal trade deficit shrank, on net, over the second half of 2012, contributing to the narrowing of the current account deficit to 2¾ percent of GDP in the third quarter (figure 31). The trade deficit as a share of GDP narrowed substantially in late 2008 and early 2009 when U.S. imports dropped sharply, in part reflecting the steep decline in oil prices. Since then, the trade deficit as a share of GDP has remained close to its 2009 level: Although imports recovered from their earlier drop, exports strengthened as well.

The current account deficit in the third quarter was financed by strong inflows from foreign official institutions and by foreign private purchases of Treasury securities and equities (figure 32). More-recent data suggest continued strong foreign purchases of Treasury securities and equities in the fourth quarter of 2012. Consistent with improved market sentiment over the third quarter, U.S. investors also increased their holdings of foreign assets, as shown in figure 32.

National saving is very low

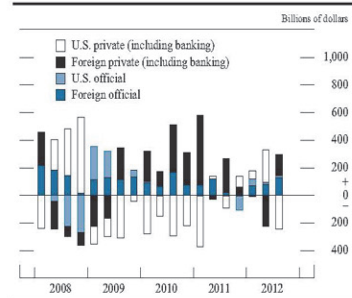
Total U.S. net national saving—that is, the saving of U.S. households, businesses, and governments, net of depreciation charges—remains extremely low by historical standards (figure 33). In the third quarter of last year, net national saving as a percent of nominal GDP was close to zero. The relative flatness of the national saving rate over the past few years reflects the offsetting effects of a narrowing in the federal budget deficit as a share of nominal GDP and a downward movement in the private saving rate. National saving will likely remain low this year, in light of the still-large federal budget deficit. A portion of the decline in federal savings relative to pre-recession levels is cyclical and would be expected to reverse as the economy recovers. If low levels of national saving persist over the longer run, they will likely be associated with both low rates of capital formation and heavy borrowing from abroad, limiting the rise in the standard of living for U.S. residents over time.

31. U.S. trade and current account balances, 2004–12



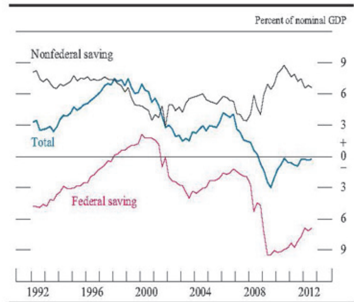
NOTE: The data are quarterly and extend through 2012:Q3 for the current account and 2012:Q4 for trade. GDP is gross domestic product.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

32. U.S. net financial inflows, 2008–12



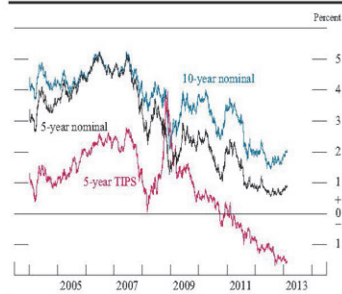
NOTE: The data are quarterly and extend through 2012:Q3. Negative numbers indicate a balance of payments outflow, generated when U.S. residents, on net, purchase foreign assets or when foreign residents, on net, sell U.S. assets. Therefore, a negative number for "U.S. private" or "U.S. official" indicates an increase in foreign positions. 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.

33. Net saving, 1992–2012



NOTE: The data are quarterly and extend through 2012: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.

34. Interest rates on Treasury securities at selected maturities, 2004–13



NOTE: The data are daily and extend through February 21, 2013. Treasury inflation-protected securities (TIPS) are based on yield curves fitted by Federal Reserve staff to on- and off-the-run TIPS.
SOURCE: Department of the Treasury; Barclays; Federal Reserve Board staff estimates.

Financial Developments

Expectations regarding the future stance of monetary policy reflected the additional accommodation provided by the Federal Open Market Committee . . .

In response to the steps taken by the FOMC to provide additional monetary policy accommodation over the second half of 2012, market participants pushed out the date when they expect the federal funds rate to first rise above its current target range of 0 to ¼ percent. In particular, interest rates on overnight index swaps indicate that investors currently anticipate that the effective federal funds rate will rise above its current target range around the fourth quarter of 2014, roughly four quarters later than they expected at the end of June 2012. Meanwhile, the modal target rate path—the most likely values for future federal funds rates derived from interest rate options—suggests that investors think the rate is most likely to remain in its current range through the first quarter of 2016. In addition, recent readings from the Survey of Primary Dealers conducted by the Open Market Desk at the Federal Reserve Bank of New York suggest that market participants expect the Federal Reserve to hold about $3.75 trillion of Treasury and agency securities at the end of 2014, roughly $1 trillion more than was expected in the middle of 2012.[5]

. . . and held yields on longer-term Treasury securities and agency mortgage-backed securities near historic lows

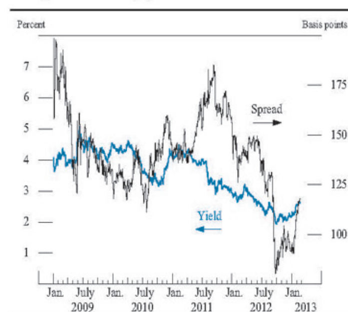
Yields on nominal and inflation-protected Treasury securities remained near historic lows over the second half of 2012 and into 2013. Yields on longer-term nominal Treasury securities rose, on balance, over this period, while yields on inflation-protected securities fell (figure 34). These changes likely

5. The Survey of Primary Dealers is available on the Federal Reserve Bank of New York's website at www.newyorkfed.org/markets/primarydealer_survey_questions.html.

reflect the effects of additional monetary accommodation, a substantial improvement in sentiment regarding the crisis in Europe that reduced demand for the relative safety and liquidity of nominal Treasury securities, and increases in the prices of key commodities since the end of June 2012. On balance, yields on 5-, 10-, and 30-year nominal Treasury securities increased roughly 15 basis points, 30 basis points, and 40 basis points, respectively, from their levels at the end of June 2012, while yields on 5- and 10-year inflation-protected securities decreased roughly 55 basis points and 15 basis points, respectively. Treasury auctions generally continued to be well received by investors, and the Desk's outright purchases and sales of Treasury securities did not appear to have a material adverse effect on liquidity or market functioning.

Yields on agency MBS were little changed, on net, over the second half of 2012 and into 2013. They fell sharply following the FOMC's announcement of additional agency MBS purchases in September but retraced over subsequent months. Spreads of yields on agency MBS over yields on nominal Treasury securities narrowed, largely reflecting the effects of the additional monetary accommodation (figure 35). The Desk's outright purchases of agency MBS did not appear to have a material adverse effect on liquidity or market functioning, although implied financing rates for some securities in the MBS dollar roll market declined in the second half of 2012, and the Desk responded by postponing settlement of some purchases using dollar roll transactions.[6]

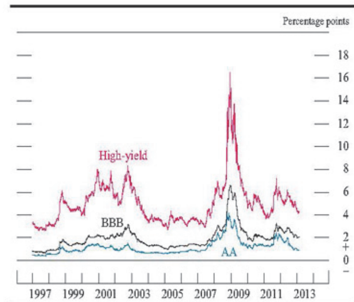
35. Current-coupon yield and spread for agency-guaranteed mortgage-backed securities, 2009–13



NOTE: The data are daily and extend through February 21, 2013. Yield shown is for the Fannie Mae 30-year current coupon, the coupon rate at which new mortgage-backed securities would be priced at par, or face, value. Spread shown is to the average of the 5- and 10-year nominal Treasury yields.
SOURCE: Department of the Treasury; Barclays.

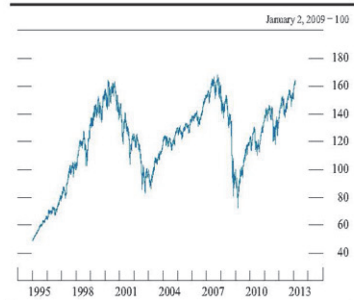
6. Dollar roll transactions consist of a purchase or sale of agency MBS with the simultaneous agreement to sell or purchase substantially similar securities on a specified future date. The Committee directs the Desk to engage in these transactions as necessary to facilitate settlement of the Federal Reserve's agency MBS purchases.

36. Spreads of corporate bond yields over comparable off-the-run Treasury yields, by securities rating, 1997 2013



NOTE: The data are daily and extend through February 21, 2013. 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.

37. S&P 500 index, 1995–2013



NOTE: The data are daily and extend through February 21, 2013.
SOURCE: Standard & Poor's.

Yields on corporate bonds reached record lows, and equity prices increased

Yields on investment- and speculative-grade bonds reached record lows in the second half of 2012 and early 2013, respectively, partly reflecting the effects of the FOMC's additional monetary policy accommodation and increased investor appetite for bearing risk. Spreads to comparable-maturity Treasury securities also narrowed substantially but remained above the narrowest levels that they reached prior to the financial crisis (figure 36). Prices in the secondary market for syndicated leveraged loans have increased, on balance, since the middle of 2012.

Broad equity price indexes have increased about 10 percent since the end of June 2012, boosted by the same factors that contributed to the narrowing in bond spreads (figure 37). Nevertheless, the spread between the 12-month forward earnings–price ratio for the S&P 500 and a long-run real Treasury yield—a rough gauge of the equity risk premium—remained at the high end of its historical range (figure 38). Implied volatility for the S&P 500 index, as calculated from option prices, spiked at times but is currently near the bottom end of the range it has occupied since the onset of the financial crisis (figure 39).

Conditions in short-term dollar funding markets improved some in the third quarter and remained stable thereafter

Measures of stress in unsecured dollar funding markets eased somewhat in the third quarter of 2012 and remained stable at relatively low levels thereafter, reflecting improved sentiment regarding the crisis in Europe. For example, the average maturity of unsecured financial CP issued by institutions with European parents increased, on net, to around the same length as such CP issued by institutions with U.S. parents.

Signs of stress were largely absent in secured short-term dollar funding markets. In the market for repurchase agreements (repos),

bid-asked spreads and haircuts for most collateral types have changed little since the middle of 2012. However, repo rates continued to edge up over the second half of 2012, likely reflecting in part the financing of the increase in dealers' inventories of shorter-term Treasury securities that resulted from the maturity extension program (MEP). Following year-end, repo rates fell back as the MEP came to an end and the level of reserve balances began to increase. In asset-backed commercial paper (ABCP) markets, volumes outstanding declined a bit for programs with European and U.S. sponsors, while spreads on ABCP with European bank sponsors remained slightly above those on ABCP with U.S. bank sponsors.

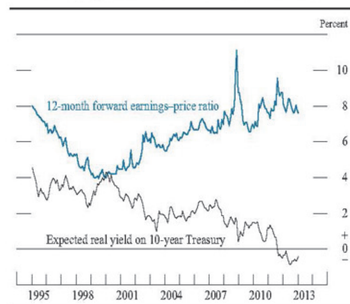
Year-end pressures in short-term funding markets were generally modest and roughly in line with the experiences during other years since the financial crisis.

Market sentiment toward the banking industry improved as the profitability of banks increased

Market sentiment toward the banking industry improved in the second half of 2012, reportedly driven in large part by perceptions of reduced downside risks stemming from the European crisis. Equity prices for bank holding companies (BHCs) increased, outpacing the increases in broad equity price indexes, and BHC credit default swap (CDS) spreads declined (figure 40).

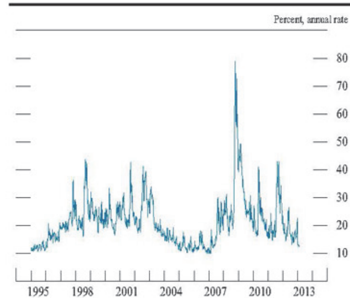
The profitability of BHCs increased in the second half of 2012 but continued to run well below the levels that prevailed before the financial crisis (figure 41). Measures of asset quality generally improved further, as delinquency and charge-off rates decreased for almost all major loan categories, although the recent improvement in delinquency rates for consumer credit in part reflects a compositional shift of credit supply toward higher-credit-quality borrowers. Loan loss provisions were flat at around the slightly elevated levels seen prior to the crisis, though they continued to be outpaced by charge-offs. Regulatory

38. Real long-run Treasury yield and 12-month forward earnings–price ratio for the S&P 500, 1995–2013



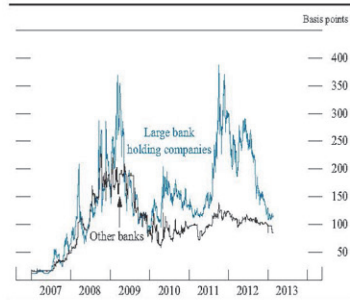
NOTE: The data are monthly and extend through January 2013. The expected real yield on 10-year Treasury is defined as the off-the-run 10-year Treasury yield less the Federal Reserve Bank of Philadelphia's 10-year expected inflation.
SOURCE: Standard & Poor's; Thomson Reuters Financial; Federal Reserve Board; Federal Reserve Bank of Philadelphia.

39. Implied S&P 500 volatility, 1995 2013



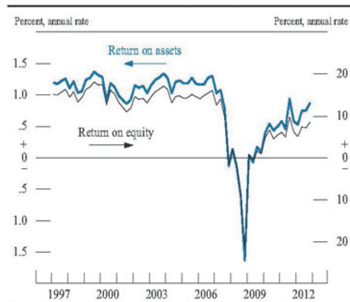
NOTE: The data are weekly and extend through the week ending February 15, 2013. The series shown—the VIX—is the implied 30-day volatility of the S&P 500 stock price index as calculated from a weighted average of options prices.
SOURCE: Chicago Board Options Exchange.

40. Spreads on credit default swaps for selected U.S. banking organizations, 2007–13



NOTE: The data are daily and extend through February 21, 2013. Median spreads for six large bank holding companies and nine other banks.
SOURCE: Markit.

41. Profitability of bank holding companies, 1997 2012



NOTE: The data, which are seasonally adjusted, are quarterly and extend through 2012:Q4.
SOURCE: Federal Reserve Board, FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

capital ratios remained at high levels based on current standards, but the implementation of generally more stringent Basel III capital requirements will likely lead to some decline in reported regulatory capital ratios at the largest banks. Overall, banks remain well funded with deposits, and their reliance on short-term wholesale funding stayed near its low levels seen in recent quarters. The expiration of the Federal Deposit Insurance Corporation's Transaction Account Guarantee program on December 31, 2012, does not appear to have caused any significant change in the availability of deposit funding for banks.

Credit provided by commercial banking organizations in the United States increased in the second half of 2012 at about the same moderate pace as in the first half of the year. Core loans—the sum of C&I loans, real estate loans, and consumer loans—expanded modestly, with strong growth in C&I loans offsetting weakness in real estate and credit card loans (figure 42). Banks' holdings of securities continued to rise moderately overall, as strong growth in holdings of Treasury and municipal securities more than offset modest declines in holdings of agency MBS.

Despite continued improvements in market conditions, risks to the stability of financial markets remain

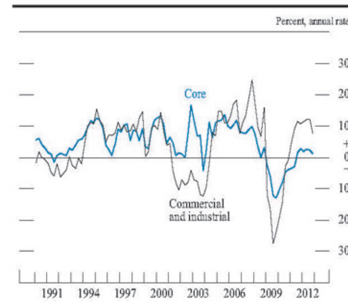
While conditions in short-term dollar funding markets have improved, these markets remain vulnerable to potential stresses. Money market funds (MMFs) have sharply reduced their overall exposures to Europe since the middle of 2011, but prime fund exposures to Europe continue to be substantial. MMFs also remain susceptible to the risk of investor runs due to structural vulnerabilities posed by the rounding of net asset values and the absence of loss-absorbing capital.[7]

7. In November 2012, the Financial Stability Oversight Council proposed recommendations for structural reforms of U.S. MMFs to reduce their vulnerability to runs and mitigate associated risks to the financial system.

Dealer firms have reduced their wholesale short-term funding ratios and have increased their liquidity buffers in recent years, but they still heavily rely on wholesale short-term funding. As a result, they remain susceptible to swings in market confidence and a possible resurgence of anxiety regarding counterparty credit risk. Respondents to the Senior Credit Officer Opinion Survey on Dealer Financing Terms indicated that credit terms applicable to important classes of counterparties were little changed over the second half of 2012.[8] Dealers reported increased demand for funding of securitized products and indicated that the use of financial leverage among trading real estate investment trusts, or REITs, had increased somewhat. However, respondents continued to note an increase in the amount of resources and attention devoted to the management of concentrated exposures to central counterparties and other financial utilities as well as, to a smaller extent, dealers and other financial intermediaries.

With prospective returns on safe assets remaining low, some financial market participants appeared willing to take on more duration and credit risk to boost returns. The pace of speculative-grade corporate bond issuance has been rapid in recent months, and while most of this issuance appears to have been earmarked for the refinancing of existing debt, there has also been an increase in debt to facilitate transactions involving significant risks. In particular, in bonds issued to finance private equity transactions, there has been a reemergence of payment-in-kind options that permit the issuer to increase the face value of debt in lieu of a cash interest payment, and anecdotal reports indicate that bond covenants are becoming less restrictive. Similarly, issuance of bank loans to finance dividend recapitalization deals as well as covenant-lite loans was robust over the second half of the

42. Change in commercial and industrial loans and core loans, 1990–2012



NOTE: The data, which are seasonally adjusted, are quarterly and extend through 2012:Q4. Core loans consist of commercial and industrial loans, real estate loans, and consumer loans. 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."

8. The Senior Credit Officer Opinion Survey on Dealer Financing Terms is available on the Federal Reserve Board's website at www.federalreserve.gov/econresdata/releases/scoos.htm.

Table 1. Selected components of the Federal Reserve balance sheet, 2012–13

Millions of dollars

Balance sheet item	Feb. 22, 2012	June 27, 2012	Feb. 20, 2013
Total assets	**2,935,149**	**2,865,698**	**3,096,802**
Selected assets			
Credit extended to depository institutions and dealers			
Primary credit	3	18	8
Central bank liquidity swaps	107,959	27,059	5,192
Credit extended to other market participants			
Term Asset-Backed Securities Loan Facility (TALF)	7,629	4,773	439
Net portfolio holdings of TALF LLC	825	845	507
Support of critical institutions			
Net portfolio holdings of Maiden Lane LLC, Maiden Lane II LLC, and Maiden Lane III LLC[1]	30,822	15,031	1,483
Securities held outright			
U.S. Treasury securities	1,656,581	1,666,530	1,736,456
Agency debt securities	100,817	91,484	74,613
Agency mortgage-backed securities (MBS)[2]	853,045	854,979	1,032,712
Total liabilities	**2,880,556**	**2,811,029**	**3,041,820**
Selected liabilities			
Federal Reserve notes in circulation	1,048,004	1,067,917	1,127,723
Reverse repurchase agreements	89,824	83,737	93,121
Deposits held by depository institutions	1,622,800	1,491,988	1,668,383
Of which: Term deposits	0	0	0
U.S. Treasury, general account	36,033	117,923	40,703
U.S. Treasury, Supplementary Financing Account	0	0	0
Total capital	**54,594**	**54,669**	**54,982**

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 had written credit default swap contracts.

2. Includes only MBS purchases that have already settled.

Source: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances of Depository Institutions and Condition Statement of Federal Reserve Banks."

year. (For a discussion of regulatory steps taken related to financial stability, see the box "The Federal Reserve's Actions to Foster Financial Stability.")

Federal Reserve assets increased, and the average maturity of its Treasury holdings lengthened . . .

Total assets of the Federal Reserve increased to $3,097 billion as of February 20, 2013, $231 billion more than at the end of June 2012 (table 1). The increase primarily reflects growth in Federal Reserve holdings of Treasury securities and agency MBS as a result of the purchase programs initiated at the September 2012 and December 2012 FOMC meetings. As of February 20, 2013, the par value of Treasury securities and agency MBS held by the Federal Reserve had increased $70 billion and $178 billion, respectively, since the end of June 2012. The composition of Treasury securities holdings also changed over the second half of 2012 as a result of the continuation of the MEP, which was announced at the June 2012 FOMC meeting. Under this program, between July and December, the Desk purchased $267 billion in Treasury securities with remaining maturities of 6 to 30 years and sold or redeemed an equal par value of Treasury securities with maturities of 3 years or less. As a result, the average maturity of the Federal Reserve's Treasury holdings increased 1.7 years over the second half of 2012 and into 2013 and, as of February 2013, stood at 10.5 years.

. . . while exposure to facilities established during the crisis continued to wind down

In the second half of 2012, the Federal Reserve continued to reduce its exposure to facilities established during the financial crisis to support specific institutions. The portfolio holdings of Maiden Lane LLC and Maiden Lane III LLC—entities that were created during the crisis to acquire certain assets from The Bear Stearns Companies, Inc., and American International Group, Inc., to avoid the disorderly failures of those institutions—declined $14 billion to approximately $1 billion, primarily reflecting the sale of the remaining securities in Maiden Lane III LLC that was announced in August 2012. These sales resulted in a net gain of $6.6 billion for the benefit of the U.S. public. The Federal Reserve's loans to Maiden Lane LLC and Maiden Lane III LLC had been fully repaid, with interest, as of June 2012. Loans outstanding under the Term Asset-Backed Securities Loan Facility (TALF) decreased $4 billion to under $1 billion because of prepayments and maturities of TALF loans. With accumulated fees collected through TALF exceeding the amount of TALF loans outstanding, the Federal Reserve and the Treasury agreed in January to end the backstop for TALF provided by the Troubled Asset Relief Program.

The improvement in offshore U.S. dollar funding markets over the second half of 2012 led to a decline in the outstanding amount of dollars provided through the temporary U.S. dollar liquidity swap arrangements with other central banks. As of February 20, 2013, draws on the liquidity swap lines were $5 billion, down from $27 billion at the end of June 2012. On December 13, 2012, the Federal Reserve announced the extension of these arrangements through February 1, 2014.

On the liability side of the Federal Reserve's balance sheet, deposits held by depository institutions increased $176 billion since June 2012, while Federal Reserve notes in circulation rose $60 billion, reflecting solid demand both at home and abroad. M2 has increased at an annual rate of about 8 percent since June 2012. Holdings of M2 assets, including its largest component, liquid deposits, remain elevated relative to what would have been expected based on historical relationships with nominal income and interest rates, likely due to investors' continued preference to hold safe and liquid assets.

As part of its ongoing program to ensure the readiness of tools to manage reserves, the Federal Reserve conducted a series of small-value reverse repurchase transactions using all eligible collateral types with its expanded list of counterparties, as well as a few small-value repurchase agreements with primary dealers. In the same vein, the Federal Reserve continued to offer small-value term deposits through the Term Deposit Facility to provide eligible institutions with an opportunity to become familiar with term deposit operations.

International Developments

Foreign financial market stresses abated . . .

Since mid-July, global financial market conditions have improved, on balance, in part reflecting reduced fears of a significant worsening of the European fiscal and financial crisis. Market sentiment was bolstered by a new European Central Bank (ECB) framework for purchases of sovereign debt known as Outright Monetary Transactions (OMT), agreements on continued official-sector support for Greece, progress by Spain in recapitalizing its troubled banks, and some steps toward fiscal and financial integration in Europe. Nevertheless, financial market stresses in Europe remained elevated, and policymakers still face significant challenges (see the box "An Update on the European Fiscal and Banking Crisis").

The Federal Reserve's Actions to Foster Financial Stability

The Federal Reserve continued to take actions in the second half of 2012 and early 2013 to meet its financial stability responsibilities. Although much remains to be done, the Federal Reserve has implemented regulatory reforms to strengthen the U.S. financial system, and it has taken further steps to gather information from the supervision of large banks, market reports, and other economic and financial sources to assess threats to financial stability. The Federal Reserve also has continued to work closely with its domestic regulatory counterparts and has taken actions to increase the resilience of the international financial regulatory architecture.

Regulation

A core element of the global regulatory community's efforts to improve banking regulation has been the development of the Basel III capital reforms. In June 2012, the Federal Reserve Board and the other U.S. banking agencies issued a proposal to amend the U.S. bank capital rules to implement these reforms. The Basel III reforms will raise the quantity of capital that must be held by U.S. banking firms, improve the quality of regulatory capital of those firms, and strengthen the risk-weight framework of U.S. bank capital rules.

Consistent with the requirements of the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd–Frank Act), the Board has also proposed rules to strengthen the oversight of the U.S. operations of foreign banks. Under the Board's December 2012 proposal, foreign banking organizations (FBOs) with a large U.S. presence would be required to create an intermediate holding company (IHC) over their U.S. subsidiaries, which would help facilitate consistent and enhanced supervision and regulation of the U.S. operations of these foreign banks. An IHC of a foreign bank would be required to meet the same U.S. risk-based capital and leverage rules as a U.S. bank holding company (BHC). In addition, IHCs and the U.S. branches and agencies of foreign banks with a large U.S. presence would need to meet liquidity requirements similar to those imposed on U.S. BHCs.

Progress in regulatory reform outside of the traditional banking sector has been notable as well. For example, as mandated by the Dodd–Frank Act, the new supervisory framework for systemically important financial market utilities (FMUs)—that is, those entities that provide the infrastructure to make payments and clear and settle financial transactions—has continued to take shape. In July 2012, the Financial Stability Oversight Council (FSOC) designated eight FMUs as systemically important and thus subject to enhanced risk-management standards. On July 30, the Federal Reserve Board approved a final rule establishing enhanced risk-management standards for designated FMUs supervised by the Federal Reserve. The rule also establishes processes to review and consult with the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC) on any proposed changes to the rules, procedures, or operations of certain designated FMUs that could materially affect the nature or level of their risk.

The FSOC has also continued to make progress in its work to designate systemically important nonbank financial companies for consolidated supervision by the Federal Reserve. Relying primarily on data from publicly available reports, the FSOC is evaluating the potential systemic importance of a number of nonbank firms that meet the quantitative criteria for a first-stage review; to date, it has concluded that some firms warranted further consideration and has advanced them to the third and final stage of the determination process. Meanwhile, the International Association of Insurance Supervisors, under the oversight of the Financial Stability Board, has continued to move forward on crafting a methodology to identify global systemically important insurers and developing policy measures that would be applicable to those institutions.

In addition, efforts to increase the resilience of "shadow banking," which refers to credit intermediation that occurs at least partly outside of the traditional banking system, are continuing. In November 2012, the FSOC proposed recommendations for structural reforms of U.S. money market funds to reduce their vulnerability to runs and mitigate associated risks to the financial system. Another set of reforms has been aimed at the triparty repurchase agreement markets, including efforts by the Federal Reserve to reduce the vulnerabilities created by the large amounts of

intraday credit provided by clearing banks in these markets. International regulatory groups have also been addressing the financial stability risks of shadow banking.

Supervision

The Federal Reserve has continued to work to embed its supervisory practices within a broader macroprudential framework. Annual stress tests, which assess the internal capital planning processes and capital adequacy of the largest BHCs, continue to be an important element in its strengthened, cross-firm supervisory approach. The latest Comprehensive Capital Analysis and Review (CCAR 2013), which covers the 18 largest BHCs (and is being conducted in a modified form for 11 other large BHCs), is now under way. In October 2012, the Board published final stress-testing rules under the Dodd–Frank Act, and it released the economic and financial market stress scenarios for CCAR 2013 in November.[1] CCAR 2013 results will be released in March of this year.

The Federal Reserve has also been working to improve the resolvability of the largest, most complex banking firms. The Dodd–Frank Act created the Orderly Liquidation Authority (OLA) to improve the prospects for an orderly liquidation of a systemic financial firm and requires that all large BHCs submit resolution plans to their supervisors. The Federal Deposit Insurance Corporation (FDIC) has been developing a single-point-of-entry strategy for resolving systemic financial firms under OLA, and the Federal Reserve, working closely with the FDIC, has been carefully reviewing the resolution plans (the so-called living wills) submitted in the summer and fall of 2012 by the largest and most complex BHCs and FBOs.

In line with a joint agency report to the Congress in July 2011, the Federal Reserve has continued to work with the SEC and the CFTC to develop and implement effective supervisory practices and techniques for designated FMUs, including appropriate information-sharing arrangements and Federal Reserve participation in SEC and CFTC examinations of designated FMUs.

Monitoring

The Federal Reserve has continued to pursue an active program of research and data collection, often in conjunction with other U.S. and foreign regulators and supervisors, and to work on developing a framework and infrastructure for monitoring risks to financial stability. It continues to regularly monitor a variety of items that measure key financial vulnerabilities, such as leverage, maturity mismatch, interconnectedness, and complexity of financial institutions, markets, and products. In a context of adverse shocks, such vulnerabilities could lead to fire sales and an adverse feedback loop with credit availability, which could, in turn, inflict harm on the real economy.

The Federal Reserve pays special attention to developments at the largest, most complex financial firms, using both information gathered through supervision and indicators of financial conditions and systemic risk from financial markets. It has been analyzing the consequences for firms and markets resulting from the ongoing strains in European financial markets as well as those associated with the fiscal situation in the United States. Another issue that the Federal Reserve is monitoring closely is the potential incentive for some investors and institutions to take on excessive risk—for example, by increasing leverage, credit risk, and duration risk—in an attempt to reach for yield in a sustained low interest rate environment. Moreover, efforts are ongoing, both at the Federal Reserve and elsewhere, to evaluate and develop new macroprudential tools that could help limit buildups of systemic risk or increase the resilience of financial institutions and markets to potential adverse shocks.

1. Information on the Dodd–Frank Act stress tests and CCAR are available on the Federal Reserve Board's website at www.federalreserve.gov/bankinforeg/stress-tests-capital-planning.htm.

An Update on the European Fiscal and Banking Crisis

In the second half of 2012, European policymakers stepped up efforts to support vulnerable euro-area economies, strengthen domestic public finances and banking systems, and reinforce the monetary union. As a result, European financial stresses have moderated over the past several months. Nevertheless, they remain elevated, and European policymakers still face significant challenges as they seek to improve fiscal positions, implement growth-augmenting structural reforms, and bolster regional integration in a difficult economic environment.

A key turning point in the euro-area crisis occurred in late July, when Mario Draghi, the European Central Bank (ECB) president, stated, "Within our mandate, the ECB is ready to do whatever it takes to preserve the euro."[1] The ECB subsequently unveiled a framework for Outright Monetary Transactions (OMT) to address distortions in euro-area government bond markets that undermine the transmission of monetary policy. Under certain conditions, the ECB can purchase potentially unlimited amounts of government bonds.[2] To date, the ECB has not purchased any bonds under the OMT framework. Nevertheless, the announcement of the framework has mitigated investors' concerns about the adequacy of financial backstops for the Italian and Spanish governments and, more generally, about the integrity of the euro area.

Vulnerable euro-area countries have made progress in strengthening their banking systems and public finances in recent months. The governments of Ireland and Portugal have been generally fulfilling their policy commitments under their official financial assistance programs. In Spain, the government secured euro-area official approval and financing for its bank restructuring and recapitalization plans. In Greece, the government reinvigorated its long-stalled austerity and reform initiatives. In response, European authorities resumed financial assistance to the Greek government and took steps to address Greece's public debt burden, including easing the terms of euro-area official financing and funding a discounted buyback of roughly €30 billion in privately held Greek government debt. More generally, official financial assistance is continuing to provide vulnerable countries with breathing room to make the difficult adjustments needed to resolve their crises.

European governments have also made some progress toward a European banking union. After protracted negotiations, European leaders agreed in December on key details of a single supervisory mechanism (SSM) for European banks with the ECB at its center. The SSM is expected to be established sometime this spring and should enter into force in early 2014. The ECB will directly supervise large euro-area banks and will be able to assume (from national authorities) supervision of any euro-area bank when necessary to ensure consistent application of high supervisory standards. Establishment of the SSM is viewed as a necessary precondition for euro-area governments to share more directly the fiscal burden of resolving national banking crises. In addition, European governments recently set objectives to accelerate the harmonization of national policy frameworks for bank resolution and deposit insurance and, further down the road, to create a single mechanism for bank resolution and recovery.

In part because of the positive developments highlighted previously, financial stresses facing vulnerable European governments and banks—though still elevated—moderated substantially in the second half of 2012 and early 2013. Sovereign yields declined significantly even as the Italian and Spanish governments issued substantial amounts of debt. In addition, the Irish and Portuguese governments began returning to bond markets; each conducted a limited, yet successful, sale of bonds in January.

1. See Mario Draghi (2012), "Verbatim of the Remarks Made by Mario Draghi," speech delivered at the Global Investment Conference, London, July 26, www.ecb.int/press/key/date/2012/html/sp120726.en.html.

2. The ECB's purchases will focus on government bonds with maturities of one to three years. The ECB will have full discretion over these purchases. A necessary condition for ECB purchases is that a government request a full or precautionary financial assistance program from the European Financial Stability Facility or the European Stability Mechanism. A government that already has such a program must regain market access. In addition, governments must fulfill their policy commitments under their programs and the euro-area governance framework.

Reduced concerns about the European crisis contributed to an easing of funding conditions for European banks. Euro-area banks have relied somewhat less on ECB funding in recent months, and use of central bank dollar liquidity swap lines declined significantly. Reflecting market views of the decreased risk of default, CDS premiums on the debt of many large banks in Europe dropped significantly, on net, especially for Italy and Spain, and euro-area bank stocks increased about 30 percent since mid-2012 (figure 43).

As risk sentiment improved, foreign equity indexes rose significantly: Over the second half of 2012 and into early 2013, equity indexes increased about 10 percent for the United Kingdom and Canada, about 15 percent in the euro area, and about 25 percent in Japan; equity indexes in EMEs also moved up across the board, as shown in figure 43. Likewise, yields on 10-year government bonds in many countries increased moderately, though Japanese yields remained below 1 percent. Spreads of peripheral European sovereign yields over German bond yields of comparable maturity declined significantly as overall euro-area financial strains abated (figure 44). Corporate credit spreads also declined, and bond issuance picked up.

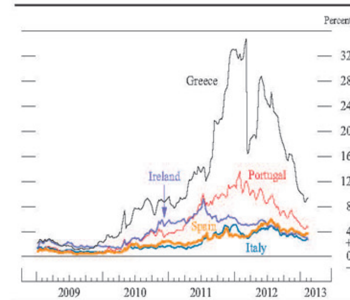
The U.S. dollar depreciated nearly 1 percent against a broad set of currencies over the second half of 2012 and into early 2013 (figure 45). Some of this depreciation reflected a reversal of flight-to-safety flows, in part stemming from the reduction in European financial stress. Indeed, the dollar depreciated 4 percent against the euro. In contrast, the dollar appreciated 17 percent against the Japanese yen. Most of this rise came in recent months, as Shinzo Abe, the newly elected prime minister of Japan, called for the Bank of Japan to employ "unlimited easing" of monetary policy to overcome deflation.

43. Equity indexes for selected foreign economies, 2009 13

NOTE: The data are daily. The last observation for each series is February 20, 2013. Emerging markets are Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Malaysia, Mexico, Morocco, Peru, the Philippines, Poland, Russia, South Africa, South Korea, Taiwan, Thailand, and Turkey.

SOURCE: For emerging markets, Morgan Stanley Emerging Markets MXEF Capital Index; for the euro area, Dow Jones Euro STOXX Index; for euro-area banks, Dow Jones Euro STOXX Bank Index; for Japan, Tokyo Stock Exchange (TOPIX); all via Bloomberg.

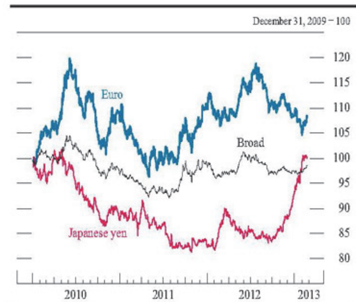
44. Government debt spreads for peripheral European economies, 2009–13



NOTE: The data are weekly. The last observation for each series is February 15, 2013. The spreads shown are the yields on 10-year bonds less the 10-year German bond yield.

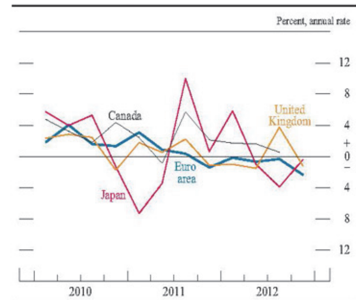
SOURCE: For Greece, Italy, Portugal, and Spain, Bloomberg; for Ireland, staff estimates using traded bond prices from Thomson Reuters and Bloomberg.

45. U.S. dollar exchange rate against broad index and selected major currencies, 2010 13



NOTE: The data, which are in foreign currency units per dollar, are daily. The last observation for each series is February 21, 2013.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

46. Real gross domestic product growth in selected advanced foreign economies, 2010–12



NOTE: The data are quarterly and extend through 2012:Q3 for Canada and 2012:Q4 for the euro area, Japan, and the United Kingdom.
SOURCE: For Canada, Statistics Canada; for the euro area, Eurostat; for Japan, Cabinet Office of Japan; and for the United Kingdom, Office for National Statistics.

. . . but economic activity in the advanced foreign economies continued to weaken . . .

Despite the easing of financial stresses in the euro area and some improvement in global financial markets, activity in the advanced foreign economies (AFEs) continued to lose steam in the second half of 2012 (figure 46). The euro area fell further into recession, as fiscal austerity, rising unemployment, and depressed confidence restrained spending, especially in the countries at the center of the crisis. Real GDP also contracted in Japan, reflecting plummeting exports. In the United Kingdom, real GDP growth resumed in the third quarter, partly thanks to a temporary boost to demand from the London Olympics, but contracted again in the fourth quarter. Canadian real GDP growth remained positive but also weakened, largely owing to lower external demand. Survey indicators suggest that conditions in the AFEs improved only marginally around the turn of the year. Amid this weakness in economic activity and limited pressures from commodity prices, inflation readings for most AFEs remained contained.

Several foreign central banks expanded their balance sheets further and took other actions to support their economies (figure 47). In addition to its introduction of the OMT, the ECB lowered its main policy rate. The Bank of England completed its latest round of asset purchases, bringing its holdings to £375 billion, and began the implementation of its Funding for Lending Scheme, designed to boost lending to households and firms. The Bank of Japan took a number of steps. It introduced a new Stimulating Bank Lending Facility in October and raised its inflation target from 1 percent to 2 percent in January. In addition, it increased the size of its Asset Purchase Program by ¥30 trillion, to ¥101 trillion, by the end of 2013 and announced that purchases would be open ended beginning in 2014.

. . . even as economic growth stabilized in emerging market economies

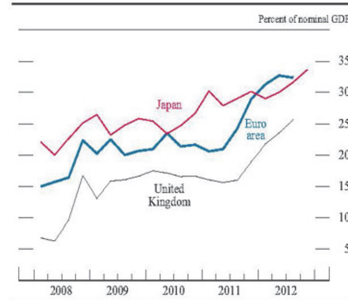
After slowing earlier in the year, in part because of headwinds associated with Europe's troubles, economic growth in EMEs stabilized in the third quarter and appeared to pick up in the fourth. This modest pickup in economic activity in the face of continued weakness in exports to advanced economies was supported by monetary and fiscal policy stimulus.

In China, following slower growth in the first half of 2012, stimulus measures helped boost the pace of real GDP growth in the second half of the year. Improved economic conditions in China also provided a lift to other emerging Asian economies. GDP accelerated in Hong Kong and Taiwan in the third quarter; in the fourth quarter, exports and purchasing managers indexes moved higher in most of the region, and GDP growth rebounded in a number of economies.

After stagnating for about a year, economic activity in Brazil picked up in the third quarter to a still-lackluster pace of 2½ percent. Indicators for the fourth quarter suggest a further modest pickup, supported by accommodative policies. In contrast, GDP growth in Mexico continued to fall in the third quarter as the growth of U.S. manufacturing production slowed; however, Mexican growth picked up to 3 percent in the fourth quarter, boosted by services and the volatile agricultural sector.

Despite occasional spikes in food prices, inflation in most emerging Asian economies remained well contained as moderate output growth limited broader price pressures. India was a notable exception, with 12-month inflation around 10 percent in recent months. In some Latin American economies, increases in food prices had a greater effect on inflation than in Asia, leading to 12-month price increases of around 5½ percent in Brazil and around 4¼ percent in Mexico over the second half of last year.

47. Central bank assets in selected advanced economies, 2008–12



Note: The data are quarterly and extend through 2012:Q3 for the euro area and the United Kingdom and 2012:Q4 for Japan.

Source: For the euro area, European Central Bank and Eurostat; for Japan, Bank of Japan and Cabinet Office of Japan; and for the United Kingdom, Bank of England and Office for National Statistics.

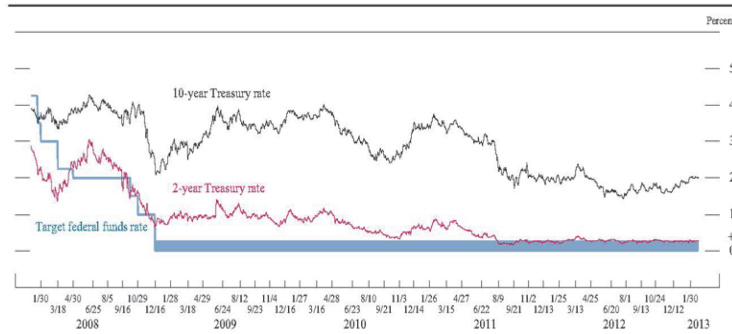
Part 2
Monetary Policy

To promote the objectives given to it by the Congress, the Federal Open Market Committee (FOMC) provided additional monetary accommodation at its September 2012 and December 2012 meetings, by both strengthening its forward guidance regarding the federal funds rate and initiating additional asset purchases.

As discussed in Part 1, incoming economic data throughout the second half of 2012 and into 2013 indicated that economic activity was expanding at a moderate pace. Employment gains were modest, and although the unemployment rate declined somewhat over the period, it remained elevated relative to levels that almost all members of the FOMC viewed as consistent with the Committee's dual mandate. Inflation remained subdued, apart from some temporary variations that largely reflected fluctuations in commodities prices. Members generally attached an unusually high level of uncertainty to their assessments of the economic outlook. Moreover, they continued to judge that the risks to economic growth were tilted to the downside because of strains in financial markets stemming from the sovereign debt and banking situation in Europe, as well as the potential for a significant slowdown in global economic growth and for a sharper-than-anticipated fiscal contraction in the United States. With longer-term inflation expectations stable and still-considerable slack in resource markets, most members anticipated that inflation over the medium term would run at or below the Committee's longer-run goal of 2 percent.

Accordingly, to promote the FOMC's objectives of maximum employment and price stability, the Committee maintained a target range for the federal funds rate of 0 to ¼ percent throughout the second half of 2012 and provided additional monetary accommodation at its September and December meetings, by both strengthening its forward guidance regarding the federal funds rate and initiating additional purchases of longer-term securities (figure 48). The Committee also completed at year-end the continuation of the program to extend the average maturity of its holdings

48. Selected interest rates, 2008–13



Note: The data are daily and extend through February 21, 2013. The 2-year and 10-year Treasury rates are the constant-maturity yields 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.

of Treasury securities that was announced in June 2012 and continued its policy of reinvesting principal payments from its holdings of agency debt and agency-guaranteed mortgage-backed securities (MBS) into agency MBS.

At the September 12–13 meeting, the Committee agreed that the outlook called for additional monetary accommodation, and that such accommodation should be provided by both strengthening its forward guidance regarding the federal funds rate and initiating additional purchases of agency MBS at a pace of $40 billion per month. Along with the ongoing purchases of $45 billion per month of longer-term Treasury securities under the maturity extension program announced in June, these purchases increased the Committee's holdings of longer-term securities by about $85 billion each month through the end of the year. These actions were taken to put downward pressure on longer-term interest rates, support mortgage markets, and help make broader financial conditions more accommodative (see the box "Efficacy and Costs of Large-Scale Asset Purchases"). The Committee agreed that it would closely monitor incoming information on economic and financial developments in coming months, and that if the outlook for the labor market did not improve substantially, it would continue its purchases of agency MBS, undertake additional asset purchases, and employ its other policy tools as appropriate until such improvement is achieved in a context of price stability. The Committee also agreed that in determining the size, pace, and composition of its asset purchases, it would, as always, take appropriate account of the likely efficacy and costs of such purchases. This flexible approach was seen as allowing the Committee to tailor its policy over time in response to incoming information while clarifying its intention to improve labor market conditions, thereby enhancing the effectiveness of the action by helping to bolster business and consumer confidence.

The Committee also modified its forward guidance regarding the federal funds rate at the September meeting, noting that exceptionally low levels for the federal funds rate were likely to be warranted at least through mid-2015, longer than had been indicated in previous FOMC statements. Moreover, the Committee stated its expectation that a highly accommodative stance of monetary policy would remain appropriate for a considerable time after the economic recovery strengthens. The new language was meant to clarify that the Committee's anticipation that exceptionally low levels for the federal funds rate were likely to be warranted at least through mid-2015 did not reflect an expectation that the economy would remain weak, but rather reflected the Committee's determination to support a stronger economic recovery.

At the December 11–12 meeting, members judged that continued provision of monetary accommodation was warranted in order to support further progress toward the Committee's goals of maximum employment and price stability. The Committee judged that, following the completion of the maturity extension program at the end of the year, such accommodation should be provided in part by continuing to purchase agency MBS at a pace of $40 billion per month and by purchasing longer-term Treasury securities at a pace initially set at $45 billion per month. The Committee also decided that, starting in January, it would resume rolling over maturing Treasury securities at auction.

With regard to its forward rate guidance, the Committee decided to indicate in the statement that it expects the highly accommodative stance of monetary policy to remain appropriate for a considerable time after the asset purchase program ends and the economic recovery strengthens. In addition, it replaced the date-based guidance for the federal funds rate with numerical thresholds linked to the unemployment rate and projected inflation.

Efficacy and Costs of Large-Scale Asset Purchases

In order to provide additional monetary stimulus when short-term interest rates are near zero, the Federal Reserve has undertaken a series of large-scale asset purchase (LSAP) programs. Between late 2008 and early 2010, the Federal Reserve purchased approximately $1.7 trillion in longer-term Treasury securities, agency debt, and agency mortgage-backed securities (MBS). From late 2010 to mid-2011, a second round of LSAPs was implemented, consisting of purchases of $600 billion in longer-term Treasury securities. Between September 2011 and the end of 2012, the Federal Reserve implemented the maturity extension program and its continuation, under which it purchased approximately $700 billion in longer-term Treasury securities and sold or allowed to run off an equal amount of shorter-term Treasury securities. And in September and December 2012, the Federal Reserve announced flow-based purchases of agency MBS and longer-term Treasury securities at initial paces of $40 billion and $45 billion per month, respectively.

These purchases were undertaken in order to put downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative, thereby supporting the economic recovery. One mechanism through which asset purchases can affect financial conditions is the "portfolio balance channel," which is based on the premise that different financial assets may be reasonably close but imperfect substitutes in investors' portfolios. This assumption implies that changes in the supplies of various assets available to private investors may affect the prices or yields of those assets and the prices of assets that may be reasonably close substitutes. As a result, the Federal Reserve's asset purchases can push up the prices and lower the yields on the securities purchased and influence other asset prices as well. As investors further rebalance their portfolios, overall financial conditions should ease more generally, stimulating economic activity through channels similar to those for conventional monetary policy. In addition, asset purchases could also signal that the central bank intends to pursue a more accommodative policy stance than previously thought, thereby lowering investor expectations about the future path of the federal funds rate and putting additional downward pressure on longer-term yields.

A substantial body of empirical research finds that the Federal Reserve's asset purchase programs have significantly lowered longer-term Treasury yields.[1] More important, the effects of LSAPs do not seem to be restricted to Treasury yields. In particular, LSAPs have been found to be associated with significant declines in MBS yields and corporate bond yields as well as with increases in equity prices.

Continued on next page

1. For a selective list of references regarding the effect of the first LSAP, see the box "The Effects of Federal Reserve Asset Purchases" in Board of Governors of the Federal Reserve System (2011), *Monetary Policy Report to the Congress* (Washington: Board of Governors, March), www.federalreserve.gov/monetarypolicy/mpr_20110301_part2.htm. For additional references, including those that analyze the effect of the second LSAP as well as the maturity extension program, see, for example, Stefania D'Amico, William English, David López-Salido, and Edward Nelson (2012), "The Federal Reserve's Large-Scale Asset Purchase Programmes: Rationale and Effects," *Economic Journal*, vol. 122 (November), pp. F415–45; Arvind Krishnamurthy and Annette Vissing-Jorgensen (2011), "The Effects of Quantitative Easing on Interest Rates: Channels and Implications for Policy," *Brookings Papers on Economic Activity*, Fall, pp. 215–65; Canlin Li and Min Wei (2012), "Term Structure Modelling with Supply Factors and the Federal Reserve's Large Scale Asset Purchase Programs," Finance and Economics Discussion Series 2012-37 (Washington: Board of Governors of the Federal Reserve System, May), www.federalreserve.gov/pubs/feds/2012/201237/201237pap.pdf; and references in those studies. For work that specifically emphasizes the signaling channel of LSAPs, see, for example, Michael D. Bauer and Glenn D. Rudebusch (2012), "The Signaling Channel for Federal Reserve Bond Purchases," Working Paper Series 2011-21 (San Francisco: Federal Reserve Bank of San Francisco, August), www.frbsf.org/publications/economics/papers/2011/wp11-21bk.pdf. For work that focuses on the effects on credit default risk, see, for example, Simon Gilchrist and Egon Zakrajšek (2012), "The Impact of the Federal Reserve's Large-Scale Asset Purchase Programs on Default Risk," paper presented at "Macroeconomics and Financial Intermediation: Directions since the Crisis," a conference held at the National Bank of Belgium, Brussels, December 9–10, 2011. Although the majority of research on the effects of LSAPs appears to support a significant influence on asset prices, the overall result of such programs is generally difficult to estimate precisely: Event studies can make only sharp predictions on the effects within a relatively short time horizon, whereas approaches based on time-series models tend to face challenges in isolating the effects of the programs from other economic developments. For a more skeptical view on the effect of LSAPs, see, for example, Daniel L. Thornton (2012), "Evidence on the Portfolio Balance Channel of Quantitative Easing," Working Paper Series 2012-015A (St. Louis: Federal Reserve Bank of St. Louis, October), http://research.stlouisfed.org/wp/2012/2012-015.pdf.

Efficacy and Costs of Large-Scale Asset Purchases, *continued*

While there seems to be substantial evidence that LSAPs have lowered longer-term yields and eased broader financial conditions, obtaining accurate estimates of the effects of LSAPs on the macroeconomy is inherently difficult, as the counterfactual case—how the economy would have performed without LSAPs—cannot be directly observed. However, econometric models can be used to estimate the effects of LSAPs on the economy under the assumption that the economic effects of the easier financial conditions that are induced by LSAPs are similar to those that are induced by conventional monetary policy easing. Model simulations conducted at the Federal Reserve have generally found that asset purchases provide a significant boost to the economy. For example, a study based on the Federal Reserve Board's FRB/US model estimated that, as of 2012, the first two rounds of LSAPs had raised real gross domestic product almost 3 percent and increased private payroll employment by about 3 million jobs, while lowering the unemployment rate about 1.5 percentage points, relative to what would have been expected otherwise. These simulations also suggest that the program materially reduced the risk of deflation.[2]

Of course, all model-based estimates of the macroeconomic effects of LSAPs are subject to considerable statistical and modeling uncertainty and thus should be treated with caution. Indeed, while some other studies also report significant macroeconomic effects from asset purchases, other research finds smaller effects.[3] Nonetheless, a balanced reading of the evidence supports the conclusion that LSAPs have provided meaningful support to the economic recovery while mitigating deflationary risks.

The potential benefits of LSAPs must be considered alongside their possible costs. One potential cost of conducting additional LSAPs is that the operations could lead to a deterioration in market functioning or liquidity in markets where the Federal Reserve is engaged in purchasing. More specifically, if the Federal Reserve becomes too dominant a buyer in a certain market, trading among private participants could decrease enough that market liquidity and price discovery become impaired. As the global financial system relies on deep and liquid markets for U.S. Treasury securities, significant impairment of this market would be especially costly; impairment of this market could also impede the transmission of monetary policy. Although the large volume of the Federal Reserve's purchases relative to the size of the markets for Treasury or agency securities could ultimately become an issue, few if any problems have been observed in those markets thus far.

A second potential cost of LSAPs is that they may undermine public confidence in the Federal Reserve's ability to exit smoothly from its accommodative policies at the appropriate time. Such a reduction in confidence might increase the risk that long-term inflation expectations become unanchored. The Federal Reserve is certainly aware of these concerns and accordingly has placed great emphasis on developing the necessary tools to ensure that policy accommodation can be removed when appropriate. For example, the Federal Reserve will be able to put upward pressure on short-term interest rates at the appropriate time by raising the interest rate it pays on reserves, using draining tools like reverse repurchase agreements or term deposits with depository institutions, or selling securities from the Federal Reserve's portfolio. To date, the expansion of the balance sheet does not appear to have materially affected long-term inflation expectations.

A third cost to be weighed is that of risks to financial stability. For example, some observers have

2. These results are discussed further in Hess Chung, Jean-Philippe Laforte, David Reifschneider, and John C. Williams (2012), "Have We Underestimated the Likelihood and Severity of Zero Lower Bound Events?" *Journal of Money, Credit and Banking*, vol. 44 (February supplement), pp. 47–82.

3. For studies reporting significant macroeconomic effects from asset purchases, see, for example, Jeffrey C. Fuhrer and Giovanni P. Olivei (2011), "The Estimated Macroeconomic Effects of the Federal Reserve's Large-Scale Treasury Purchase Program," Public Policy Briefs 11-02 (Boston: Federal Reserve Bank of Boston, April), www.bos.frb.org/economic/ppb/2011/ppb112.pdf; and Christiane Baumeister and Luca Benati (2012), "Unconventional Monetary Policy and the Great Recession: Estimating the Macroeconomic Effects of a Spread Compression at the Zero Lower Bound," Working Papers 2012-21 (Ottawa: Bank of Canada, July), www.bankofcanada.ca/wp-content/uploads/2012/07/wp2012-21.pdf. Also, the Bank of England has implemented LSAPs similar to those undertaken by the Federal Reserve, and its staff research finds that the effects appear to be quantitatively similar to those in the United States.

For studies reporting smaller effects from asset purchases, see, for example, Michael T. Kiley (2012), "The Aggregate Demand Effects of Short- and Long-Term Interest Rates," Finance and Economics Discussion Series 2012-54 (Washington: Board of Governors of the Federal Reserve System, August), www.federalreserve.gov/pubs/feds/2012/201254/201254pap.pdf; and Han Chen, Vasco Curdia, and Andrea Ferrero (2012), "The Macroeconomic Effects of Large-Scale Asset Purchase Programmes," *Economic Journal*, vol. 122 (November), pp. F289–315.

raised concerns that, by driving longer-term yields lower, nontraditional policies could induce imprudent risk-taking by some investors. Of course, some risk-taking is a necessary element of a healthy economic recovery, and accommodative monetary policies could even serve to reduce the risk in the system by strengthening the overall economy. Nonetheless, the Federal Reserve has substantially expanded its monitoring of the financial system and modified its supervisory approach to take a more systemic perspective.

There has been limited evidence so far of excessive buildups of duration, credit risk, or leverage, but the Federal Reserve will continue both its careful oversight and its implementation of financial regulatory reforms designed to reduce systemic risk.[4]

The Federal Reserve has remitted substantial income to the Treasury from its earnings on securities, totaling some $290 billion since 2009. However, if the economy continues to strengthen and policy accommodation is withdrawn, remittances will likely decline in coming years. Indeed, in some scenarios, particularly if interest rates were to rise quickly, remittances to the Treasury could be quite low for a time.[5] Even in such scenarios, however, average annual remittances over the period affected by the Federal Reserve's purchases are highly likely to be greater than the pre-crisis norm, perhaps substantially so. Moreover, if monetary policy promotes a stronger recovery, the associated reduction in the federal deficit would far exceed any variation in the Federal Reserve's remittances to the Treasury. That said, the Federal Reserve conducts monetary policy to meet its congressionally mandated objectives of maximum employment and price stability and not primarily for the purpose of turning a profit for the U.S. Department of the Treasury.

4. For additional details, see the box "The Federal Reserve's Actions to Foster Financial Stability" in Part 1.

5. For additional details, see Seth B. Carpenter, Jane E. Ihrig, Elizabeth C. Klee, Daniel W. Quinn, and Alexander H. Boote (2013), "The Federal Reserve's Balance Sheet and Earnings: A Primer and Projections," Finance and Economics Discussion Series 2013-01 (Washington: Board of Governors of the Federal Reserve System, January), www.federalreserve.gov/pubs/feds/2013/201301/201301abs.html.

In particular, the Committee indicated that it expected that the exceptionally low range for the federal funds rate would be appropriate at least as long as the unemployment rate remains above 6½ percent, inflation between one and two years ahead is projected to be no more than ½ percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored. These thresholds were seen as helping the public to more readily understand how the likely timing of an eventual increase in the federal funds rate would shift in response to unanticipated changes in economic conditions and the outlook. Accordingly, thresholds could increase the probability that market reactions to economic developments would move longer-term interest rates in a manner consistent with the Committee's assessment of the likely future path of short-term interest rates. The Committee indicated in its December statement that it viewed the economic thresholds, at least initially, as consistent with its earlier, date-based guidance. The new language noted that the Committee would also consider other information when determining how long to maintain the highly accommodative stance of monetary policy, including additional measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments.

At the conclusion of its January 29–30 meeting, the Committee made no changes to its target range for the federal funds rate, its asset purchase program, or its forward guidance for the federal funds rate. The Committee stated that, with appropriate policy accommodation, it expected that economic growth would proceed at a moderate pace and the unemployment rate would gradually decline toward levels the Committee judges consistent with its dual mandate. It noted that strains in global financial markets had eased somewhat, but that it continued to see downside risks to the economic outlook. The Committee continued to anticipate that inflation over the medium term likely would run at or below its 2 percent objective.

Part 3
Summary of Economic Projections

The following material appeared as an addendum to the minutes of the December 11–12, 2012, meeting of the Federal Open Market Committee.

In conjunction with the December 11–12, 2012, Federal Open Market Committee (FOMC) meeting, meeting participants—the 7 members of the Board of Governors and the 12 presidents of the Federal Reserve Banks, all of whom participate in the deliberations of the FOMC—submitted their assessments of real output growth, the unemployment rate, inflation, and the target federal funds rate for each year from 2012 through 2015 and over the longer run. Each participant's assessment was based on information available at the time of the meeting plus his or her judgment of appropriate monetary policy and assumptions about the factors likely to affect economic outcomes. The longer-run projections represent each participant's judgment of the value to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy. "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 individual interpretation of the Federal Reserve's objectives of maximum employment and stable prices.

Overall, the assessments submitted in December indicated that FOMC participants projected that, under appropriate monetary policy, the pace of economic recovery would gradually pick up over the 2012–15 period and inflation would remain subdued (table 1 and figure 1). Participants anticipated that the growth rate of real gross domestic product (GDP) would increase somewhat in 2013 and again in 2014, and that economic growth in 2014 and 2015 would exceed their estimates of the longer-run sustainable rate of growth, while the unemployment rate would decline gradually through 2015. Participants projected that each year's inflation, as measured by the annual change in the price index for personal consumption expenditures (PCE), would run

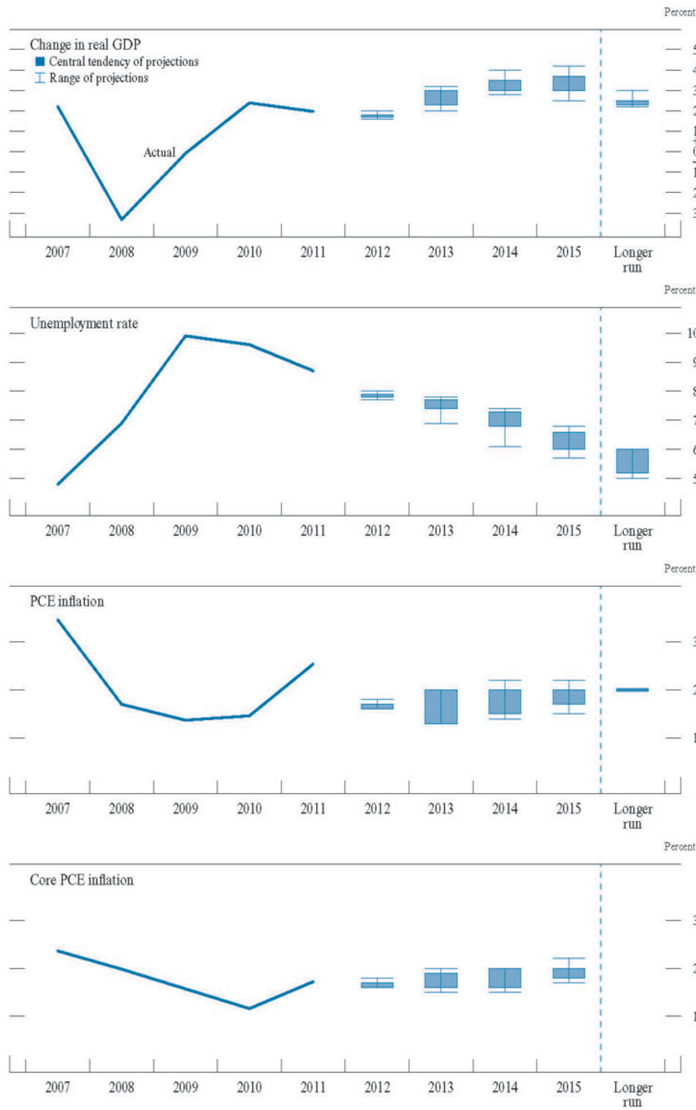
Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, December 2012
Percent

Variable	Central tendency[1]					Range[2]				
	2012	2013	2014	2015	Longer run	2012	2013	2014	2015	Longer run
Change in real GDP	1.7 to 1.8	2.3 to 3.0	3.0 to 3.5	3.0 to 3.7	2.3 to 2.5	1.6 to 2.0	2.0 to 3.2	2.8 to 4.0	2.5 to 4.2	2.2 to 3.0
September projection	1.7 to 2.0	2.5 to 3.0	3.0 to 3.8	3.0 to 3.8	2.3 to 2.5	1.6 to 2.0	2.3 to 3.5	2.7 to 4.1	2.5 to 4.2	2.2 to 3.0
Unemployment rate	7.8 to 7.9	7.4 to 7.7	6.8 to 7.3	6.0 to 6.6	5.2 to 6.0	7.7 to 8.0	6.9 to 7.8	6.1 to 7.4	5.7 to 6.8	5.0 to 6.0
September projection	8.0 to 8.2	7.6 to 7.9	6.7 to 7.3	6.0 to 6.8	5.2 to 6.0	8.0 to 8.3	7.0 to 8.0	6.3 to 7.5	5.7 to 6.9	5.0 to 6.3
PCE inflation	1.6 to 1.7	1.3 to 2.0	1.5 to 2.0	1.7 to 2.0	2.0	1.6 to 1.8	1.3 to 2.0	1.4 to 2.2	1.5 to 2.2	2.0
September projection	1.7 to 1.8	1.6 to 2.0	1.6 to 2.0	1.8 to 2.0	2.0	1.5 to 1.9	1.5 to 2.1	1.6 to 2.2	1.8 to 2.3	2.0
Core PCE inflation[3]	1.6 to 1.7	1.6 to 1.9	1.6 to 2.0	1.8 to 2.0		1.6 to 1.8	1.5 to 2.0	1.5 to 2.0	1.7 to 2.2	
September projection	1.7 to 1.9	1.7 to 2.0	1.8 to 2.0	1.9 to 2.0		1.6 to 2.0	1.6 to 2.0	1.6 to 2.2	1.8 to 2.3	

Note: Projections of change in real gross domestic product (GDP) and projections for both measures of 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 September projections were made in conjunction with the meeting of the Federal Open Market Committee on September 12–13, 2012.

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 includes 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, 2012–15 and over the longer run



Note: Definitions of variables are in the general note to table 1. The data for the actual values of the variables are annual.

close to or below the FOMC's longer-run inflation objective of 2 percent.

As shown in figure 2, most participants judged that highly accommodative monetary policy was likely to be warranted over the next few years. In particular, 14 participants thought that it would be appropriate for the first increase in the target federal funds rate to occur during 2015 or later. Most participants judged that appropriate monetary policy would include purchasing agency mortgage-backed securities (MBS) and longer-term Treasury securities after the completion of the maturity extension program at the end of 2012.

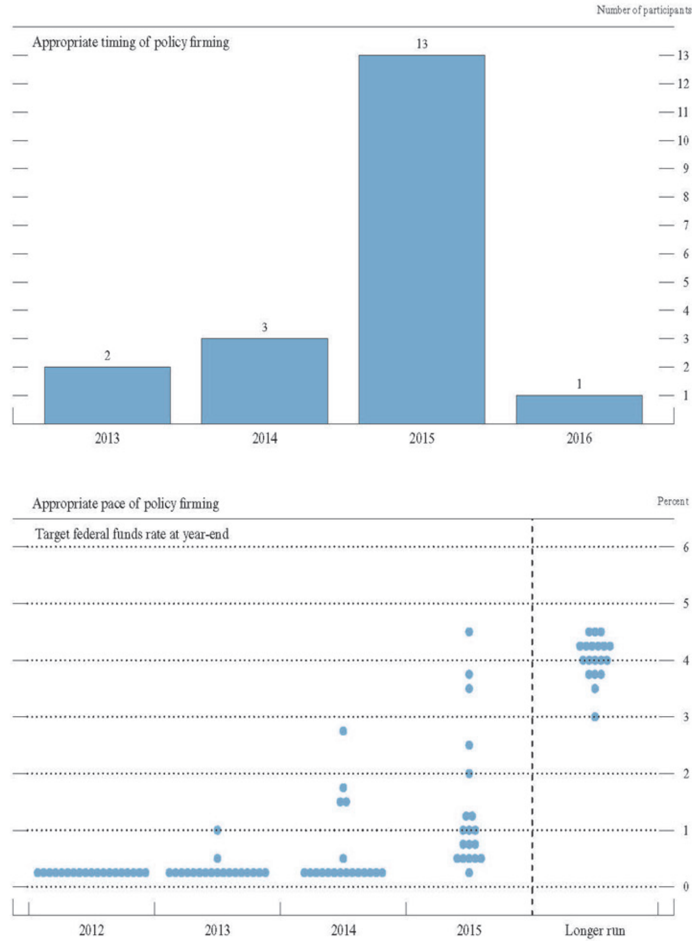
As in September, participants judged the uncertainty associated with the outlook for real activity and the unemployment rate to be unusually high compared with historical norms, with the risks weighted mainly toward slower economic growth and a higher unemployment rate. While a number of participants viewed the uncertainty surrounding their projections for inflation to be unusually high, more saw the level of uncertainty to be broadly similar to historical norms; most considered the risks to inflation to be roughly balanced.

The Outlook for Economic Activity

Participants judged that the economy grew at a moderate pace over the second half of 2012 and projected that, conditional on their individual assumptions about appropriate monetary policy, the economy would grow at a somewhat faster pace in 2013 before expanding in 2014 and 2015 at a rate above what participants saw as the longer-run rate of output growth. The central tendency of their projections for the change in real GDP in 2012 was 1.7 to 1.8 percent, slightly lower than in September. A number of participants mentioned that last summer's drought and the effects of Hurricane Sandy likely had held down economic activity in the second half of this year. Many participants also noted that, while conditions in the housing and labor markets appeared to have improved recently, uncertainty about fiscal policy appeared to be holding back business and household spending. Participants' projections for 2013 through 2015 were generally little changed relative to their September projections. The central tendency of participants' projections for real GDP growth in 2013 was 2.3 to 3.0 percent, followed by a central tendency of 3.0 to 3.5 percent for 2014 and one of 3.0 to 3.7 percent for 2015. The central tendency for the longer-run rate of increase of real GDP remained 2.3 to 2.5 percent, unchanged from September. Most participants noted that the high degree of monetary policy accommodation assumed in their projections would help promote the economic recovery over the forecast period; however, they also judged that several factors would likely hold back the pace of economic expansion, including slower growth abroad, a still-weak housing market, the difficult fiscal and financial situation in Europe, and fiscal restraint in the United States.

Participants projected the unemployment rate for the final quarter of 2012 to be close to its average level in October and November, implying a rate somewhat below that projected in September. Participants anticipated a gradual decline in the unemployment rate over the forecast period; even so, they generally thought that the unemployment rate at the end of 2015 would still be well above their individual estimates of its longer-run normal level. The central tendencies of participants' forecasts for the unemployment rate were 7.4 to 7.7 percent at the end of 2013, 6.8 to 7.3 percent at the end of 2014, and 6.0 to 6.6 percent at the end of 2015. The central tendency of participants' estimates of the longer-run normal rate of unemployment that would prevail under appropriate monetary policy and in the absence of further shocks to the economy was 5.2 to 6.0 percent, unchanged from September. Most participants projected that the unemployment rate would converge

Figure 2. Overview of FOMC participants' assessments of appropriate monetary policy, December 2012



Note: In the upper panel, the height of each bar denotes the number of FOMC participants who judge that, under appropriate monetary policy, the first increase in the target federal funds rate from its current range of 0 to ¼ percent will occur in the specified calendar year. In September 2012, the numbers of FOMC participants who judged that the first increase in the target federal funds rate would occur in 2012, 2013, 2014, 2015, and 2016 were, respectively, 1, 3, 2, 12, and 1. In the lower panel, each shaded circle indicates the value (rounded to the nearest ¼ percentage point) of an individual participant's judgment of the appropriate level of the target federal funds rate at the end of the specified calendar year or over the longer run.

to their estimates of its longer-run normal rate in five or six years, while a few judged that less time would be needed.

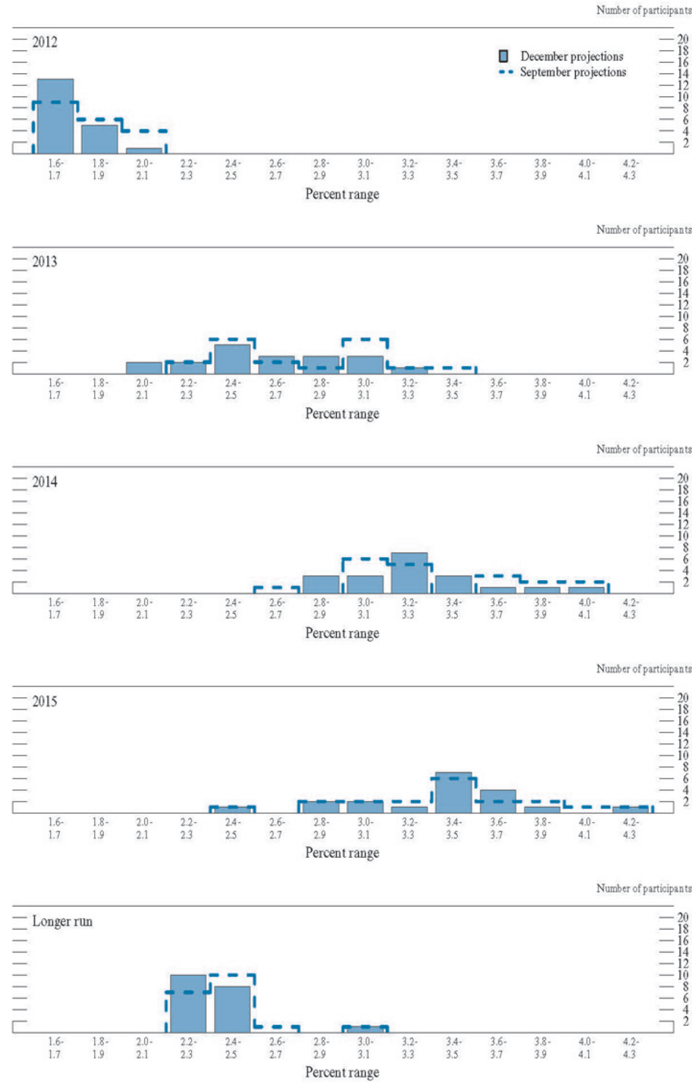
Figures 3.A and 3.B provide details on the diversity of participants' views regarding the likely outcomes for real GDP growth and the unemployment rate over the next three years and over the longer run. The dispersion in these projections reflects differences in participants' assessments of many factors, including appropriate monetary policy and its effects on the economy, the rate of improvement in the housing sector, the spillover effects of the fiscal and financial situation in Europe, the prospective path for U.S. fiscal policy, the extent of structural dislocations in the labor market, the likely evolution of credit and financial market conditions, and longer-term trends in productivity and the labor force. With the data for much of 2012 now in hand, the dispersion of participants' projections of real GDP growth and the unemployment rate this year narrowed compared with their September submissions. Meanwhile, the distribution of participants' forecasts for the change in real GDP in 2013 shifted down a bit, and that for 2014 narrowed slightly. However, the range of projections for real GDP growth in 2015 was little changed from September. The distributions of the unemployment rate projections at the end of 2012, 2013, and 2014 all shifted lower, while the range of projections for the unemployment rate for 2015, at 5.7 to 6.8 percent, remained close to its September level. The dispersion of estimates for the longer-run rate of output growth stayed fairly narrow, with all but one between 2.2 and 2.5 percent. The range of participants' estimates of the longer-run rate of unemployment, at 5.0 to 6.0 percent, narrowed relative to September. This range reflected different judgments among participants about several factors, including the outlook for labor force participation and the structure of the labor market.

The Outlook for Inflation

Participants' views on the broad outlook for inflation under appropriate monetary policy were little changed from September. Most anticipated that inflation for 2012 as a whole would be close to 1.6 percent, somewhat lower than projected in September. A number of participants remarked that recent inflation readings had come in below their expectations. Almost all of the participants judged that both headline and core inflation would remain subdued over the 2013–15 period, running at rates equal to or below the FOMC's longer-run objective of 2 percent. Specifically, the central tendency of participants' projections for inflation, as measured by the PCE price index, moved down to 1.3 to 2.0 percent for 2013 and was little changed for 2014 and 2015 at 1.5 to 2.0 percent and 1.7 to 2.0 percent, respectively. The central tendencies of the forecasts for core inflation were broadly similar to those for the headline measure for 2013 through 2015. In discussing factors likely to sustain low inflation, several participants cited stable inflation expectations and expectations for continued sizable resource slack.

Figures 3.C and 3.D provide information about the diversity of participants' views about the outlook for inflation. The range of participants' projections for headline inflation for 2012 narrowed from 1.5 to 1.9 percent in September to 1.6 to 1.8 percent in December; nearly all participants' projections in December were at 1.6 percent or 1.7 percent, broadly in line with recent inflation readings. The distributions of participants' projections for headline inflation in 2013 and 2014 shifted lower compared with the corresponding distributions for September, while the range of projections for core inflation narrowed slightly for both years. The distributions for core and overall inflation in 2015 were concentrated near the Committee's longer-run inflation objective of 2 percent, although somewhat less so than in September.

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2012–15 and over the longer run



Note: Definitions of variables are in the general note to table 1.

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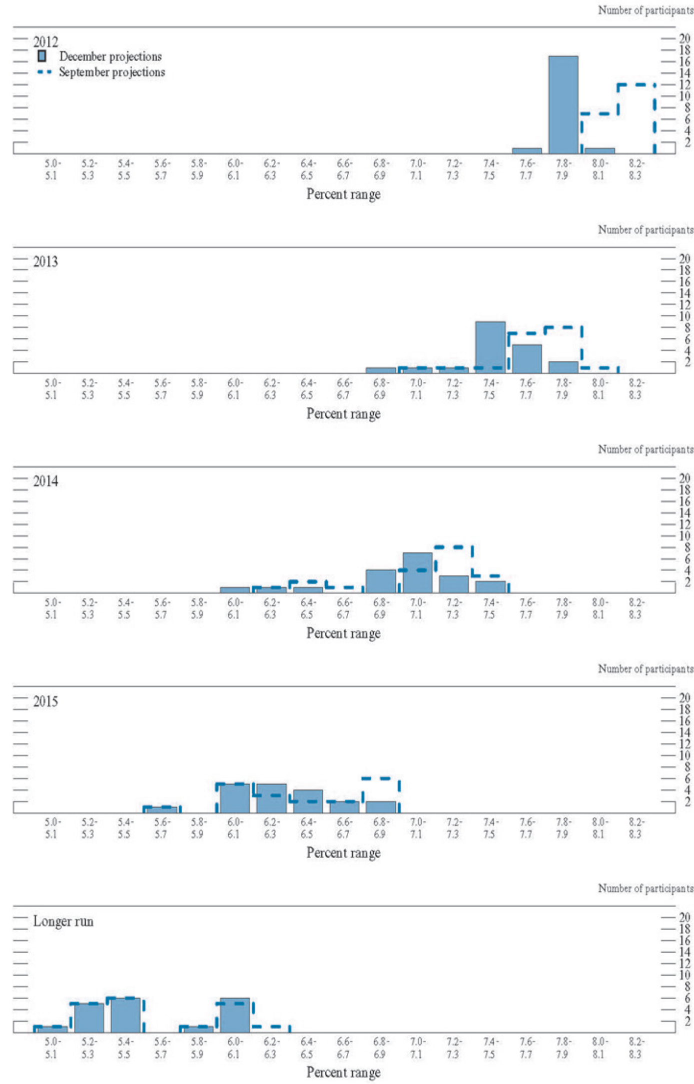
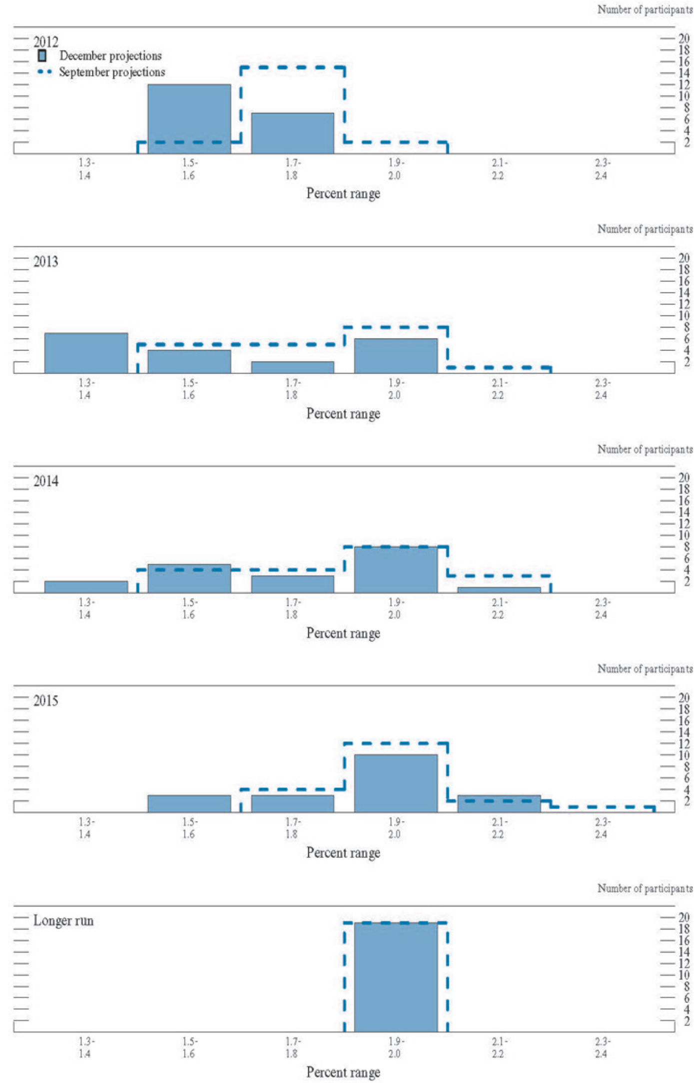
Figure 3.B. Distribution of participants' projections for the unemployment rate, 2012–15 and over the longer run



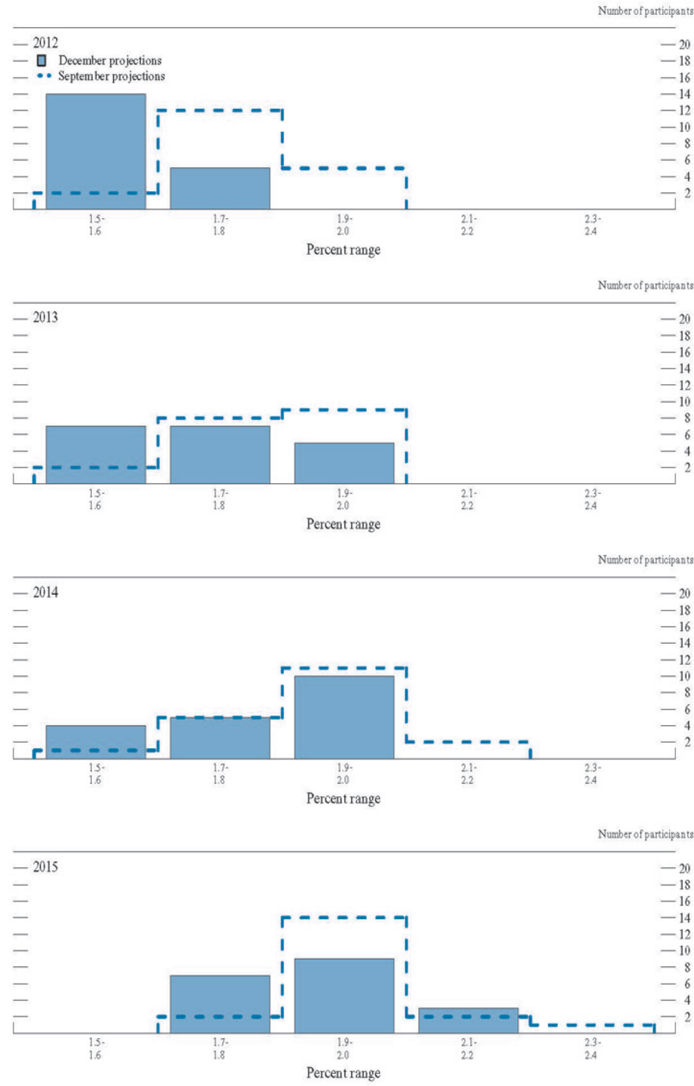
Note: Definitions of variables are in the general note to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2012–15 and over the longer run



Note: Definitions of variables are in the general note to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2012–15



Note: Definitions of variables are in the general note to table 1.

Appropriate Monetary Policy

As indicated in figure 2, most participants judged that exceptionally low levels of the federal funds rate would remain appropriate for several more years. In particular, 13 participants thought that the first increase in the target federal funds rate would not be warranted until 2015, and 1 judged that policy firming would likely not be appropriate until 2016 (upper panel). The 13 participants who expected that the target federal funds rate would not move above its effective lower bound until 2015 thought the federal funds rate would be 1¼ percent or lower at the end of that year, while the 1 participant who expected that policy firming would commence in 2016 saw the federal funds rate target at 50 basis points at the end of that year. Five participants judged that an earlier increase in the federal funds rate, in 2013 or 2014, would be most consistent with the Committee's statutory mandate. Those participants judged that the appropriate value for the federal funds rate would range from ½ to 2¾ percent at the end of 2014 and from 2 to 4½ percent at the end of 2015.

Among the participants who saw a later tightening of policy, a majority indicated that they believed it was appropriate to maintain the current level of the federal funds rate until the unemployment rate is less than or equal to 6½ percent. In contrast, a majority of those who favored an earlier tightening of policy pointed to concerns about inflation as a primary reason for expecting that it would be appropriate to tighten policy sooner. Participants were about evenly split between those who judged the appropriate path for the federal funds rate to be unchanged relative to September and those who saw the appropriate path as lower.

Nearly all participants saw the appropriate target for the federal funds rate at the end of 2015 as still well below its expected longer-run value. Estimates of the longer-run target federal funds rate ranged from 3 to 4½ percent, reflecting the Committee's inflation objective of 2 percent and participants' judgments about the longer-run equilibrium level of the real federal funds rate.

Participants also provided information on their views regarding the appropriate path of the Federal Reserve's balance sheet. Most participants thought it was appropriate for the Committee to continue purchasing MBS and longer-term Treasury securities after completing the maturity extension program at the end of this year. In their projections, taking into account the likely benefits and costs of purchases as well as the expected evolution of the outlook, these participants were approximately evenly divided between those who judged that it would likely be appropriate for the Committee to complete its asset purchases sometime around the middle of 2013 and those who judged that it would likely be appropriate for the asset purchases to continue beyond that date. In contrast, several participants believed the Committee would best foster its dual objectives by ending its purchases of Treasury securities or all of its asset purchases at the end of this year when the maturity extension program was completed.

Key factors informing participants' views of the economic outlook and the appropriate setting for monetary policy include their judgments regarding labor market conditions that would be consistent with maximum employment, the extent to which employment currently deviated from maximum employment, the extent to which projected inflation over the medium term deviated from the Committee's longer-term objective of 2 percent, and participants' projections of the likely time horizon necessary to return employment and inflation to mandate-consistent levels. Many participants mentioned economic thresholds based on the unemployment rate and the inflation outlook that were consistent with their judgments

of when it would be appropriate to consider beginning to raise the federal funds rate. A couple of participants noted that their assessments of the appropriate path for the federal funds rate took into account the likelihood that the neutral level of the federal funds rate was somewhat below its historical norm. There was some concern expressed that a protracted period of very accommodative monetary policy could lead to imbalances in the financial system. It was also noted that because the appropriate stance of monetary policy is conditional on the evolution of real activity and inflation over time, assessments of the appropriate future path of the federal funds rate and the balance sheet could change if economic conditions were to evolve in an unexpected manner.

Figure 3.E details the distribution of participants' judgments regarding the appropriate level of the target federal funds rate at the end of each calendar year from 2012 to 2015 and over the longer run. As previously noted, most participants judged that economic conditions would warrant maintaining the current low level of the federal funds rate until 2015. Views on the appropriate level of the federal funds rate by the end of 2015 varied, with 12 participants seeing the appropriate level of the federal funds rate as 1 percent or lower and 4 of them seeing the appropriate level as 2½ percent or higher. Generally, the participants who judged that a longer period of very accommodative monetary policy would be appropriate were those who projected that a sizable gap between the unemployment rate and the longer-run normal level of the unemployment rate would persist until 2015 or later. In contrast, the majority of the 5 participants who judged that policy firming should begin in 2013 or 2014 indicated that the Committee would need to act relatively soon in order to keep inflation near the FOMC's longer-run objective of 2 percent and to prevent a rise in inflation expectations.

Table 2. Average historical projection error ranges

Percentage points

Variable	2012	2013	2014	2015
Change in real GDP[1]	±0.6	±1.4	±1.7	±1.7
Unemployment rate[1]	±0.2	±0.9	±1.5	±1.9
Total consumer prices[2]	±0.5	±0.9	±1.1	±1.0

NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 1992 through 2011 that were released in the fall 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 may be found 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. Definitions of variables are in the general note to table 1.

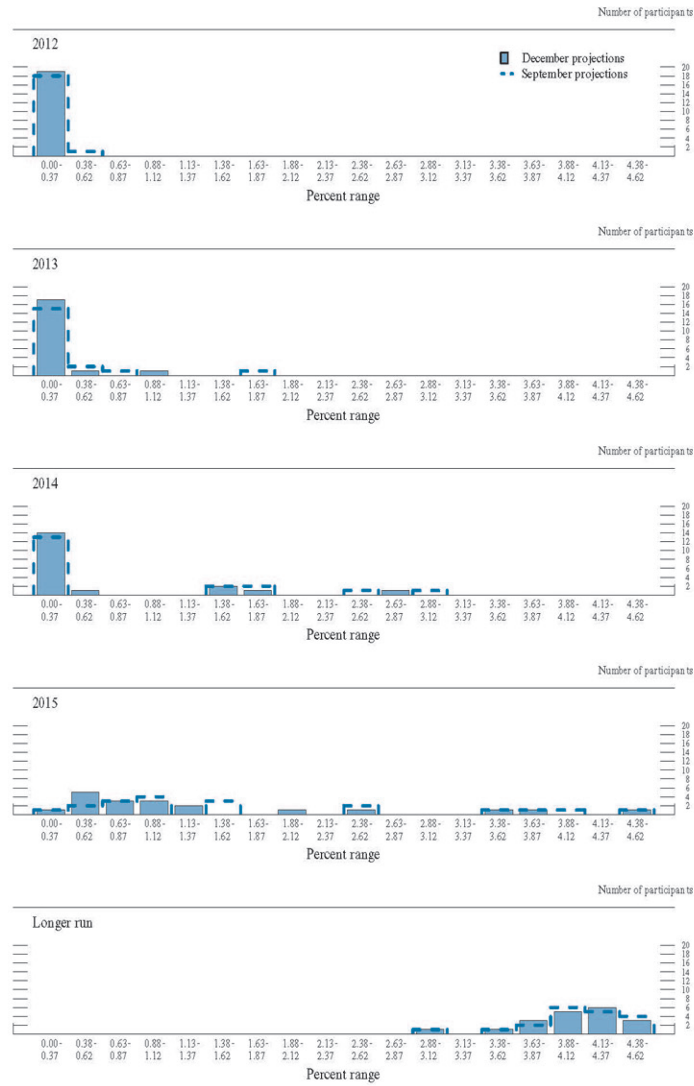
2. Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projection is percent change, fourth quarter of the previous year to the fourth quarter of the year indicated.

Uncertainty and Risks

Nearly all of the participants judged their current levels of uncertainty about real GDP growth and unemployment to be higher than was the norm during the previous 20 years (figure 4).[1] Seven participants judged that the levels of uncertainty associated with their forecasts of total PCE inflation were higher as well, while another 10 participants viewed uncertainty about inflation as broadly similar to historical norms. The main factors cited as contributing to the elevated uncertainty about economic outcomes were the difficulties involved in predicting fiscal policy in the United States, the continuing potential for European developments to threaten financial stability, and the possibility of a general slowdown in global economic growth. As in September, participants noted the challenges associated with forecasting the path of the

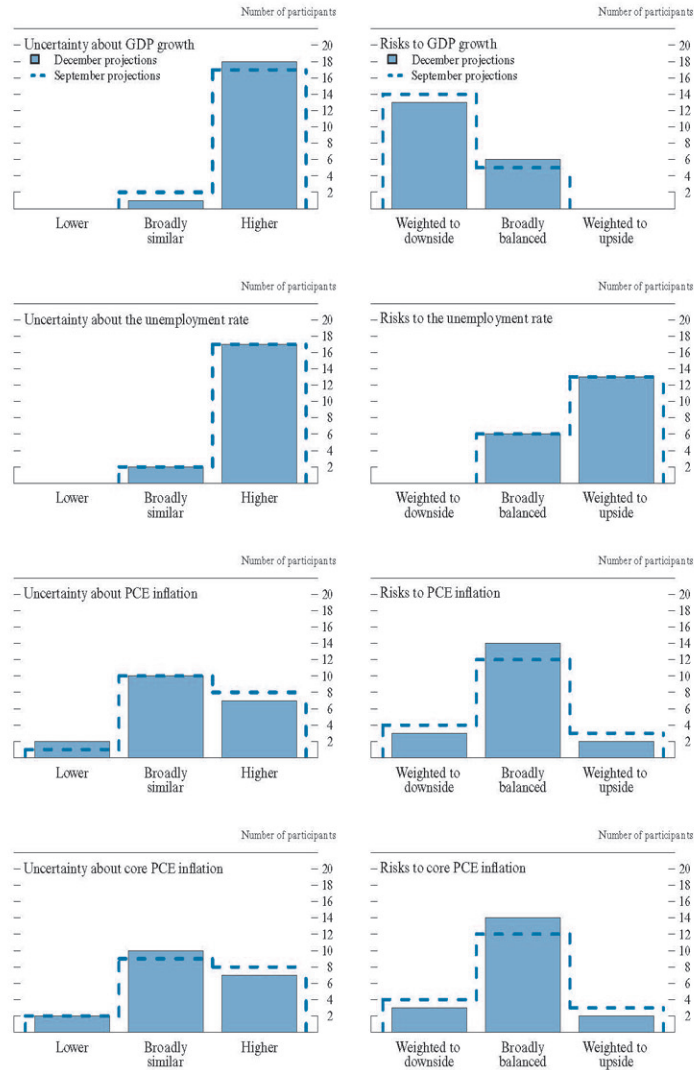
1. Table 2 provides estimates of the forecast uncertainty for the change in real GDP, the unemployment rate, and total consumer price inflation over the period from 1992 through 2011. At the end of this summary, the box "Forecast Uncertainty" discusses the sources and interpretation of uncertainty in the economic forecasts and explains the approach used to assess the uncertainty and risks attending the participants' projections.

Figure 3.E. Distribution of participants' projections for the target federal funds rate, 2012–15 and over the longer run



Note: The target federal funds rate is measured as the level of the target rate at the end of the calendar year or in the longer run.

Figure 4. Uncertainty and risks in economic projections



Note: For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty." Definitions of variables are in the general note to table 1.

U.S. economic recovery following a financial crisis and recession that differed markedly from recent historical experience. A number of participants also commented that in the aftermath of the financial crisis, they were more uncertain about the level of potential output and its rate of growth. It was noted that some of the uncertainty about potential output arose from the risk that a continuation of elevated levels of long-term unemployment might impair the skills of the affected individuals or cause some of them to drop out of the labor force, thereby reducing potential output in the medium term.

A majority of participants reported that they saw the risks to their forecasts of real GDP growth as weighted toward the downside and, accordingly, the risks to their projections of the unemployment rate as tilted to the upside. The most frequently identified sources of risk were U.S. fiscal policy, which many participants thought had the potential to slow economic activity significantly over the near term, and the situation in Europe.

Most participants continued to judge the risks to their projections for inflation as broadly balanced, with several highlighting the recent stability of longer-term inflation expectations. However, three participants saw the risks to inflation as tilted to the downside, reflecting, for example, risks of disinflation that could arise from adverse shocks to the economy that policy would have limited scope to offset. A couple of participants saw the risks to inflation as weighted to the upside in light of concerns about U.S. fiscal imbalances, the current highly accommodative stance of monetary policy, and uncertainty about the Committee's ability to shift to a less accommodative policy stance when it becomes appropriate to do so.

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 the Federal Reserve Board's 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 2.4 to 3.6 percent in the current year, 1.6 to 4.4 percent in the second year, and 1.3 to 4.7 percent in the third and fourth years. The corresponding 70 percent confidence intervals for overall inflation would be 1.5 to 2.5 percent in the current year, 1.1 to 2.9 percent in the second year, 0.9 to 3.1 percent in the third year, and 1.0 to 3.0 percent in the fourth 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.

As with real activity and inflation, the outlook for the future path of the federal funds rate is subject to considerable uncertainty. This uncertainty arises primarily because each participant's assessment of the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time. If economic conditions evolve in an unexpected manner, then assessments of the appropriate setting of the federal funds rate would change from that point forward.

Abbreviations

ABCP	asset-backed commercial paper
AFE	advanced foreign economy
BHC	bank holding company
CDS	credit default swaps
C&I	commercial and industrial
CMBS	commercial mortgage-backed securities
CP	commercial paper
CRE	commercial real estate
DPI	disposable personal income
ECB	European Central Bank
EME	emerging market economy
E&S	equipment and software
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
MBS	mortgage-backed securities
MEP	maturity extension program
MMF	money market fund
NIPA	national income and product accounts
OMT	Outright Monetary Transactions
PCE	personal consumption expenditures
REIT	real estate investment trust
repo	repurchase agreement
SEP	Summary of Economic Projections
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
S&P	Standard and Poor's
TALF	Term Asset-Backed Securities Loan Facility