

FEDERAL RESERVE'S SECOND 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 PURSU-
ANT TO THE FULL EMPLOYMENT AND BALANCED GROWTH ACT OF 1978

JULY 18, 2013

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THURSDAY, JULY 18, 2013

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

The Committee met at 10:45 a.m., in room SD-538, Dirksen Senate Office Building, Hon. Tim Johnson, Chairman of the Committee, presiding.

OPENING STATEMENT OF CHAIRMAN TIM JOHNSON

Chairman JOHNSON. Good morning. I call this hearing to order. Today we welcome Chairman Bernanke back to the Committee to deliver the Federal Reserve's semiannual Monetary Policy Report.

Nearly 5 years after the worst financial crisis since the Great Depression, the U.S. economy continues to show signs of improvement. Recently, we have seen the housing market strengthen and payroll employment firm up. Private sector job growth strengthened this year to around 200,000 jobs per month. The economy has shown signs of resilience despite fiscal tightening.

On housing, I am pleased to see that the recovery is gaining momentum, with solid home price gains nationwide. New home construction has seen double-digit growth, and single-family home sales have also picked up. Many homeowners remain underwater, but overall numbers continue to decline. Going forward, I would encourage the Fed to be thoughtful in its actions to make sure these positive trends in housing continue.

Congress has a role to play, too. To address FHA's short-term challenges, Ranking Member Crapo and I released details this week of bipartisan legislation to get FHA back on stable footing and strengthen a program important to many Americans. Following this effort, we will turn to comprehensive housing finance reform legislation.

Much progress has been made, but the labor market has not fully recovered from the Great Recession. Labor force participation remains low even when accounting for retiring baby boomers, and long-term unemployment remains near historic levels. Moreover, youth unemployment remains high, and even many young college graduates struggle to find gainful employment. These trends have lasting effects on the economy. Over the longer term, skill erosion from prolonged unemployment would reduce our economy's potential. It is important that we help, not hurt, young Americans' prospects and why it is so important that Congress finds a reasonable solution to the recent increase in student loan rates.

To fulfill its dual mandate, the Fed should not prematurely step on the brakes. With consumer price inflation low and the unemployment rate unacceptably high, the Fed must continue to take action to support employment. When the time comes, it is important that monetary policy adjustments are gradual and do not disrupt financial stability and economic growth.

Chairman Bernanke, I thank you for your years of service and leadership at the Federal Reserve during a challenging period in our Nation's history, and I look forward to hearing your testimony.

I now turn to Ranking Member Crapo.

STATEMENT OF SENATOR MIKE CRAPO

Senator CRAPO. Thank you very much, Mr. Chairman. And Chairman Bernanke, welcome.

I welcome our Federal Reserve Chairman Ben Bernanke back to the Banking Committee to testify at the semiannual Humphrey-Hawkins hearing regarding the Federal Reserve's monetary policy and the state of the economy.

In recent weeks, the prudential banking regulators have been very active on a number of regulatory fronts, including releasing final regulations to implement the Basel III capital rules and proposed regulations on capital leverage ratios. I thank Chairman Bernanke personally for addressing the concerns that Chairman Johnson and I raised in our February letter about the unique characteristics of community banks and insurance companies. A one-size-fits-all approach regarding capital rules does not work for these types of entities.

With regard to monetary policy, we have experienced a period where the Fed has pushed the short-term interest rate down to zero more than 4 years ago. The Fed pursued quantitative easing, or what has become known as "QE", in order to suppress long-term interest rates. As a result, the Fed's balance sheet now stands at nearly \$3.5 trillion, with an additional \$85 billion every month in long-term assets being added.

Recently released FOMC minutes from the June meeting indicate that several members of the Board felt that a reduction in asset purchases would likely soon be warranted. Several noted economists have called into question whether the benefits of these purchases outweigh the risks. The negative reaction by equity markets to the June FOMC statement on tapering indicates that some of the increase in the prices of equities and other assets recently is attributable to the Fed's balance sheet expansion and not to purely economic fundamentals. In fact, June marked the worst month on record for bond fund outflows.

The reaction indicates that markets are still heavily reliant on Government intervention, which is not good for the long-term health of the economy. I am interested to hear from Chairman Bernanke to what extent the Fed anticipates the inevitable tapering process will cause in terms of additional periods of market volatility.

Because the official stance of the Fed is that the decision to taper remains data dependent, I am interested in hearing if the Chairman believes laying out specific data would improve both the Fed's commitment to the policy and the market's reaction to it.

Beyond tapering, which is simply slowing the rate of growth of the Fed's balance sheet, is the more important issue of winding down the Fed's massive balance sheet. The Fed has indicated that it may continue to roll over its holdings of long-term assets, which means that its balance sheet may not shrink for some time.

A key element of the exit strategy adopted by the FOMC in June of 2011 is a 3- to 5-year period over which the Fed expected that it could completely eliminate its holdings of agency securities. This was done for the purpose of minimizing the extent to which the agency securities portfolio might affect the allocation of credit across sectors of the economy. Since then, the balance sheet has increased in size by more than 20 percent to, as I said, almost \$3.5 trillion, and the Fed's holding of agency securities has increased by more than 30 percent to about \$1.2 trillion.

Why does the Fed see the need for such accommodative policy to continue into the future?

In light of the Fed's large portfolio increases, the dominant role that the GSEs play in today's mortgage market and the recent increases in the level and volatility of mortgage rates, will the Fed revise its balance sheet exit strategy principles? In particular, will the Fed be revising the time period over which it expects to eliminate its holdings of agency securities?

It is my hope that this hearing gives us additional insight into the Fed's plans for the future reduction of asset purchases and a road map for a return to normalized, rules-based monetary policy.

Thank you, Mr. Chairman.

Chairman JOHNSON. Thank you, Senator Crapo.

To preserve time for questions, opening statements will be limited to the Chair and Ranking Member. I would like to remind my colleagues that the record will be open for the next 7 days for additional statements and any other materials.

I would like to welcome Chairman Bernanke. Dr. Bernanke is currently serving a second term as Chairman of the Board of Governors of the Federal Reserve System. His first term began under President Bush in 2006. Before that, Dr. Bernanke was Chairman of the Council of Economic Advisers and served as a member of the Board of Governors of the Federal Reserve System.

Chairman Bernanke, please 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 Crapo, and other Members of the Committee. I am pleased to present the Federal Reserve's semiannual Monetary Policy Report to the Congress. In my brief remarks I will discuss current economic conditions and the outlook and then turn to monetary policy, and I will finish with a short summary of our ongoing work on regulatory reform.

With respect to the outlook, the economic recovery has continued at a moderate pace in recent quarters despite the strong headwinds created by Federal fiscal policy.

Housing has contributed significantly to recent gains in economic activity. Home sales, house prices, and residential construction have moved up over the past year, supported by low mortgage

rates and improved confidence in both the housing market and the economy. Rising housing construction and home sales are adding to job growth, and substantial increases in home prices are bolstering household finances and consumer spending while reducing the number of homeowners with underwater mortgages. Housing activity and prices seem likely to continue to recover, notwithstanding the recent increases in mortgage rates, but it will be important to monitor developments in this sector carefully.

Conditions in the labor market are improving gradually. The unemployment rate stood at 7.6 percent in June, about a half percentage point lower than in the months before the Federal Open Market Committee initiated its current asset purchase program in September. Nonfarm payroll employment has increased by an average of about 200,000 jobs per month so far this year. Despite these gains, the jobs situation is far from satisfactory, as the unemployment rate remains well above its longer-run normal level, and rates of underemployment and long-term unemployment are still much too high.

Meanwhile, consumer price inflation has been running below the Committee's longer-run objective of 2 percent. The price index for personal consumption expenditures rose only 1 percent over the year ending in May. This softness reflects in part some factors that are likely to be transitory. Moreover, measures of longer-term inflation expectations have generally remained stable, which should help move inflation back up toward 2 percent. However, the Committee is certainly aware that very low inflation poses risks to economic performance—for example, by raising the real cost of capital investment—and increases the risk of outright deflation. Consequently, we will monitor this situation closely as well, and we will act as needed to ensure that inflation moves back toward our 2-percent objective over time.

At the June FOMC meeting, my colleagues and I projected that economic growth would pick up in coming quarters, resulting in gradual progress toward the levels of unemployment and inflation consistent with the Federal Reserve's statutory mandate to foster maximum employment and price stability. Specifically, most participants saw real GDP growth beginning to step up during the second half of this year, eventually reaching a pace between 2.9 and 3.6 percent in 2015. They projected the unemployment rate to decline to between 5.8 and 6.2 percent by the final quarter of 2015. And they saw inflation gradually increasing toward the Committee's 2-percent objective.

The pickup in economic growth projected by most Committee participants partly reflects their view that Federal fiscal policy will exert somewhat less drag over time, as the effects of the tax increases and the spending sequestration diminish. The Committee also believes that risks to the economy have diminished since the fall, reflecting some easing of financial stresses in Europe, the gains in housing and labor markets that I mentioned earlier, the better budgetary positions of State and local governments, and stronger household and business balance sheets. That said, the risks remain that tight Federal fiscal policy will restrain economic growth over the next few quarters by more than we currently expect, or that the debate concerning other fiscal policy issues, such

as the status of the debt ceiling, will evolve in a way that could hamper recovery. More generally, with the recovery still proceeding at only a moderate pace, the economy remains vulnerable to unanticipated shocks, including the possibility that global economic growth may be slower than currently anticipated.

With unemployment still high and declining only gradually, and with inflation running below the Committee's longer-run objective, a highly accommodative monetary policy will remain appropriate for the foreseeable future.

In normal circumstances, the Committee's basic tool for providing monetary accommodation is its target for the Federal funds rate. However, the target range for the Federal funds rate has been close to zero since late 2008 and cannot be reduced meaningfully further. Instead, we are providing additional policy accommodation through two distinct yet complementary policy tools. The first tool is expanding the Federal Reserve's portfolio of longer-term Treasury securities and agency mortgage-backed securities; we are currently purchasing \$40 billion per month in agency MBS and \$45 billion per month in Treasuries. The second tool is "forward guidance" about the Committee's plans for setting the Federal funds rate target over the medium term.

Within our overall policy framework, we think of these two tools as having somewhat different roles. We are using asset purchases and the resulting expansion of the Federal Reserve's balance sheet primarily to increase the near-term momentum of the economy, with the specific goal of achieving a substantial improvement in the outlook for the labor market in a context of price stability. We have made some progress toward this goal, and with inflation subdued, we intend to continue our purchases until a substantial improvement in the labor market outlook has been realized. In addition, even after purchases end, the Federal Reserve will be holding its stock of Treasury and agency securities off the market and reinvesting the proceeds from maturing securities, which will continue to put downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative.

We are relying on near-zero short-term interest rates, together with our forward guidance that rates will continue to be exceptionally low—this is our second tool—to help maintain a high degree of monetary accommodation for an extended period after asset purchases end, even as the economic recovery strengthens and unemployment declines toward more normal levels. In appropriate combination, these two tools can provide the high level of policy accommodation needed to promote a stronger economic recovery with price stability.

In the interest of transparency, Committee participants agreed in June that it would be helpful to lay out more details about our thinking regarding the asset purchase program—specifically, to provide additional information on our assessment of progress to date, as well as of the likely trajectory of the program if the economy evolves as projected. This agreement to provide additional information did not reflect a change in policy.

The Committee's decisions regarding the asset purchase program (and the overall stance of monetary policy) depend on our assess-

ment of the economic outlook and of the cumulative progress toward our objectives. Of course, economic forecasts must be revised when new information arrives and thus are necessarily provisional. As I noted, the economic outcomes that Committee participants saw as most likely in their June projections involved continuing gains in labor markets, supported by moderate growth that picks up over the next several quarters as the restraint from fiscal policy diminishes. Committee participants also saw inflation moving back toward our 2-percent objective over time. If the incoming data were to be broadly consistent with these projections, we anticipated that it would be appropriate to begin to moderate the monthly pace of purchases later this year. And if the subsequent data continued to confirm this pattern of ongoing economic improvement and normalizing inflation, we expected to continue to reduce the pace of purchases in measured steps through the first half of next year, ending them around midyear. At that point, if the economy had evolved along the lines we anticipated, the recovery would have gained further momentum, unemployment would be in the vicinity of 7 percent, and inflation would be moving toward our 2-percent objective. Such outcomes would be fully consistent with the goals of the asset purchase program that we established in September.

I emphasize that, because our asset purchases depend on economic and financial developments, they are by no means on a preset course. On the one hand, if economic conditions were to improve faster than expected and inflation appeared to be rising decisively back toward our objective, the pace of asset purchases could be reduced somewhat more quickly. On the other hand, if the outlook for employment were to become relatively less favorable, if inflation did not appear to be moving back toward 2 percent, or if financial conditions—which have tightened recently—were judged to be insufficiently accommodative to allow us to attain our mandated objectives, the current pace of purchases could be maintained for longer. Indeed, if needed, the Committee would be prepared to employ all of its tools, including an increase in the pace of purchases for a time, to promote a return to maximum employment in a context of price stability.

As I noted, the second tool the Committee is using to support the recovery is forward guidance regarding the path of the Federal funds rate. The Committee has said it intends to maintain a high degree of monetary accommodation for a considerable time after the asset purchase program ends and the economic recovery strengthens. In particular, the Committee anticipates that its current exceptionally low target range for the Federal funds rate will be appropriate at least as long as the unemployment rate remains above 6½ percent and inflation and inflation expectations remain well behaved in the sense described in the FOMC's statement.

As I have observed on several occasions, the phrase “at least as long as” is a key component of the policy rate guidance. These words indicate that the specific numbers for unemployment and inflation in the guidance are thresholds, not triggers. Reaching one of the thresholds would not automatically result in an increase in the Federal funds rate target; rather, it would lead the Committee to consider whether the outlook for the labor market, inflation, and the broader economy justified such an increase. For example, if a

substantial part of the reductions in measured unemployment were judged to reflect cyclical declines in labor force participation rather than gains in employment, the Committee would be unlikely to view a decline in unemployment to 6½ percent as a sufficient reason to raise its target for the Federal funds rate. Likewise, the Committee would be unlikely to raise the funds rate if inflation remained persistently below our longer-run objective. Moreover, so long as the economy remains short of maximum employment, inflation remains near our longer-run objective, and inflation expectations remain well anchored, increases in the target for the Federal funds rate, once they begin, are likely to be gradual.

Let me finish by providing you with a brief update on progress on reforms to reduce the systemic risk at our largest financial firms. As Governor Tarullo discussed in his testimony last week before this Committee, the Federal Reserve, with the other Federal banking agencies, adopted a final rule earlier this month to implement the Basel III capital reforms. The final rule increases the quantity and quality of required regulatory capital by establishing a new minimum common equity tier 1 capital ratio and implementing a capital conservation buffer. The rule also contains a supplementary leverage ratio and a countercyclical capital buffer that apply only to large and internationally active banking organizations, consistent with their systemic importance. In addition, the Federal Reserve will propose capital surcharges on firms that pose the greatest systemic risk and will issue a proposal to implement the Basel III quantitative liquidity requirements as they are phased in over the next few years. The Federal Reserve is considering further measures to strengthen the capital positions of large, internationally active banks, including the proposed rule issued last week that would increase the required leverage ratios for such firms.

The Fed also is working to finalize the enhanced prudential standards set out in sections 165 and 166 of the Dodd-Frank Act. Among these standards, rules relating to stress testing and resolution planning already are in place, and we have been actively engaged in stress tests and reviewing the “first-wave” resolution plans. In coordination with other agencies, we have made significant progress on the key substantive issues relating to the Volcker rule and are hoping to complete it by year-end.

Finally, the Federal Reserve is preparing to regulate and supervise systemically important nonbank financial firms. Last week, the Financial Stability Oversight Council designated two nonbank financial firms; it has proposed the designation of a third firm, which has requested a hearing before the Council. We are developing a supervisory and regulatory framework that can be tailored to each firm’s business mix, risk profile, and systemic footprint, consistent with the Collins amendment and other legal requirements under the Dodd-Frank Act.

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

Chairman JOHNSON. Thank you, Chairman Bernanke.

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

Chairman Bernanke, with inflation low and unemployment still high, what trends in the data would you need to see before deciding

to begin unwinding monetary policy measures? Would unwinding too early threaten the economy and the financial system?

Mr. BERNANKE. Well, certainly we face the same issues that are always faced when monetary policy begins to normalize after a period of recession and expansion, which is if we tighten too soon, we risk not letting the economy getting back to full employment; if we tighten too late, we risk having some inflation. So, as always, there are going to be issues of judgment there that are unavoidable in any monetary policy normalization.

That being said, we have laid out essentially a three-stage process for our normalization. The first, which is dependent on the economy strengthening, the labor market continuing to normalize, and inflation beginning to move back toward 2 percent, is a process of moderating the pace of our asset purchases and eventually bringing those to zero, additional purchases, at the point that we can say that we have made substantial improvement in the outlook for the labor market. And we have given some guidelines about how that process would go forward.

The second stage would be a potentially lengthy period in which we are watching the economy for continued improvement, continued reduction in unemployment, normalization of inflation; and as I described in my testimony, when unemployment gets to 6.5 percent, and not before, and when inflation is looking closer to target, at that point we would consider whether tightening in the form of raising short-term interest rates is appropriate. So that would be the second stage.

The final stage would be the ultimate normalization of policy, the raising of short-term interest rates, and eventually the normalization of our balance sheet. As I noted in my testimony, assuming that the economy remains in a slow-growth mode, as we have been seeing, that process will be a very gradual process.

Chairman JOHNSON. What explains the recent rise in long-term interest rates? And how much more of an increase in rates could cause the recovery to falter? And what would the Federal Reserve do to respond if interest rates spike?

Mr. BERNANKE. Well, there are essentially three reasons why we have seen some increase in longer-term rates, although I would emphasize they remain relatively low.

The first is that there has been some better economic news. As investors see brighter prospects ahead, interest rates tend to rise. For example, we saw a relatively good labor market report, which was accompanied by a pretty sharp increase in interest rates on that day.

The second reason for the increase in rates is probably the unwinding of leveraged and perhaps excessively risky positions in the market. It is probably a good thing to have that happen, although the tightening that is associated with that is unwelcome. But at least the benefit of it is that some concerns about building financial risks are mitigated in that way and probably make some FOMC participants more comfortable with using this tool going forward.

The third reason for the increase in rates has to do with Federal Reserve communications and market interpretations of Fed policy. We have tried to be very clear from the beginning and I have reit-

erated again today that we have not changed policy. We are not talking about tightening monetary policy. Merely we have been trying to lay out the same sequence which I just described to you about how we are going to move going forward and how that will be tied to the economy. But I want to emphasize that none of that implies that monetary policy will be tighter at any time within the foreseeable future.

Chairman JOHNSON. What do you currently see as the biggest threat to the housing market recovery as we continue housing finance reform?

Mr. BERNANKE. Well, certainly we have to keep our eyes open to pay attention to mortgage rates and affordability. That is our job at the Fed. But I think it is very important for us to get our housing institutions, our regulatory structure cleared up and in working order. I am glad to see that the Congress is now looking at reforms of Fannie and Freddie, the mortgage securitization system. We still have rules to do about skin in the game and other aspects of the mortgage market.

I think as there is greater clarity about the rules of the game for mortgage making and mortgage securitization that we will see less tightness in the market for mortgages for first-time home buyers and people with less than perfect credit scores. And I think one of the risks that we face now is that there is still a pretty significant part of the population that is having considerable difficulty accessing mortgage credit even though they may have the financial wherewithal to be worthy of that credit.

Chairman JOHNSON. Senator Crapo.

Senator CRAPO. Thank you, Mr. Chairman.

Chairman Bernanke, you have previously indicated that the Fed wants to see substantial improvement in the labor market before cutting off QE. And in your June press conference, you noted that "substantial" is in the eye of the beholder. If I understood you today, you indicated that if all goes as expected, we could expect to see this wound down completely by midyear next year. Is that correct?

Mr. BERNANKE. If all goes as expected, yes.

Senator CRAPO. And I guess the flip side of that is you said if all does not go as expected, we could see QE continue for the indefinite future?

Mr. BERNANKE. I suspect that at some point the economy will reach that substantial improvement in the outlook given the way we have seen progress to this point. Exactly whether it is a little bit later or a little bit earlier, that remains to be seen.

Senator CRAPO. I guess my question is I assume you would agree that there is a risk in continuing QE indefinitely. Would you agree with that?

Mr. BERNANKE. Yes, there are costs and risks to QE, and we are watching those carefully. We have said in our statement that one of the considerations that we are looking at at every meeting is the efficiency and costs of this program. And we do a benefit/cost analysis as we discuss the benefits of additional purchases.

Senator CRAPO. Well, given the notion that "substantial" is really in the eye of the beholder, I do not think it is very easy for the markets to understand exactly how and when we are going to see

the winding down occur. And to me, it appears that possibly communicating more specific targets rather than thresholds would help to reduce that risk. Do you agree, or do you think it is just not possible to get more specific?

Mr. BERNANKE. Well, this is an issue that the Committee will continue to discuss. I would say first that we have given some fairly specific qualitative guidance about what we are looking for, and I did say that unemployment in the general vicinity of 7 percent with inflation moving back toward the 2-percent objective was indicative of the kind of progress that we were trying to achieve.

The thresholds are tied to rate increases, and there, while reaching that threshold does not necessarily mean that we will raise rates, we are quite confident that we will not raise rates before we get to those points. In that sense we are providing a reassurance to the public and to the markets.

Senator CRAPO. Thank you. And with regard to winding down the Fed's balance sheet, you and others have indicated a willingness to keep the Fed's QE securities on the balance sheet, rolling over maturing securities and keeping them out of the market. Governor Tarullo said on Monday that, "No one is talking about unwinding or selling the securities we have been buying," which would mean then that the Fed's balance sheet could be over \$3 trillion for some time. Correct?

Mr. BERNANKE. Well, not necessarily, because, of course, ultimately we will stop rolling over and reinvesting the securities, and then they will begin to run off. Then the balance sheet will start to come down.

We have done a lot of scenario analysis, of course, and allowing the securities to run off at a certain point when the economy is strong enough does not delay normalization by very much.

Senator CRAPO. But you are not expecting the winding down of the balance sheet at any time soon. Is that correct?

Mr. BERNANKE. Certainly not until we get to the rate increase part of the three-part sequence that I described to you, and there, again, we are not planning at this point to sell any MBS. At some point we would be allowing the maturing securities just to run off and not replacing them.

Senator CRAPO. But as long as you continue to hold and not wind down the balance sheet, doesn't this lead to credit mispricing and increased investor risk undertaking?

Mr. BERNANKE. I do not think so, particularly when we are winding down. I do not see that there is any real difference between, for example, our holding mortgage-backed securities, which is intended to strengthen the housing market, and usual monetary policy, which lowers long-term interest rates through short-term rate cuts, which is also intended to strengthen the housing market. The housing market is always an important channel of monetary policy, and so I do not really see that there is any significant misallocation going on there.

Senator CRAPO. All right. Thank you.

Chairman JOHNSON. Senator Menendez.

Senator MENENDEZ. Thank you, Mr. Chairman.

Chairman Bernanke, I understand this may be your final Monetary Policy Report hearing before the Committee before the end of

your term as Chairman of the Federal Reserve, and I am sure you will miss us. But I want to thank you for your hard work and dedication and your service to our country, especially during a time of crisis, and I appreciate your service.

We seem to be experiencing a trend right now where our economy and employment are growing and recovering, but we still have, from my perspective, a ways to dig ourselves out from the deep hole caused by the financial crisis. Unemployment is coming down, but it is still 7.6 percent. More than a third of the people who are unemployed are long-term unemployed, which is a true crisis for those more than 4 million individuals and families caught in this situation. And as you have discussed with this Committee in the past, long-term unemployment can have serious consequences, make it harder for people to maintain skills and networks to reenter the workforce.

So my question is: While the economy is recovering, we still have a lot of work to do to get full employment and strong broad-based growth. With core inflation well below the Fed's target and weak demand suggesting that inflation is unlikely to be a problem anytime soon, isn't it still way too soon to consider any kind of policy tightening?

Mr. BERNANKE. Well, again, I have distinguished between changing the mix of our two tools and the overall thrust of monetary policy. And I agree with you that with inflation below target and with unemployment still quite high, and by some measures with unemployment in some ways being even too optimistic a measure of the state of the labor market, given some of the other statistics that you have cited, that both sides of our statutory mandate are suggesting that we need to maintain a highly accommodative monetary policy for the foreseeable future, and that is what we intend to do.

But I think that we will be able to maintain that high level of accommodation ultimately through rate policy and by holding a very large balance sheet. But in making that transition to a different stage of this process, we again are intending to keep policy highly accommodative.

Senator MENENDEZ. Let me just follow up on that. As the Reserve has engaged in measures to strengthen our economy, some critics have argued that any growth that results might somehow be artificial or that low interest rates and cheaper credit might lead to financial instability or asset bubbles if investors make riskier investments in order to "reach for the yield."

In the current environment, though, isn't weak demand the greater concern? If consumers are pulling back on their spending because of high debt burdens and underwater mortgages from the financial crisis, and businesses are holding off on investing because of the weaker consumer demand, doesn't that change the relative cost, benefits, and risks of different monetary policy actions?

Mr. BERNANKE. Yes, it can. On the first point about artificial growth, during the 1930s there was this view called a "liquidationist view" which held that recessions and depressions were healthy, they purged the evils out of the system. I do not think we accept that point of view anymore. We think our economy is producing below its potential, and what monetary policy is trying

to do is help the economy return to its potential, and that would be real and sustainable growth that we could achieve.

On financial stability, obviously given recent experience, we want to be very careful that we understand what is going on and pay close attention to these issues. The relationship between monetary policy and financial stability is a complicated one. On the one hand, very low rates for a sustained period can lead to reach for yield and other risky behavior. We are trying to address that primarily through regulation, through oversight, through monitoring, and that is our first line of defense certainly for dealing with those sorts of issues. But you correctly point out that it is not a simple relationship because, of course, a weak economy also is bad for financial stability because it means weaker credit quality, less lending opportunities, more defaults and delinquencies. So, again, our strategy is to try to focus on inflation and unemployment using monetary policy, but to pay close attention to any developments in the financial stability sphere and use the regulatory and supervisory tools we have as the first line of defense in that case.

Senator MENENDEZ. I appreciate that. The reason I asked those specific questions is because there has been a great deal written and said about expansionary austerity. And as I look at what is happening in Europe, I am not sure that all the measures taken under that guise produce either the economic results that we would like to see and certainly the consequential human results that we have seen in Europe. And I do not want us making those mistakes here.

Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Corker.

Senator CORKER. Thank you, Mr. Chairman. And, Mr. Chairman, thank you for being here. We were just talking. This second day of this Humphrey-Hawkins meeting is about like drinking day-old coffee, and maybe even worse, accompanied by a stale doughnut. But certainly I am here today—and I do not really have any questions; I read your testimony yesterday—but really to thank you for your service. I know we have had our differences on some issues, but I really do especially appreciate the way you handled the crisis. I think that our country was under extreme duress. I do not know how many people could have handled that crisis and the complexities that came with it in the way that you did. So I want to thank you for that.

Mr. BERNANKE. Thank you.

Senator CORKER. Obviously we have had discussions, both publicly and privately, about some of the quantitative easing, and I know we had differences. But I would wonder—I know that, you know, there is a whole industry of folks out there who watch every word that you say and people right now are doing calculations as to whether to buy this instrument or that, and I know that you have to be very cautious in what you say sometimes. But this is a little bit of a step back.

I guess, you know, some of the concerns that I have had, and I think Members on this side of the dais, have just been the hyperactivity of the Fed and the Fed almost acting as an enabler for Congress, which had very bad behavior for a long time, our inability to do the things fiscally and in other ways that would stimulate

our economy. And I think you are well aware of those. You do a pretty decent job of staying away from that, although sometimes I wish you weigh in more.

But I do wonder if you have any possibly parting comments—I do not know what your future is and none of us do at this moment. But I wonder if you have any comments about that, about any concerns about over time because of the hyperactivity that the Fed has been engaged in, and in some ways because Congress has been so feckless in living up to its responsibilities and dealing with the issues that we have to deal with, if that is of any concern to you. And is there any similarities, if you will, to a person who knows that they need to do certain things, to eat right and exercise, and instead relying on the Fed for amphetamines and other kinds of activities to get in a place that the economy needs to be in our Nation and, candidly, the world.

But, again, as you potentially contemplate those, I do want to again thank you for your service, thank you for friendship, and whatever happens I wish you well.

Mr. BERNANKE. Thank you very much for those comments, Senator.

On hyperactivity, I think what we learned during the crisis was that we did not have the right tools. We did not have a way to address a failing investment bank that would not create a huge amount of bad effects in financial markets. We did not have appropriate oversight of the shadow banking system.

There were a lot of weaknesses in our oversight, our regulatory system, and our response tools to the crisis, and that is why it sometimes seemed frenetic, because the Fed was trying to improvise in many cases. And I think we have made some progress in setting up a more orderly framework for both strengthening our financial system, monitoring the system, and responding in case of another emergency. So I hope that that is the case.

It is true that monetary policy I think has carried an awful lot of the burden for this recovery, and we would be more than happy to share that burden more equally with fiscal policy and other policy makers. But I recognize it has been a difficult time politically for people to come to agreement on some very important issues, and I do not think—you mentioned the enabler idea. I do not think it is my place or the Federal Reserve's place to try to force Congress to come to any particular outcome. I mean, it is Congress ultimately who is responsible, and our role is to take what Congress does as given and to try to figure out how best to meet our mandate given Congress' actions. I do not think we should be in a position of trying to threaten Congress with higher interest rates or something like that.

Senator CORKER. Yes, and I know that is not your place, and I know that you operate under our mandates. I would think, though, that most people would ration that, you know, the fact that the Fed is there and does have to do what it does in some ways acts as a cover for us in our inability to act responsibly. I mean, I think that goes without saying, doesn't it?

Mr. BERNANKE. Well, I think as you can see, our acting alone is not producing the kind of results we all would like. Growth is going in the right direction, unemployment is going in the right direction,

but it still is a very slow process. And as I have said many times, monetary policy is not a panacea, so there is still plenty of room for Congress to address some of these problems that Senator Menendez and others referred to.

Senator CORKER. Thank you.

Chairman JOHNSON. Senator Reed.

Senator REED. Well, thank you very much, Mr. Chairman. And let me join Senator Corker, Mr. Chairman, and commend you and thank you for your service to the Nation. I witnessed your innovative, improvisational, and very thoughtful approach to problems that were potentially devastating to the economy. I think through your service we avoided a much worse situation, and I thank you for that.

One of the things reflecting back, though, you know, the 20/20 hindsight, there were a few Governors of the Fed who were talking about a housing bubble as the next sort of great crisis, but it did not get the traction. Perhaps not identically, but in a similar vein, you have got some of your colleagues are now talking about the huge growing student debt that could have macroeconomic effects, slowing down home purchases, slowing down sort of what we assume was the normal course, that by your late 20s you buy the home, you settle down, et cetera. Also, I think, in a way, underscoring another huge problem in the economy, which is the inequality, growing inequality of income. Our sort of American solution to inequality is education. That is the engine.

We have reports, for example, from Georgetown University that there is already a 5 million projected gap between jobs available that will be there and skills available to fill them. And yet as we increase the cost of borrowing—and all the proposals that we are talking about currently do increase the cost—that I think will cut down on opportunities for a lot of people.

So can you comment, one, on this potential sort of crisis in student debt, its macroeconomic effects, and whether if we do not provide some type of support both directly and also refinancing support, that this could be the next big problem we face?

Mr. BERNANKE. Well, first, it should be acknowledged that the ability to borrow to build your own human capital, to get an education, is extremely important and a good thing. You know, there was a time when a poor student, no matter how qualified, was unable to finance an education, and the fact that we now can do that is very good for our economy as well as for individuals.

The amount of student debt is large. It is over \$1 trillion at this point. I think that it is not particularly likely to cause any sharp instability of the sort we saw in the last few years. It has a couple of consequences. One, of course, is it represents a potential fiscal risk for the U.S. Government to the extent that some of it is not repaid. Second, to the extent that there are people who have taken out a lot of debt and the economy is not serving them well, they are not finding opportunities, then obviously over time—this is not something that is a big issue at any given moment, but over a number of years they will not be able to buy the home and do other things that they otherwise would be able to because they are paying off the debt.

So I think the answer to it is, first, of course, to have a strong economy that provides job opportunities, and that is something we are trying to do, and I am sure you are trying to do as well. But the other is I think we need to make sure that students are better informed about the market, the labor market, and their opportunities and what different options they have.

We know of cases of certain—you know, some of the private sector universities, online universities and so on, which do not have very good graduation or placement rates. People are still borrowing to take those courses. I think if there was better counseling, better information, that would certainly be an important step. But I do not want us to step back from doing everything we can to give young people a chance to get whatever skills are appropriate.

Senator REED. Let me just ask a broader question, which is, your comment, this growing documented inequality in income in the United States, does it pose both economic and social risks to the country? And how do we deal with it other than through education and many different ways?

Mr. BERNANKE. It is a very, very tough problem. It is not restricted to the United States. It is a global phenomenon. It has been going on for a very long time. There are a number of factors behind it. I think, though, that one of the most important is that the new technologies we are seeing are what is called “skill bias”, they favor the most skilled workers, and they reduce opportunities for people of medium or low skills, particularly in competition with the global labor force.

So I do not have an easy answer. I do think that related to your question about student debt, I think that focused skill enhancement, not everybody should necessarily be doing a 4-year B.A. Some people would be better off working specifically toward a job in industry where there is an understanding in advance that this is what is needed, this is the opening. Community college prepares those kinds of courses, so more focused job-oriented training for some students who are interested in that might be helpful.

But this is a long-term trend, and I do not have an easy solution for it.

Senator REED. Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Toomey.

Senator TOOMEY. Thank you, Mr. Chairman, and I, too, want to thank Chairman Bernanke not just for being with us today but also for his years of service. And we have had our disagreements over the years, but not without, on my part, a great deal of respect for the way you have approached this work and the work that you have done.

I have a few questions that I hope we would be able to mow through. One has to do with the efficacy of the quantitative easing, and more specifically there are a number of very thoughtful folks who have done analyses that suggest that the benefit of the quantitative easing we have had might be quite modest. And specifically I think the suggestion has been that conventional understanding of the transmission mechanism of the increase in household net worth to consumer spending would suggest a very modest increase to GDP that has resulted from the pretty significant increase recently in household net worth, even if you attributed all of that increase

to the Fed, which is itself a questionable premise. And then your own previous testimony—I think it was at Joint Economic—to a question that I asked, if I understood you correctly, you acknowledged that the nature of the impact that monetary policy tends to have on economic growth might be more a matter of timing rather than a net increase. So accommodative policy can accelerate, can move forward economic activity, might not increase economic activity in total.

So I guess what I am saying is if the magnitude of the benefit has been very modest and, at that, it might be just a shift in timing anyway, that would suggest pretty modest benefits, and yet the costs and the risks keep mounting, in my view, the risks of asset bubbles, mispricing assets, the risks of whether or not we will have an orderly exit.

So I guess my question would be, number one, how do you quantify the benefits that have been occurring, especially near-term marginal benefits going forward? And can you and do you systematically attempt to quantify the risks of what you have done?

Mr. BERNANKE. Yes, that is a very good question. There is a very large literature, academic and within central banks, trying to figure out how big the effects are of quantitative easing, and it is quite difficult to know for sure. But the preponderance of the evidence is that while this is not as powerful a tool as ordinary monetary policy, rate policy, that it does have meaningful impact on jobs and on the economy. And in particular, since 2008, where we have had no ability to move short-term rates and we have had some periods where became somewhat more concerned about deflation, we think that QE has provided an important boost at critical times to help the economy continue to move forward.

So I do not want to overstate it, and, again, there is a lot of uncertainty, but there is a lot of work on this, and the preponderance of the work suggests that the effects, while not huge, are quite meaningful.

Also, in terms of timing, it is true that no monetary policy can do very much about the long-term growth potential of the economy. But in a situation where we are well below that potential, if we can get back to that potential more quickly, that is a net gain that is enjoyed by the economy.

In terms of costs and risks, I have identified in speeches and other places some of these risks, and as I said, it is in our statement that we look at this carefully. I think the one that we have paid the most attention to is financial stability, and we have tried to greatly increase our vigilance, our monitoring, our use of supervisory tools and the like. And as Senator Menendez actually pointed out, though, there are also risks on both sides because, of course, as the economy does very poorly, then that also creates risks to financial stability because of the effect on default, delinquency, and so on.

So let me just acknowledge that this is an issue that is an important one. We believe the first line of defense should be monitoring, supervision, regulation, and other similar tools, but we do take into account these costs and risks when we debate our monetary policy.

Senator TOOMEY. Do you attempt to quantify it? Or is it all subjective?

Mr. BERNANKE. We try to quantify it. It is very difficult, of course, to know exactly what the size of the risk is. But what we do is we do a lot of work, both qualitative and quantitative, trying to measure—for example, we might be looking at covenants on loans and whether or not those covenants are becoming less restrictive, which is suggestive of poor underwriting, for example. So we monitor those kinds of things, and we report those to the FOMC at essentially every meeting so that they can understand where there may be sectors where financial risks are building and try to gauge those risks.

Senator TOOMEY. Thank you. I have other questions, but I see my time has expired.

Thanks, Mr. Chairman.

Chairman JOHNSON. Senator Schumer.

Senator SCHUMER. Thank you, Mr. Chairman. I want to thank you as well, Chairman Bernanke, as you endure your second marathon on 2 days and echo the views of many of my colleagues in the House and Senate who have thanked you for your service during such a critical period. Your quiet but strong leadership has been instrumental in keeping our economy from falling into an abyss and repeating the devastation of a Great Depression, and we are now, because of your leadership, on the path toward turning that economy around. My view is that 2014 and 2015 will be stronger economically than our present time, and that will be in large part because of the building blocks that you put into place, even if you are no longer Chairman of the Fed. I am not prejudging anything, of course. So here are my questions.

You have been as clear as I think you can be that the timing and pace of any tapering—these are monetary—timing and tapering of your asset purchases will be dependent on economic and financial conditions. That is logical.

In June, the Committee projected that economic growth would pick up in coming quarters, but since then economic data has been mixed. We have had decent job numbers, but many signs of weakening growth. We found out that the baseline for your June outlook was worse than we first thought. First quarter GDP numbers were revised downward.

So the economy is worse than you thought in June, but the markets appear to think that you are still set to begin tapering in September. So if the economy did not change, were exactly as it is today on September 18th, would the Fed be announcing a moderation in the pace of its assets? And just one subsidiary question, you have often said that asset purchases will continue until the Fed sees “substantial improvement in the labor market outlook.” Does weakening data regarding growth change your outlook with respect to the strength of the labor market? In other words, can labor markets continue to improve in relative growth? So first about September 18th, and then about the labor markets.

Mr. BERNANKE. Well, the June FOMC meeting was only a few weeks ago. There have been some data points since then, and as you say, they have been mixed. So I think it is way too early to make any judgment. We will be obviously reviewing the data, and what we are looking for is a pickup as the year progresses, because our theory of the case, if you will, is that one of the reasons that

the economy has been so slow in the early part of 2013 is because of fiscal factors. It is hard to judge how long those factors will last, but if the economy begins to move beyond that point and fiscal restraint becomes somewhat less pronounced, then we should see, as you suggested yourself, a pickup in growth. And so that is what we will be looking for. It is too early to—

Senator SCHUMER. OK. But the September 18th deadline of beginning tapering is not immutable. You are going to look at the data.

Mr. BERNANKE. We are going to obviously look at the data. It is a Committee decision. And it is going to depend on whether we see the improvement which I described.

Senator SCHUMER. Right. And the second question, does the weakening data regarding growth change your outlook with respect to the strength of labor markets?

Mr. BERNANKE. Yes. So we specifically set as a goal an improvement in the outlook for the labor market as opposed to the labor market per se. And what that means is that we want to see improvement in labor market indicators, but we also want to have a sense that improvement will continue. And, of course, for improvement to continue, you need to have a broader-based growth.

And so of the three conditions which I described, one of them is a pickup in growth which will be sufficient to provide continued improvement—

Senator SCHUMER. You think we still could be on the path to labor markets improving even with this relatively weak growth in terms of outlook.

Mr. BERNANKE. It is possible. Again, it has only been a few weeks since the June meeting, and I think we have new data—

Senator SCHUMER. OK. My first question was about the tapering. My second is when you might end asset purchases altogether. The minutes of your last meeting said that, “About half of the participants indicated that it likely would be appropriate to end asset purchases late this year.” Yet you yourself said in guidance that was approved by the Committee based on current projections, you expect asset purchases to end sometime in the middle of next year when you currently anticipate unemployment will be down around 7 percent. That is the level of unemployment you say represents the amount of improvement that would warrant a moderation in Fed policy.

Do those other members have a different definition of “substantial improvement in the labor market”—there seems to be some disparity between the other members and you, and if you are not there come next year, there is a worry there—or a different view of the likely path of the labor market? Do they think unemployment will be 7 percent this year? Or do they have different assessments about the relative cost and benefit of QE?

Mr. BERNANKE. Well, there are diverse views obviously on this program, and in particular, people could see an early wind-down because they are optimistic about the economy or because they do not think that QE is very effective. I mean, there are a lot of different reasons why you might have that view.

Let me just assure you that we have a very careful discussion at the meeting. We have what is called a “go-round” where every per-

son, including the nonvoters, gets to express for several minutes their view on policy, both current and prospective, and the general scenario, which I described in my press conference, is broadly supported by people on the Committee, including both voters and nonvoters.

Senator SCHUMER. Good. That is good to hear, and it gives me a little belief.

Thank you, Mr. Chairman.

Chairman JOHNSON. Senator Coburn.

Senator COBURN. Mr. Bernanke, I appreciate the service that you have given our country, and we had nobody to compare you to because we have never been in the situation we were in before. But I think basically you have done some significant work for the average American, and I appreciate it.

I have a couple of questions in terms of your balance with your mandate, both in terms of inflation and employment and growth.

One of the things that concerns me is that, since 1980, we have changed the way we measure inflation 20 times. And if you use the same measure of inflation that we had in 1980, our inflation rate would be over 8 percent right now. And the other thing that concerns me is median family income in real dollars is the same as it was in 1989.

So if I had a criticism of anything you have done in the last few years, it would really go along and align more with Senator Corker's thoughts. We have let you down. The kindergarten of Congress has let you down by not doing the things to create the confidence, to create the certainty in the business community that will allow the significant capital that is sitting on the sidelines to be invested, which would create some of the growth that you are hoping to do. So for that, I apologize.

But would you care to comment, since in your testimony inflation is under control but the average American over the last 10 years has seen significant inflation and in the last few years has seen significant inflation in the things that really matter? And let me talk about it: the cost of an education, transportation, electricity, rents, food, plus out of what we have done, not intentionally, we have gotten a commodity bubble in many areas in terms of raw commodities.

Would you comment on both the changing metrics that we use for inflation as well as maybe what we could have done, looking backwards, that might have accentuated and augmented what you have done?

Mr. BERNANKE. Well, on inflation, the inflation statistics are calculated by the Bureau of Labor Statistics, as you know, which is made up of highly qualified professional economists—there is no partisan influence—and their efforts are always to try to make the inflation numbers better, make them more accurate. And that is my sense of what has been happening there in terms of changes.

There was a bipartisan commission on inflation measurements a few years ago which concluded that the official inflation numbers overstated, not understated, inflation. And so some of the changes they recommended have been included.

So there is a distinction between prices being high and prices being rising. It is true that gas prices and food prices—all these prices relative to people's wages—wages are not going up much.

Senator COBURN. That is right, so the cost of living is going up—

Mr. BERNANKE. No, it is not going up. It is high. It is not going up. In other words, real wages—

Senator COBURN. Are going down.

Mr. BERNANKE. Real wages have been going down because even though inflation is very low, wages have been growing slower than inflation. So—

Senator COBURN. So discretionary income has decreased, so consumer spending is not rising at the rate at which you would like to see it.

Mr. BERNANKE. That is true, but that is not an issue of inflation. That is an issue of real living standards, and that has to do with the productivity of the economy and the distribution of income. And the Fed really cannot do a whole lot about that.

So I guess I would just respectfully disagree that inflation is badly undermeasured. I think the professionals are doing as good a job as they can to measure inflation, and if you look at a lot of prices, including rents, food, gasoline, and so on, again, while they may be high, they are not much different from where they were a year ago, and that is what inflation is about. It is the rate of change over time.

In terms of what Congress could do, I mean, I think, you know, I can only go so far in recommending, but I do think that an attempt to focus the budget consolidation efforts more on the longer term—

Senator COBURN. I agree.

Mr. BERNANKE. —would have been a more productive way—rather than putting so much of the tax increases and spending cuts in a front-loaded way, would have been more helpful. That would have been one suggestion.

Senator COBURN. So if, in fact, Congress had behaved appropriately and helped create a certainty in the long term, especially with our entitlement programs, but also in terms of some of the waste, the effectiveness of some of the things you have done with monetary policy might have been greater.

Mr. BERNANKE. Certainly.

Senator COBURN. Thank you.

Chairman JOHNSON. Senator Brown.

Senator BROWN. Thank you, Mr. Chairman.

Chairman Bernanke, I thank you for your service, as others have done, and we all mean that. And thank you for the new rules on capital standards that you have issued with the OCC and FDIC. I urge you to hold fast on them when the megabanks fight to weaken those standards, and I hope that you will do that.

Some financial institutions argue, as we have discussed, that we should not get out ahead of Europe in our financial regulation. On Monday, Governor Tarullo said, and I want to quote at some length: "I think it is very dangerous that some have tried to characterize Basel agreements as the ceiling and not the floor. So for us in the United States, those of us who are charged with financial

stability of the United States need to make the judgment as to what levels of capital will most ensure financial stability in the country without unduly affecting the flow of credit. Ever since the publication of our proposed reg, I have had calls from my counterparts around the world," Governor Tarullo says. "That is really interesting. They are saying, 'Tell me the reasoning on this, how you are thinking about it. Explain to me more why you think 3 percent is inadequate.'"

What I hear Governor Tarullo saying is that we should do what we think is best for our financial stability, and if we lead by example, the rest of the world will follow. Do you agree with Governor Tarullo?

Mr. BERNANKE. I certainly agree with the first part, which is that Basel III is a floor, it is not a ceiling. It is really a least common denominator because these agreements are made essentially by unanimous consensus. And, therefore, if there are a few countries that are very resistant for whatever reason, you know, that makes it tougher to get the higher standard. So we view them as a floor, and we are prepared to do whatever additional steps are needed in order to make our financial system safe.

I do not know whether all countries will follow us, but there are other countries—Switzerland comes to mind, U.K.—that have thought hard about this and have made additional—taken additional steps to strengthen their banking systems. And we do have a leadership position, and I hope that will happen. But I do not think it will be universal. I think that you will see different responses from different countries.

Senator BROWN. But the most important countries with financial systems will follow as Governor Tarullo suggests?

Mr. BERNANKE. I do not know whether they will follow the exact same things, but they have all got the same—the key financial centers which recognize how important banks are to their economy, but also the fact that in some cases the banks are bigger than their economy, recognize that it is very important to have stability, and they have been particularly willing to consider additional steps.

Senator BROWN. So we should not shrink from doing the right thing for stability of our country because some megabanks say that we will be an outlier and other countries will not follow. Do you agree?

Mr. BERNANKE. Well, the other countries may or may not follow. Some will. But whether they do or not, I do agree that we should do whatever we need to do to make sure that the U.S. financial system is safe.

Senator BROWN. Thank you. Let me ask another question. It is bank earning season again, as you know, and it is no surprise that megabanks are doing quite well. Yet they continue to claim that regulations, new regulations and pending regulations, are killing them. Tuesday's *Financial Times* said, "Here is the problem: banks have spent a lot of time, energy, and money warning of the potential ill effects of ramping up regulation. But since the crisis, international regulators have kept demanding more capital, including a surcharge for the bigger banks"—as you have said. "Lenders have doubled their capital levels as a result, hitting the new Basel III targets 6 years early in some cases and, yet," the *Financial Times*

asks, “where are the ill effects? The best of them continue to set new profit records . . . with every earnings season, warnings of calamity look more and more hollow.”

The debate about the Fed’s new proposed supplementary leverage ratio reminds me that when we think about costs, we as policy makers, regulators, and elected officials, when we think about costs and benefits, industry wants us only to think about costs to them. Steel companies dump waste into our rivers, and then they argue that it will be costly to clean it up. It has a higher human cost to the minors and the children who get sick from the pollution. It passes more health care costs on to our society, clearly, as they fail to internalize those costs. Those who believe in a society with rules understand that auto safety might cost car companies a little bit more for air bags and seat belts and other safety features, but these protections save lives.

The same with financial rules. They might cost bank executives a little bit more in smaller bonuses and maybe even in dividends, but they will help prevent a repeat of what we had 5 years ago where the costs obviously were shifted to the broad public in retirement savings, in lost jobs, in every way imaginable, and certainly people’s lost homes.

If these are the costs of a safer financial system, aren’t they worth it?

Mr. BERNANKE. The crisis was an enormous waste of resources, and unsafe practices by large financial institutions pose a risk not just to themselves but to the rest of society, and in setting policy we should look at the social costs and not just the cost to the firms. And that is what we are attempting to do.

Senator BROWN. And if it means the bonuses are a little smaller and that dividends are a little less and the earnings reports of the banks are not quite up to what they were this quarter, which was a pretty lucrative quarter for them, that is a price we should pay as a society?

Mr. BERNANKE. From a cost point of view, I think what we should be looking at is whether there is any effect on credit availability, things of that sort that affect our economy more broadly. But I certainly agree that, again, given the enormous cost of the crisis, strong measures to prevent a repeat are obviously well justified on a cost/benefit—

Senator BROWN. Are you concerned that these higher capital standards will result in less credit available?

Mr. BERNANKE. I do not think so—no, I am not concerned about it. You know, we have done some analysis of that, and there is not much evidence that that—

Senator BROWN. So there is not really much downside if you said that higher capital—you said that the biggest potential problem with rules is does it mean less credit available. If it does not mean less credit available, there is no real downside for strong capital standards.

Mr. BERNANKE. The only downside I can think of is that if banks are finding it very costly to make loans, then credit may start flowing through other less regulated channels, and those have to be monitored.

Senator BROWN. But you are not implying at all that we are there yet, even close to that situation with capital standards.

Mr. BERNANKE. No, we are not there yet, but we have to watch the shadow banking system and other parts of the system and make sure that risks are not being offloaded into other parts of the financial system.

Senator BROWN. OK. Thank you. And, Mr. Chairman, thank you for your generosity of time.

Chairman JOHNSON. Senator Heller.

Senator HELLER. Thank you, Mr. Chairman, and I certainly appreciate the questioning of Senator Brown. And, Chairman Bernanke, thank you for being here and taking time, because I was pleased to hear that Basel III is the floor. And the question—I think you answered the question. I was going to ask you to give me some insight why we came to Basel III as opposed to a former FDIC Chair who wants that percentage to be closer to 8 percent, and we have legislation around here that wants it as high as 15 percent. So I was looking for some insight as to where we came to those Basel III capital rates, and it appears the answer may be risk, unless you have more to add to it.

Mr. BERNANKE. Well, we have a program for building up capital, and I described part of it, which was Basel III itself, which triples the amount of high-quality capital, then the surcharges, then the higher leverage ratio, and, in addition, we were looking at things like capital charges for wholesale funding if firms rely on less reliable wholesale funding. And we have discussed also the possibility of requiring large firms to have unsecured senior debt in their capital structure which could also provide some buffer in the event the firm fails. So we are in a variety of ways trying to buildup the buffer that these large firms have, yes.

Senator HELLER. Let me change the topic real quick here to housing. The *Wall Street Journal* recently had an article on the city of Las Vegas and the difficulty of moving homes. We have had 300,000 people in Las Vegas receive foreclosure notices, not be foreclosed on but receive notices. Over 50 percent of the homes are underwater. And I know you have played an important role in trying to reverse this situation. What are we doing wrong? And what can we do, what can we do as a Congress to help move and change the situation we have not only in Nevada but Arizona, Florida, and some of these other States?

Mr. BERNANKE. Well, as I was saying earlier, I think that from Congress' point of view, getting the mortgage finance system working better in terms of reforming Fannie and Freddie and helping to clarify the rules—some of that is on us as regulators to do that—so that there is greater access to credit and more people can buy homes, because ultimately the solution is to find a demand side for the market so that demand for homes will support prices and help us get out of this housing problem we have.

Senator HELLER. I was not here earlier in the discussion of the reforms for Fannie and Freddie. I have signed on to the bill here in the Senate side. I now the House rolled out theirs yesterday. Do you have a preference?

Mr. BERNANKE. I think it is very important that the Congress move forward on this, and I think it is time to do that.

Senator HELLER. Your insight on a secondary market or Government involvement in mortgage securities?

Mr. BERNANKE. I think a key issue is going to be not so much making mortgages cheaper but, rather, making sure that there is some kind of backstop or protection for situations where the financial markets are in distress, like they were recently. And then the question is, the Government is one way to do that. There may be other ways to do that. But if the Government is involved, I think it would be very important to make sure, first of all, that the Government is appropriately compensated for whatever insurance or backing it provides; and, second, that firms that are securitizing hold enough capital, again, to protect the taxpayer from losses. If that is done, I think those would be very helpful if you come to a solution that involves a Government role.

Senator HELLER. Let me talk about one other topic because I do not have a lot of time. Sorry to jump around so much, but gold prices. You know, we had gold prices almost \$2,000 an ounce. It has dropped about \$600 an ounce, trading, I think, today around \$1,275, somewhere around there.

Do you have any insight on why this volatility? What quantitative easing would have—what long-term impact it will have as you ratchet back?

Mr. BERNANKE. Gold is an unusual asset. It is an asset that people hold as sort of disaster insurance. You know, they feel if things go really badly wrong, at least they will have some gold in their portfolio. So—

Senator HELLER. Is that an accurate—

Mr. BERNANKE. Sorry?

Senator HELLER. Is that an accurate feeling?

Mr. BERNANKE. It is not all that accurate. I mean, for example, a lot of people hold gold as an inflation hedge, but the movements of gold prices do not predict inflation very well, actually. But, anyway, the perception is that by holding gold you have a hard asset that protects you in case of some kind of major problem. And I suppose that one reason that gold prices are lower is that people are less concerned about extreme outcomes, either, you know, particularly negative outcomes, and therefore they feel less need for whatever protection gold affords.

Senator HELLER. Do you believe it is an indication, perhaps psychologically, the direction of the economy for investors?

Mr. BERNANKE. I think psychologically the gold price going down is not necessarily a bad thing from that perspective. It suggests people has somewhat more confidence and are less concerned about really bad outcomes. But let me just end by saying that nobody really understands gold prices, and I do not pretend to really understand them either.

Senator HELLER. Thank you.

Mr. Chairman, thank you very much.

Chairman JOHNSON. Senator Warren.

Senator WARREN. Thank you, Mr. Chairman. And, Chairman Bernanke, thank you for all your service during very hard times.

I still want to ask about some other risks to the economy. The biggest banks in the country have reported huge profits over the last couple of years. But just this week they reported some stag-

gering numbers. Wells Fargo's profits jumped 19 percent from last year, JPMorgan Chase's profits jumped 31 percent, and Citigroup's profits jumped 42 percent.

Now, some reports have indicated that a big part of those profits have come from the banks' trading activity—in other words, not from boring banking but from trading on Wall Street and elsewhere.

So are you concerned that these biggest banks are loading up on big risks again? Or is there another explanation for this spike in profits?

Mr. BERNANKE. Well, let me just say that we are quite aware of these portfolios, and we are addressing them in at least two ways—or more than two, really, but one of them is that we have just finalized new capital requirements that banks have to hold against these assets for sale, these securities, which should provide protection. We have done stress tests where we assume that a December 2008 type of financial shock hits and so there is a huge drop in asset values. And we have stress-tested the banks again to see if they have enough capital to protect themselves against big losses in their securities books.

The other thing, as of course you know, is that we are working hard with our colleagues to put the Volcker rule into place, and that will restrict proprietary trading.

Senator WARREN. Let me just say, though, Mr. Chairman, that the question I am trying to ask about is whether this indicates they are loading up on risk. And I very much appreciate that what you are telling me about are the ways we are trying to regulate the risk when the banks take it on.

Maybe I could ask this slightly differently, and that is, yesterday Secretary of Treasury Jack Lew said, and I want to get the quote right: "If we get to the end of this year and we cannot with an honest, straight face say that we have ended too big to fail, we are going to have to look at other options."

Do you agree with the Secretary of the Treasury?

Mr. BERNANKE. I do not know about the timing. Maybe I would take another year from now. But I have said to you in an earlier hearing that there is a strategy. Dodd-Frank lays out a strategy. Basel III provides additional support through capital, et cetera. But if those things do not make us comfortable about the status of these largest firms, yes, I do think additional steps would be appropriate.

Senator WARREN. Then we need to look at other steps. As you know, I have introduced, along with Senator McCain, Senator Cantwell, and Senator King, a Glass-Steagall bill, another tool in the toolbox to deal with too big to fail. But I think at least now we have got some time on this. The Secretary of the Treasury says by the end of the year; you say maybe a year longer. But we have got to keep this one under examination. Fair enough?

Mr. BERNANKE. Yes, I think we obviously want to look at all tools. I think that there is probably more scope for capital if we are not comfortable with the status of these firms.

Senator WARREN. Good, and fair enough on that.

I want to ask you, as you know, the Federal Reserve and the OCC announced last January that they were stopping their inves-

tigation into the system foreclosure fraud and that you had reached a settlement with the largest mortgage servicers in the country. And just last week, the OCC announced that 52,048 people just in Massachusetts received checks so far under this settlement, and it was an aggregate total of \$41 million in compensation, or about \$800 a family.

Now, that is \$800 a family in a State, Massachusetts, where the median home income is \$324,500. I will do the math for you. That is about $\frac{2}{10}$ of 1 percent of the purchase price of the average home in the Commonwealth of Massachusetts.

Now, it is my job to look out for families in Massachusetts, including helping them get basic information about whether settlements made on their behalf by the Government are fair. And to do that, 6 months ago I started asking for basic documents about the investigation and to see what the foreclosure fraud investigation had uncovered, how many people had lost their chance to save their home, just really how bad the damage was. So far, the Fed and the OCC have disclosed very little of what I have asked for.

So the question I have is how the people I represent in Massachusetts who believe they were cheated or the 4 million people who received checks around the country, how they know that the payments they are receiving are fair if the Fed and the OCC will not disclose details about what they uncovered in the investigation.

Mr. BERNANKE. Well, as you know, we stopped the investigation well before all 4.2 million borrowers were analyzed, so we do not have that information for everybody, but we do have it for some folks, and we are looking to see if we can find a way to get that information to the individuals whose files were evaluated by the independent consultants.

Senator WARREN. Good. So we are talking about getting that information to them and releasing more information about what you did find in the aggregate?

Mr. BERNANKE. Yes. We hope to have a report on this whole thing within the next couple of months that will lay out basically all the information we have. Some of the things that you have requested frankly we just did not collect. But we will try to provide as much transparency as we can.

Senator WARREN. I would be very grateful for that, Mr. Chairman. You know my concerns in this area generally that if the regulators are not aggressive enough, if they do not require admission of guilt, if they never take large financial institutions to trial, then the resulting settlements are too weak. And so I know you appreciate that a slap on the wrist is not enough, and if the OCC and the Fed are confident that these are good settlements, I think it helps everyone if the information is out there. So thank you, Mr. Chairman. I appreciate it.

Mr. BERNANKE. I would like to add that, of course, the people who received checks have not yielded their legal rights, and they could pursue this further if they wish.

Senator WARREN. Yes, and I hope that by revealing this information they will be able to better evaluate whether or not that is appropriate for them. Thank you.

Chairman JOHNSON. Senator Crapo has a brief statement to make.

Senator CRAPO. Yes, thank you, Mr. Chairman. I have a number of additional questions, but we are coming up against a vote right away. So, Chairman Bernanke, if it is OK with you and with the Chairman, I will submit these questions to you and ask you to respond later. The questions that I have, among others, are some further inquiries about the short-term interest rate policy, the actions right now at the FSOC, the Financial stability Oversight Council, in particular in relationship to nonbank, systemically important financial institutions. And as you might guess, on GSE reform, I would love to get some further information from your perspective on that.

But I will submit those questions, Mr. Chairman, in light of the fact that we do have a vote pending. Thank you.

Chairman JOHNSON. Chairman Bernanke, I want to thank you for your extraordinary service to our Nation.

Mr. BERNANKE. Thank you.

Chairman JOHNSON. And I want to thank you for your testimony. This hearing is adjourned.

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

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

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

JULY 18, 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 to the Congress*. I will discuss current economic conditions and the outlook and then turn to monetary policy. I'll finish with a short summary of our ongoing work on regulatory reform.

The Economic Outlook

The economic recovery has continued at a moderate pace in recent quarters despite the strong headwinds created by Federal fiscal policy.

Housing has contributed significantly to recent gains in economic activity. Home sales, house prices, and residential construction have moved up over the past year, supported by low mortgage rates and improved confidence in both the housing market and the economy. Rising housing construction and home sales are adding to job growth, and substantial increases in home prices are bolstering household finances and consumer spending while reducing the number of homeowners with underwater mortgages. Housing activity and prices seem likely to continue to recover, notwithstanding the recent increases in mortgage rates, but it will be important to monitor developments in this sector carefully.

Conditions in the labor market are improving gradually. The unemployment rate stood at 7.6 percent in June, about a half percentage point lower than in the months before the Federal Open Market Committee (FOMC) initiated its current asset purchase program in September. Nonfarm payroll employment has increased by an average of about 200,000 jobs per month so far this year. Despite these gains, the jobs situation is far from satisfactory, as the unemployment rate remains well above its longer-run normal level, and rates of underemployment and long-term unemployment are still much too high.

Meanwhile, consumer price inflation has been running below the Committee's longer-run objective of 2 percent. The price index for personal consumption expenditures rose only 1 percent over the year ending in May. This softness reflects in part some factors that are likely to be transitory. Moreover, measures of longer-term inflation expectations have generally remained stable, which should help move inflation back up toward 2 percent. However, the Committee is certainly aware that very low inflation poses risks to economic performance—for example, by raising the real cost of capital investment—and increases the risk of outright deflation. Consequently, we will monitor this situation closely as well, and we will act as needed to ensure that inflation moves back toward our 2 percent objective over time.

At the June FOMC meeting, my colleagues and I projected that economic growth would pick up in coming quarters, resulting in gradual progress toward the levels of unemployment and inflation consistent with the Federal Reserve's statutory mandate to foster maximum employment and price stability. Specifically, most participants saw real GDP growth beginning to step up during the second half of this year, eventually reaching a pace between 2.9 and 3.6 percent in 2015. They projected the unemployment rate to decline to between 5.8 and 6.2 percent by the final quarter of 2015. And they saw inflation gradually increasing toward the Committee's 2 percent objective.¹

The pickup in economic growth projected by most Committee participants partly reflects their view that Federal fiscal policy will exert somewhat less drag over time, as the effects of the tax increases and the spending sequestration diminish. The Committee also believes that risks to the economy have diminished since the fall, reflecting some easing of financial stresses in Europe, the gains in housing and labor markets that I mentioned earlier, the better budgetary positions of State and local governments, and stronger household and business balance sheets. That said, the risks remain that tight Federal fiscal policy will restrain economic growth over the next few quarters by more than we currently expect, or that the debate concerning other fiscal policy issues, such as the status of the debt ceiling, will evolve in a way that could hamper the recovery. More generally, with the recovery still proceeding at only a moderate pace, the economy remains vulnerable to unanticipated shocks, including the possibility that global economic growth may be slower than currently anticipated.

¹These projections reflect FOMC participants' assessments based on their individual judgments regarding appropriate monetary policy.

Monetary Policy

With unemployment still high and declining only gradually, and with inflation running below the Committee's longer-run objective, a highly accommodative monetary policy will remain appropriate for the foreseeable future.

In normal circumstances, the Committee's basic tool for providing monetary accommodation is its target for the Federal funds rate. However, the target range for the Federal funds rate has been close to zero since late 2008 and cannot be reduced meaningfully further. Instead, we are providing additional policy accommodation through two distinct yet complementary policy tools. The first tool is expanding the Federal Reserve's portfolio of longer-term Treasury securities and agency mortgage-backed securities (MBS); we are currently purchasing \$40 billion per month in agency MBS and \$45 billion per month in Treasuries. The second tool is "forward guidance" about the Committee's plans for setting the Federal funds rate target over the medium term.

Within our overall policy framework, we think of these two tools as having somewhat different roles. We are using asset purchases and the resulting expansion of the Federal Reserve's balance sheet primarily to increase the near-term momentum of the economy, with the specific goal of achieving a substantial improvement in the outlook for the labor market in a context of price stability. We have made some progress toward this goal, and, with inflation subdued, we intend to continue our purchases until a substantial improvement in the labor market outlook has been realized. In addition, even after purchases end, the Federal Reserve will be holding its stock of Treasury and agency securities off the market and reinvesting the proceeds from maturing securities, which will continue to put downward pressure on longer-term interest rates, support mortgage markets, and help to make broader financial conditions more accommodative.

We are relying on near-zero short-term interest rates, together with our forward guidance that rates will continue to be exceptionally low—our second tool—to help maintain a high degree of monetary accommodation for an extended period after asset purchases end, even as the economic recovery strengthens and unemployment declines toward more-normal levels. In appropriate combination, these two tools can provide the high level of policy accommodation needed to promote a stronger economic recovery with price stability.

In the interest of transparency, Committee participants agreed in June that it would be helpful to lay out more details about our thinking regarding the asset purchase program—specifically, to provide additional information on our assessment of progress to date, as well as of the likely trajectory of the program if the economy evolves as projected. This agreement to provide additional information did not reflect a change in policy.

The Committee's decisions regarding the asset purchase program (and the overall stance of monetary policy) depend on our assessment of the economic outlook and of the cumulative progress toward our objectives. Of course, economic forecasts must be revised when new information arrives and are thus necessarily provisional. As I noted, the economic outcomes that Committee participants saw as most likely in their June projections involved continuing gains in labor markets, supported by moderate growth that picks up over the next several quarters as the restraint from fiscal policy diminishes. Committee participants also saw inflation moving back toward our 2 percent objective over time. If the incoming data were to be broadly consistent with these projections, we anticipated that it would be appropriate to begin to moderate the monthly pace of purchases later this year. And if the subsequent data continued to confirm this pattern of ongoing economic improvement and normalizing inflation, we expected to continue to reduce the pace of purchases in measured steps through the first half of next year, ending them around midyear. At that point, if the economy had evolved along the lines we anticipated, the recovery would have gained further momentum, unemployment would be in the vicinity of 7 percent, and inflation would be moving toward our 2 percent objective. Such outcomes would be fully consistent with the goals of the asset purchase program that we established in September.

I emphasize that, because our asset purchases depend on economic and financial developments, they are by no means on a preset course. On the one hand, if economic conditions were to improve faster than expected, and inflation appeared to be rising decisively back toward our objective, the pace of asset purchases could be reduced somewhat more quickly. On the other hand, if the outlook for employment were to become relatively less favorable, if inflation did not appear to be moving back toward 2 percent, or if financial conditions—which have tightened recently—were judged to be insufficiently accommodative to allow us to attain our mandated objectives, the current pace of purchases could be maintained for longer. Indeed, if needed, the Committee would be prepared to employ all of its tools, including an

increase the pace of purchases for a time, to promote a return to maximum employment in a context of price stability.

As I noted, the second tool the Committee is using to support the recovery is forward guidance regarding the path of the Federal funds rate. The Committee has said it intends to maintain a high degree of monetary accommodation for a considerable time after the asset purchase program ends and the economic recovery strengthens. In particular, the Committee anticipates that its current exceptionally low target range for the Federal funds rate will be appropriate at least as long as the unemployment rate remains above 6½ percent and inflation and inflation expectations remain well behaved in the sense described in the FOMC's statement.

As I have observed on several occasions, the phrase "at least as long as" is a key component of the policy rate guidance. These words indicate that the specific numbers for unemployment and inflation in the guidance are thresholds, not triggers. Reaching one of the thresholds would not automatically result in an increase in the Federal funds rate target; rather, it would lead the Committee to consider whether the outlook for the labor market, inflation, and the broader economy justified such an increase. For example, if a substantial part of the reductions in measured unemployment were judged to reflect cyclical declines in labor force participation rather than gains in employment, the Committee would be unlikely to view a decline in unemployment to 6½ percent as a sufficient reason to raise its target for the Federal funds rate. Likewise, the Committee would be unlikely to raise the funds rate if inflation remained persistently below our longer-run objective. Moreover, so long as the economy remains short of maximum employment, inflation remains near our longer-run objective, and inflation expectations remain well anchored, increases in the target for the Federal funds rate, once they begin, are likely to be gradual.

Regulatory Reform

I will finish by providing you with a brief update on progress on reforms to reduce the systemic risk of the largest financial firms. As Governor Tarullo discussed in his testimony last week before this Committee, the Federal Reserve, with the other Federal banking agencies, adopted a final rule earlier this month to implement the Basel III capital reforms.² The final rule increases the quantity and quality of required regulatory capital by establishing a new minimum common equity tier 1 capital ratio and implementing a capital conservation buffer. The rule also contains a supplementary leverage ratio and a countercyclical capital buffer that apply only to large and internationally active banking organizations, consistent with their systemic importance. In addition, the Federal Reserve will propose capital surcharges on firms that pose the greatest systemic risk and will issue a proposal to implement the Basel III quantitative liquidity requirements as they are phased in over the next few years. The Federal Reserve is considering further measures to strengthen the capital positions of large, internationally active banks, including the proposed rule issued last week that would increase the required leverage ratios for such firms.³

The Fed also is working to finalize the enhanced prudential standards set out in sections 165 and 166 of the Dodd-Frank Act. Among these standards, rules relating to stress testing and resolution planning already are in place, and we have been actively engaged in stress tests and reviewing the "first-wave" resolution plans. In coordination with other agencies, we have made significant progress on the key substantive issues relating to the Volcker rule and are hoping to complete it by year-end.

Finally, the Federal Reserve is preparing to regulate and supervise systemically important nonbank financial firms. Last week, the Financial Stability Oversight Council designated two nonbank financial firms; it has proposed the designation of a third firm, which has requested a hearing before the council.⁴ We are developing a supervisory and regulatory framework that can be tailored to each firm's business

²See, Daniel K. Tarullo (2013), "Dodd-Frank Implementation", statement before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, July 11, www.federalreserve.gov/newsevents/testimony/tarullo20130711a.htm; and Board of Governors of the Federal Reserve System (2013), "Federal Reserve Board Approves Final Rule To Help Ensure Banks Maintain Strong Capital Positions", press release, July 2, www.federalreserve.gov/newsevents/press/bcreg/20130702a.htm.

³See, Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, and Office of the Comptroller of the Currency (2013), "Agencies Adopt Supplementary Leverage Ratio Notice of Proposed Rulemaking", joint press release, July 9, www.federalreserve.gov/newsevents/press/bcreg/20130709a.htm.

⁴U.S. Department of the Treasury (2013), "Financial Stability Oversight Council Makes First Nonbank Financial Company Designations to Address Potential Threats to Financial Stability", press release, July 9, www.treasury.gov/press-center/press-releases/Pages/jl2004.aspx.

mix, risk profile, and systemic footprint, consistent with the Collins amendment and other legal requirements under the Dodd-Frank Act.

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

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

Q.1. I am concerned about the long-term impact of youth unemployment. What more can the Federal Reserve do to help promote youth employment?

A.1. Your concerns about the long-term impact of youth unemployment are well-founded. The unemployment rate for 16–24 year olds was 15.1 percent in October 2013, down from its peak of 19 percent in late 2009, but still 5 percentage points above its level prior to the recession. A persistent lack of job opportunities for young people inhibits many of them from gaining valuable work experience and may cause lasting damage to their future employment and earnings prospects. The Federal Reserve can best help to promote youth employment—and indeed to enhance the economic well-being of all Americans—through our efforts to promote a stronger economy and a further improvement in labor market conditions. To this end, the Federal Reserve—consistent with its congressional mandate—will continue to provide the policy accommodation that is needed to foster maximum employment and price stability.

Q.2. As we approach the 5 year anniversary of the financial crisis, what lessons should we never forget regarding appropriate regulation and supervision?

A.2. The primary lesson for financial regulation and supervision of the financial crisis and the ensuing Great Recession is that financial instability can do grave damage to the broader economy. This is a lesson that was also learned following other severe crises, such as the Great Depression. To a certain extent, policy makers forgot this lesson in the decades of prosperity that followed the end of World War II.

Thus, it is important that financial institutions are well-capitalized, have sufficient liquidity on hand to meet a range of contingencies, and that counterparties, regulators and others are prepared for the failure of any given firm. The Federal Reserve, working with other regulatory agencies, has made great progress putting in place enhanced standards for capital, liquidity, risk management, and resolution for the largest financial institutions.

However, while financial crises share many features, they happen infrequently enough that each has its own unique aspects. Thus, regulators must be flexible in their consideration of the key risks facing the financial system. To this end, the Federal Reserve's annual stress testing exercise uses scenarios designed to stress the most salient risks. In addition, the Federal Reserve has devoted increased resources to monitoring the evolution of the financial system and emerging threats to better ensure that policy makers have the information necessary to preserve financial stability. Such efforts and increased interagency focus on systemic issues through the FSOC represent an important shift toward a macroprudential approach to regulation and supervision of the financial system.

Q.3. It was recently announced that the New York Stock Exchange Euronext would administer LIBOR rates. What steps are needed to ensure that LIBOR and other benchmarks are appropriately structured and regulated going forward?

A.3. While the announcement of Euronext as the administrator is an important step, we do not yet know the details of Euronext's plan for its system of oversight or how it will link the submission of rates to transactions. We look forward to learning more. Another important step to ensure that LIBOR and other benchmarks are appropriately structured and regulated is the work that has been undertaken by the Financial Stability Board (FSB) to review existing reference rates and to examine possible complements or alternatives to existing rates. The FSB commissioned the International Organization of Securities Commissions (IOSCO) to undertake the review of existing rates, including LIBOR, EURIBOR, and TIBOR; and it is our understanding that IOSCO has convened a group of regulators to come up with the parameters for that review. The reviews of those rates are expected to be completed sometime next year. The FSB report on possible alternatives is due to be completed in the second quarter of 2014.

Q.4. How is the Federal Reserve preparing the financial institutions it regulates for higher interest rates?

A.4. From a policy perspective, the Federal Banking agencies have established guidance in place on interest rate risk (IRR) since 1996 (Joint Policy Statement on Interest Rate Risk SR 96-13) with more recent guidance in 2010 (Interagency Advisory on Interest Rate Risk SR 10-1) and in 2012 (Questions and Answers on Interagency Advisory on Interest Rate Risk Management SR 12-2). Together these documents outline supervisory expectations for effective interest rate risk management. Through on-site examinations, ongoing monitoring, and analysis of bank supplied information and/or regulatory filings, the Federal Reserve assesses and monitors the level of interest rate risk and the quality of interest rate risk management. Institutions that are found to contain outsized levels of interest rate risk and/or poor quality interest rate risk management routines may be subject to enforcement actions to reduce interest rate risk, improve available capital levels, or improve their interest rate risk management process.

Over the past few years, the FRB has taken additional action steps to strengthen the supervisory oversight with regard to interest rate risk. As part of this, we have devoted more resources to interest rate risk teams that continuously monitor cross-institution risk and keep abreast of emerging risk issues affecting the largest firms. In addition, we have conducted, when necessary, in-depth on-site examinations targeting IRR in order to assess firms' preparedness for potential interest rate shocks. The Federal Reserve has also undertaken a number of outreach efforts to raise awareness of interest rate risk. Some recent topics include:

- Essentials of Effective Interest Rate Risk Measurement
- Effective Asset/Liability Management: A View From the Top
- Interest Rate Risk Management at Community Banks
- Managing Interest Rate Risk in a Rising Rate Environment

Q.5. As you know, on July 21 the 3-year moratorium on Industrial Loan Company (ILC) charters mandated by Wall Street Reform expired. Do you believe there will be any impact on the banking system now that the moratorium has expired? Do you believe the reg-

ulators have sufficient supervisory and enforcement authority to appropriately regulate firms that own ILCs? If not, what supervisory gaps exist?

A.5. Industrial loan companies (ILCs) are State-chartered banks that have virtually all of the powers and privileges of other insured commercial banks, including the protections of the Federal safety net—deposit insurance and access to the Federal Reserve’s discount window and payments system. Nonetheless, ILCs operate under a special exception to the Federal Bank Holding Company Act (BHC Act). This special exception allows any type of firm, including a commercial firm or foreign bank, to acquire and operate an ILC chartered in one of a handful of States—principally Utah and California—without complying with the standards that Congress has established for bank holding companies to maintain the separation of banking and commerce and to protect insured banks, the Federal safety net and, ultimately, the taxpayer.

The Board believes the best way to prevent this exception from further undermining the general policies that Congress has established and further promoting competitive and regulatory imbalances within the banking system is to close the loophole in current law to new acquirers of ILCs. This is precisely the approach that Congress has taken on previous occasions when earlier loopholes began to be used in unintended and potentially damaging ways.

It is important to keep in mind that the exception currently is open-ended and subject to very few statutory restrictions. Although only a handful of States have the ability to charter exempt ILCs, there is no limit on the number of exempt ILCs that these States may charter. Moreover, Federal law places no limit on how large an ILC may become and only one restriction on the types of activities that an ILC may conduct. That restriction prevents most ILCs from accepting demand deposits that the depositor may withdraw by check or similar means for payment to third parties. This Federal restriction has lost much of its meaning as ILCs have entered the world of retail banking by offering retail customers negotiable order of withdrawal (NOW) accounts—transaction accounts that are functionally indistinguishable from demand deposit accounts.

The ILC exception also fosters an unfair and unlevel competitive and regulatory playing field by allowing firms that acquire an insured ILC in a handful of States to operate outside the activity restrictions and consolidated supervisory and regulatory framework that apply to other community-based, regional, and diversified organizations that own a similarly situated bank. Addressing these matters will only become more difficult if additional companies are permitted to acquire and operate ILCs under this special exception.

The ILC exception in current law undermines the supervisory framework that Congress has established for the corporate owners of insured banks. ILCs are regulated and supervised by the FDIC and their chartering State in the same manner as other types of State-chartered, nonmember insured banks and the Board has no concerns about the adequacy of this existing supervisory framework for ILCs themselves. However, due to the special exception in current law, the parent company of an ILC is not considered a bank holding company. This creates special supervisory risks be-

cause the ILC's parent company and nonbank affiliates may not be subject to supervision on a consolidated basis by a Federal agency.

**RESPONSES TO WRITTEN QUESTIONS OF SENATOR CRAPO
FROM BEN S. BERNANKE**

Q.1. You mentioned in your testimony that the Fed is developing the regulatory framework for the two nonbank systemically important financial institutions designated by the FSOC. These companies by definition are not banks. They have different assets and liabilities than the entities traditionally regulated by the Fed. How will the Fed address the unique characteristics of nonbank financial institutions that are designated as systemically important? If the idea is to have a general framework for nonbank SIFIs, what specific steps is the Fed planning to undertake to ensure that the diverse nature of these companies is accounted for while also ensuring they remain competitive in their industries? How long will that process take?

A.1. The Dodd-Frank Act requires the Board to apply enhanced prudential standards and early remediation requirements to bank holding companies with at least \$50 billion in consolidated assets and to nonbank financial companies designated by the FSOC for supervision by the Board (designated companies). The Act authorizes the Board to tailor the application of these standards and requirements to different companies on an individual basis or by category. In so doing we can consider any factor we deem appropriate, including capital structure, nature of financial activities, riskiness, size, and complexity. In our proposed rulemaking, we noted that this tailoring authority would be particularly important in applying the standards and requirements to designated companies that are organized and operated differently from banking organizations. We sought and received comment on how the standards should be applied to designated companies. Staff has carefully reviewed the comments and met with interested members of the public, including the designated companies and other financial firms. As we indicated in the proposal, following the recent designations by the FSOC of AIG, GECC, and Prudential, we are assessing the business model, capital structure, and the risk profile of each company to determine how the standards and requirements should apply.

The Federal Reserve currently supervises AIG and GECC as savings and loan holding companies and formerly supervised Prudential in this capacity. We intend to design a supervisory program for these firms as designated companies that is consistent with the approach we use for the largest financial holding companies but tailored to account for different material characteristics of each firm. We intend to utilize expertise gained from our prior and current supervisory activities and from the designation process, to leverage our strong working relationships with State insurance supervisors (in the case of AIG and Prudential), and to include a focus on threats to financial stability posed by each firm.

Q.2. After completing work on FHA reform, the Banking Committee will move to the issue of reforming the GSEs. As we begin this process, what are the guiding principles that we ought to con-

sider? If there is a Government guarantee, how do we make sure that it is priced accordingly?

A.2. The historical experience with mortgage-backed securities provides three principles for successful mortgage securitization. First, for the ultimate investors to be willing to acquire and trade mortgage-backed securities, they must be persuaded that the credit quality of the underlying mortgages is high and that the origination-to-distribution process is managed so that originators, such as mortgage brokers and bankers, have an incentive to undertake careful underwriting. Second, because the pools of assets underlying mortgage-backed securities have highly correlated risks, including interest rate, prepayment, and credit risks, the institutions and other investors that hold these securities must have the capacity to manage their risks carefully. Finally, because mortgage-backed securities are complex amalgamations of underlying mortgages that may themselves be complex to price, transparency about both the underlying assets and the mortgage-backed security itself is essential.

From a public policy perspective, the question arises whether fully privatized mortgage securitization would continue under highly stressed financial conditions. Government-backed insurance for any form of bond or securities financing used to provide funding to mortgage markets should be explicitly priced and transparent, so that the taxpayers' risks can be fully understood. Pricing such insurance is difficult unless the Congress provides an objective for the Government insurer. If there is a Government guarantee, Congress needs to establish a standard for when it should be used and provide sufficient authority and clarity so that the Government catastrophic insurer knows how to balance concerns about taxpayer risk and credit availability.

Q.3. Beyond the discussion of tapering and winding down the Fed's balance sheet is the fact that short-term rates are still being held close to zero. In fact, it has been more than 4 years since the Fed Funds Rate was reduced to near zero. Some have suggested the Fed should commit to leave the rate low for a period of time after the economy begins improving, while others are concerned that any delay would provoke inflation. Given the limits of the accuracy of real-time economic data and economic forecasting, how confident are you that the Fed will be able to move from a zero-interest rate policy at the right time?

A.3. The Committee is firmly committed to its price stability objective, and, as affirmed in its statement of Longer-Run Goals and Policy Strategy, its policy decisions will be aimed at achieving its longer-run goal of 2 percent inflation (as measured by the deflator for personal consumption expenditures). The FOMC has stated that it will be appropriate to keep its target range for the Federal funds rate at its current very low level 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 a half percent about the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored. In any set of circumstances, it is difficult to accurately judge the ideal timing of a shift in the direction of monetary policy and one cannot rule out

the risk that inflation could at some point increase unexpectedly. However, policy makers carefully and continuously monitor a range of inflation indicators and will adjust the stance of policy as appropriate to achieve low and stable inflation as well as maximum employment.

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

Q.1. In February you testified before this Committee that monetary and fiscal policy were working at “cross-purposes.” Many more Americans would have jobs and be much better off if Congress passed sensible fiscal policy—policies that are good investments with high bang for the buck like infrastructure projects, tax relief for low and middle-income Americans, and incentives to companies to hire and expand their payroll.

Could you describe how the Fed’s policy would be different, in size or scope, if there was sensible fiscal support? And how many more Americans would have a job? Would a stronger recovery, supported by fiscal policy, help the Fed manage its monetary policy as employment increases and the economy nears the thresholds laid out by the FOMC?

A.1. As I have suggested to the Congress in the past, a fiscal policy that was less focused on near-term consolidation and more focused on long-run sustainability would be preferable to the current policy. According to the CBO, the near-term policies embodied in current law—such as sequestration, tax increases and other measures—are cutting an estimated 1.5 percentage points off GDP growth this year, or approximately 750,000 jobs. Although Fed policies are working to support the labor market and offset some of this drag, monetary policy is not a panacea, and we would surely see stronger labor market conditions if fiscal policy were not imposing strong headwinds on the economy this year. By the same token, it is imperative that Congress come to grips in a compelling, credible way with the fact that fiscal policy as encoded in current law is not sustainable in the long term. These two objectives are not contradictory; on the contrary, they could be mutually reinforcing. A less restrictive fiscal policy in the near term that supported a stronger economic recovery would help improve the sustainability of the Federal Government’s overall fiscal position over the long term. At the same time, a credible and growth-oriented long-term plan for sustainability, enacted into law, would alleviate widespread concerns and reduce uncertainty—both of which could add to the vigor of aggregate demand in the near term.

I am confident that we have the tools to manage monetary policy effectively once we get to the point where the economy is nearing the thresholds laid out by the Federal Open Market Committee.

Q.2. The United States just concluded the first round of negotiations with the European Union on the Transatlantic Trade and Investment Partnership (T-TIP) agreement. There is some concern that these negotiations and the resulting FTA could adversely affect financial regulatory reforms made by the Fed and other domestic prudential regulators.

Has the Federal Reserve been consulted by or weighed in with the United States Trade Representative on whether this trade agreement would affect your rulemaking? Would an FTA with significant financial regulatory changes frustrate your ongoing rulemaking and multilateral efforts with the G20?

A.2. Federal Reserve staff works closely with the staff of the Treasury Department and other agencies to keep abreast of the status of trade negotiations to assure that any agreement would not interfere with U.S. prudential regulation. We are aware that there has been interest on the part of the EU to negotiate financial regulations in the context of the T-TIP agreement. However, the U.S. agencies working on the T-TIP, including USTR, are in agreement that the negotiations will not include prudential or financial regulations or attempt to set standards for such regulations. The Federal Reserve will continue to monitor the negotiations to assure that its ability to establish appropriate prudential regulations is not compromised.

The Federal Reserve has long supported including the financial services sector itself in trade negotiations in the interest of opening markets, reducing trade barriers, and encouraging the free flow of trade, but only subject to prudential considerations. As the financial crisis demonstrated, market discipline alone is not sufficient to ensure a healthy and stable economy. Financial institutions must be held to rigorous prudential standards. Efforts to restore and strengthen the health and stability of the U.S. financial sector could be undermined if prudential or financial regulations are subject to exemptions or modifications through trade agreements. It could also undermine other multilateral efforts to agree on international financial standards, already underway in such fora as the FSB, Basel Committee, IOSCO, and the IAIS.

**RESPONSES TO WRITTEN QUESTIONS OF SENATOR HAGAN
FROM BEN S. BERNANKE**

Q.1. There has been a significant sell-off in the fixed income markets in recent weeks, with substantial outflows from bond mutual funds. Are you at all concerned you that markets are too driven by the speeches and official pronouncements from central banks around the world? If the suggestion of tapering has been contributing to volatility in asset prices, can we expect more volatility as policy action nears?

A.1. The recent rise in interest rates appears to partly reflect shifts in investor expectations about monetary policy, but other factors likely played important roles as well. In particular, incoming data appears to have led investors to mark up their expectations for economic activity relative to earlier in the year. Yield movements were also reportedly exacerbated by an unwinding of leveraged and risky trading positions that had been predicated on highly optimistic investor expectations of persistently low and stable interest rates. Notably, an unwinding of such positions, while having the unfortunate effect of tightening financial conditions, may also have removed some of the risks to financial stability posed by those overextended positions, putting financial markets on a firmer footing.

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

Q.1. The Federal Reserve proposes to end its asset purchases by the middle of next year, assuming that the recovery has gained momentum, unemployment is near 7 percent, and inflation is moving toward 2 percent. However, unemployment of 7 percent would be well above the so-called “natural” rate of unemployment (<http://research.stlouisfed.org/fred2/series/NROUST>), suggesting that inflation would not be a concern, and many households would still be in considerable distress because of the slack labor market. Why does the Federal Reserve plan to abandon a tool that you say helps “to increase the near-term momentum of the economy, with the specific goal of achieving substantial improvement in the outlook for the labor market in the context of price stability” when macroeconomic conditions remain far from normal?

A.1. The FOMC is currently providing monetary stimulus to the economy using two tools: large scale asset purchases and communications about its expectations for the path of the Federal funds rate, or “forward guidance.” Asset purchases help to lower longer-term interest rates by reducing the stock of available longer term securities, thereby helping to raise their price in the open market, and reduce their yield. Thus, a cessation of asset purchases would not imply a reduction in monetary stimulus because the Federal Reserve will continue to hold the assets it has purchased in its portfolio and thereby maintain downward pressure on long-term interest rates. Moreover, as the Committee has indicated in its most recent post-meeting statement, it expects that a highly accommodative stance of monetary policy will remain appropriate for a considerable time after the asset purchase program ends. In particular, the Committee sees its asset purchases as providing near-term momentum to the economy with the specific goal of achieving a substantial improvement in the labor market in a context of price stability. However, even after this goal has been achieved, the Committee expects that it will be appropriate to maintain the current low range for the Federal funds rate at least as long as the unemployment rate remains above 6½ percent, inflation between 1 and 2 years 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.

Q.2. In a recent Notice of Proposed Rulemaking the Federal Reserve proposes to treat branches and agencies of foreign banking organizations as if they were insured depositories for purposes of section 716 of the Dodd-Frank Act (<http://www.gpo.gov/fdsys/pkg/FR-2013-06-10/pdf/2013-13670.pdf>). This rule would allow branches and agencies to act as a swaps entity for certain types of swaps, and to use swaps for hedging, while retaining access to the Federal Reserve discount window and emergency lending. This change is described in the rule proposal being, “. . . consistent with the purpose and legislative history of section 716. Section 716 and Title VII of the Dodd-Frank Act generally are intended to reduce systemic risks from derivatives activities.” Can you explain how extending the Federal safety net to swaps entities located in branches and agencies—which are not subject to the full range of

U.S. banking regulation—reduces the systemic risks created by derivatives activities?

A.2. The Board’s interim final rule treats an uninsured U.S. branch or agency of a foreign bank as an insured depository institution for purposes of section 716 of the Dodd-Frank Act.

The interim final rule does not extend the Federal safety net to these branches and agencies. Under the Federal Reserve Act, both uninsured and insured U.S. branches and agencies of foreign banks may receive Federal Reserve advances on the same terms and conditions that apply to domestic insured State member banks.¹ In section 716, Congress also determined to permit insured depository institutions to continue to conduct certain limited hedging and bank permissible activities. It made this determination to allow insured depository institutions to manage the risk from their activities in a safe and sound manner. This treatment is consistent with congressional intent as reflected in a colloquy between Senator Lincoln, the sponsor of section 716 and Senator Dodd, the Chairman of the Senate Committee on Banking, Housing, and Urban Affairs. During Senate consideration of the Dodd-Frank Act Conference Report, Senators Lincoln and Dodd had a colloquy during which they expressed the view that uninsured U.S. branches and agencies should be treated in the same manner as insured depository institutions.² The Board’s rule allows uninsured branches of foreign banks to engage in the same bank permissible activities so that they too can better manage risk.

Q.3. During the financial crisis, the unprecedented use of emergency lending powers under Section 13(3) of the Federal Reserve Act raised important questions about moral hazard in the financial sector. In response to these concerns, Section 1101 of the Dodd-Frank Act placed important new restrictions on the Federal Reserve’s use of its emergency lending powers. Section 1101(a)(6) required the Federal Reserve to write rules “as soon as is practicable after the enactment of this subparagraph” establishing policies and procedures for emergency lending that implement these restrictions.

It has been 3 years since Dodd-Frank was enacted but I am not aware that any rules have been issued or proposed establishing policies and procedures for emergency lending under Section 13(3). If any rules implementing the new Dodd-Frank restrictions on emergency lending been proposed, can you please provide them to my office? If such regulations have not been proposed, what explains the failure to issue them “as soon as is practicable” and when do you expect these regulations to be issued?

A.3. The Dodd-Frank Act imposed numerous requirements upon the Board for rulemakings, both on its own as well as in consultation with other agencies, as well as requirements for process changes and development, studies, consultations, and reports. The Board has taken its obligations under the Dodd-Frank Act very seriously. As of last month, the Board had completed 27 final rulemakings, 12 proposed rulemakings, and 12 studies and reports (on its own or jointly with other agencies). The Board has under-

¹ Section 13(14) of the Federal Reserve Act; 12 U.S.C. 347d.

² See, 156 Cong. Rec. S5904 (daily ed. July 15, 2010) (statement of Senator Lincoln).

taken substantial work both internally and with other agencies where required on other Dodd-Frank Act requirements, including on the policies and procedures intended to implement the Dodd-Frank Act amendments to section 13(3). The Board expects to issue a proposal for public comment on the section 13(3) policies and procedures shortly.

Q.4. Given the statutory directive to issue detailed policies and procedures restricting 13(3) powers, do you believe that the Federal Reserve would be legally authorized to use its emergency lending powers in the absence of the mandated regulation?

A.4. The Dodd-Frank Act made several major changes to the statutory text of section 13(3). The Board believes that the provisions enacted in the Dodd-Frank Act governing its emergency lending authority have governed the use of that authority since enactment of that act.

**RESPONSES TO WRITTEN QUESTIONS OF SENATOR HEITKAMP
FROM BEN S. BERNANKE**

Q.1. How are the unpredictability in taxes and regulation that businesses face affecting our economic recovery and future growth?

A.1. Economic research suggests that uncertainty about Federal Government policies, including those for taxes and regulation, can restrain business investment and hiring, although there is not a consensus on the magnitude of these effects. Policy makers can help alleviate this uncertainty by putting in place a stable and sustainable set of policies. It is important that taxes are set in order to raise sufficient tax revenue for a given amount of Federal Government spending and that Federal regulations are set in order to achieve key economic and social goals. The decisions made about the size and structure of Federal taxes and regulations have important effects on the future performance of the economy. These decisions entail balancing many factors to implement policies that reflect our values and priorities as a Nation.

Q.2. How can we improve the development of our future workforce to ensure we have the human capital necessary for the economy they will enter?

A.2. The skills and talents of the American workforce are important determinants of the long-run growth potential of the U.S. economy and of the standard of living of the population. Both to promote economic growth and to enhance the well-being of future generations, it is important that we provide our young people and our future workers more generally with the resources and opportunities they need to build their human capital and succeed in the modern economy.

A first step toward achieving this goal is to make our education system as strong and accessible as possible. If we are to successfully navigate such challenges as the retirement of the baby boom generation, technological change, and increasing globalization, we must work diligently to maintain the quality of our educational system where it is strong and strive to improve it where it is not. Our efforts need to focus on all levels of education, from preschool on up. And even though higher education currently represents the

strongest part of the U.S. educational system, we must find ways to move more of our students, especially minorities and students from disadvantaged backgrounds, into educational opportunities after high school.

Of course, not everybody should necessarily be pursuing a 4-year college degree. Indeed, there are many educational opportunities that lie outside the traditional route of a kindergarten-through-twelfth-grade education followed by 4 years of college. For example, some individuals would be better off looking specifically towards a job in an industry where there is an understanding in advance that workers are needed with particular sets of skills. For students interested in that career path, support for focused job-oriented training programs such as those offered by many community colleges may be helpful.

A third set of policies relates to those who are already in the workforce but need to adapt to a changing economic environment. In this regard, policies targeted towards providing those workers with the resources they need to upgrade their skills and find new jobs can be helpful. For example, community college and other adult education programs have been effective in helping workers advance their careers, as well as helping those who have lost their jobs to obtain new skills that strengthen their qualifications for available jobs. Similarly, innovative workforce development programs can play an important role in anticipating future job market demands, and by helping workers improve their skills to meet the requirements of businesses as they adopt more advanced technologies.

Finally, promoting a strong economy that provides job opportunities for our future workforce is, of course, critical to the success of future generations. In this regard, the Federal Reserve remains firmly committed to fulfilling its statutory mandate from the Congress of promoting maximum employment, stable prices, and moderate long-term interest rates.

ADDITIONAL MATERIAL SUPPLIED FOR THE RECORD

For use at 8:30 a.m., EDT
July 17, 2013

MONETARY POLICY REPORT

July 17, 2013



Board of Governors of the Federal Reserve System

LETTER OF TRANSMITTAL



BOARD OF GOVERNORS OF THE
FEDERAL RESERVE SYSTEM

Washington, D.C., July 17, 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,

A handwritten signature in black ink, appearing to read "B. Bernanke", is written over the word "Sincerely,".

Ben Bernanke, Chairman

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.

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Note: The figures and tables in this report generally reflect information available as of Friday, July 12, 2013. Unless otherwise noted, the time series in the figures extend through, for daily data, July 12, 2013; for monthly data, June 2013; and, for quarterly data, 2013:Q1. In bar charts, except as noted, the change for a given period is measured to its final quarter from the final quarter of the preceding period.

SUMMARY

Thus far this year, labor market conditions have improved further, while consumer price inflation has run below the Federal Open Market Committee's (FOMC) longer-run objective of 2 percent. Gains in payroll employment since the start of the year have averaged about 200,000 jobs per month, and various measures of underutilization in labor markets have continued to trend down. Even so, the unemployment rate, at 7½ percent in June, was still well above levels prevailing prior to the recent recession and well above the levels that FOMC participants think can be sustained in the longer term consistent with price stability.

Consumer price inflation has slowed this year. Over the first five months of the year, the price index for personal consumption expenditures increased at an annual rate of only ½ percent, while the index excluding food and energy prices rose at a rate of 1 percent, both down from increases of about 1½ percent over 2012. This slowing appears to owe partly to transitory factors. Survey measures of longer-term inflation expectations have remained in the narrow ranges seen over the past several years, while market-based measures have declined so far this year, reversing their rise over the second half of 2012.

Meanwhile, real gross domestic product (GDP) continued to increase at a moderate pace in the first quarter of this year. Available indicators suggest that the growth of real GDP proceeded at a somewhat slower pace in the second quarter. Although federal fiscal policy is imposing a substantial drag on growth this year and export demand is still damped by subdued growth in foreign economies, some of the other headwinds that have weighed on the economic recovery have begun to dissipate. Against this backdrop, a sustained housing market recovery now appears to be under way, and consumption growth is estimated to have

held up reasonably well despite the increase in taxes earlier this year.

Credit conditions generally have eased further, though they remain relatively tight for households with lower credit scores—and especially for such households seeking mortgage loans. However, beginning in May, longer-term interest rates rose significantly and asset price volatility increased as investors responded to somewhat better-than-expected economic data as well as Federal Reserve communications about monetary policy. Despite their recent moves, interest rates have generally remained low by historical standards, importantly due to the Federal Reserve's highly accommodative monetary policy stance.

With unemployment still well above normal levels and inflation quite low, and with the economic recovery anticipated to pick up only gradually, the FOMC has continued its highly accommodative monetary policy this year in order to support progress toward maximum employment and price stability.

The FOMC kept its target range for the federal funds rate at 0 to ¼ percent and anticipated that this exceptionally low range 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 a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored. The Committee also stated that when it decides to begin to remove policy accommodation, it would take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent.

The FOMC also has continued its asset purchase program, purchasing additional agency mortgage-backed securities at a pace

2 SUMMARY

of \$40 billion per month and longer-term Treasury securities at a pace of \$45 billion per month. The Committee has reiterated that the purchase program will continue until the outlook for the labor market has improved substantially in a context of price stability. In addition, the FOMC has indicated that the size, pace, and composition of purchases will be adjusted in light of the Committee's assessment of the likely efficacy and costs of such purchases as well as the extent of progress toward its economic objectives. The Committee has noted that it is prepared to increase or reduce the pace of purchases to maintain appropriate policy accommodation as the outlook for the labor market or inflation changes.

At the June FOMC meeting, Committee participants generally thought it would be helpful to provide greater clarity about the Committee's approach to decisions about its asset purchase program and thereby reduce investors' uncertainty about how the Committee might react to future economic developments. In choosing to provide this clarification, the Committee made no changes to its approach to monetary policy. Against this backdrop, Chairman Bernanke, at his postmeeting press conference, described a possible path for asset purchases that the Committee would anticipate implementing if economic conditions evolved in a manner broadly consistent with the outcomes the Committee saw as most likely. The Chairman noted that such economic outcomes involved continued gains in labor markets, supported by moderate growth that picks up over the next several quarters, and inflation moving back toward its 2 percent objective over time. If the economy were to evolve broadly in line with the Committee's expectations, the FOMC would moderate the pace of purchases later this year and continue to reduce the pace of

purchases in measured steps until purchases ended around the middle of next year, at which time the unemployment rate would likely be in the vicinity of 7 percent, with solid economic growth supporting further job gains and inflation moving back toward the FOMC's 2 percent target. In emphasizing that the Committee's policy was in no way predetermined, the Chairman noted that the pace of asset purchases could increase or decrease depending on the evolution of the outlook and its implications for further progress in the labor market. The Chairman also drew a strong distinction between the asset purchase program and the forward guidance regarding the target for the federal funds rate, noting that the Committee anticipates that there will be a considerable period between the end of asset purchases and the time when it becomes appropriate to increase the target for the federal funds rate.

In conjunction with the most recent FOMC meeting in June, Committee participants submitted individual economic projections under each participant's judgment of appropriate monetary policy. According to the Summary of Economic Projections (SEP), Committee participants saw the downside risks to the outlook for the economy and the labor market as having diminished since the fall. (The June SEP is included as Part 3 of this report.) Committee participants also projected that, with appropriate monetary policy accommodation, economic growth would pick up, the unemployment rate would gradually decline, and inflation would move up over the medium term from recent very low readings and subsequently move back toward the FOMC's 2 percent longer-run objective. Committee participants saw increases in the target for the federal funds rate as being quite far in the future, with most expecting the first increase to occur in 2015 or 2016.

PART 1

RECENT ECONOMIC AND FINANCIAL DEVELOPMENTS

Real economic activity continued to increase at a moderate pace in the first quarter of 2013, though available indicators suggest that the pace of economic growth was somewhat slower in the second quarter. Federal fiscal policy is imposing a substantial drag on economic growth this year, and subdued growth in foreign economies continues to weigh on export demand. However, some other headwinds have diminished, and interest rates, despite recent increases, have generally remained low by historical standards, importantly due to the ongoing monetary accommodation provided by the Federal Open Market Committee (FOMC). A sustained housing market recovery appears to be under way, and, despite the increase in taxes earlier this year, consumption growth is estimated to have held up reasonably well, supported by higher equity and home prices, more upbeat consumer sentiment, and the improving jobs situation. Payroll employment has continued to rise at a moderate pace, and various measures of underutilization in labor markets have improved further. But, at 7½ percent in June, the unemployment rate was still well above levels prevailing prior to the recent recession. Meanwhile, consumer price inflation has slowed further this year, in part because of falling energy and import prices and other factors that are expected to prove transitory, and it remains below the FOMC's longer-run objective of 2 percent. Survey measures of longer-term inflation expectations have remained in the fairly narrow ranges seen over the past several years.

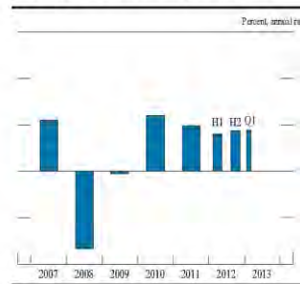
Domestic Developments

Economic growth continued at a moderate pace early this year

Output appears to have risen further in the first half of 2013 despite the substantial drag on economic growth from federal fiscal policy this year and the restraint on export demand from subdued foreign growth. Real gross domestic product (GDP) increased at an estimated annual rate of 1¾ percent in the first quarter of the year (figure 1), the same as the average pace in 2012, though available indicators point at present to a somewhat smaller gain in the second quarter. Economic activity so far this year has been supported by the continued expansion in demand by U.S. households and businesses, including what appears to be a sustained recovery in the housing market. Private demand has been bolstered by the historically low interest rates and rising prices of houses and other assets, partly associated with the FOMC's continued policy accommodation.

In addition, some of the other headwinds that have held back the economy in recent years have dissipated further. Risks of heightened financial stresses in Europe appear to have diminished

1. Change in real gross domestic product, 2007–13



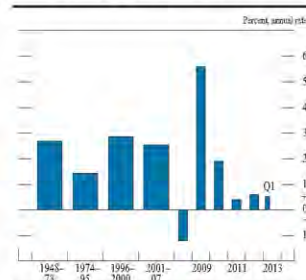
SOURCE: Department of Commerce, Bureau of Economic Analysis.

2. Net change in payroll employment, 2007–13



SOURCE: Department of Labor, Bureau of Labor Statistics.

3. Change in output per hour, 1948–2013

NOTE: The data are from the nonfarm business sector.
SOURCE: Department of Labor, Bureau of Labor Statistics.

somewhat, consumer confidence has improved noticeably, and credit conditions in the United States generally have eased. Nonetheless, tight credit conditions for some households are still likely restraining residential investment and consumer spending, and uncertainty about the foreign outlook continues to represent a downside risk for U.S. financial markets and for sales abroad.

Conditions in the labor market have continued to improve . . .

The labor market has continued to improve gradually. Gains in payroll employment averaged about 200,000 jobs per month over the first half of 2013, slightly above the average increase in each of the previous two years (figure 2). The combination of this year's output and employment increases imply that gains in labor productivity have remained slow. According to the latest published data, output per hour in the nonfarm business sector rose at an annual rate of only ½ percent in the first quarter of 2013, similar to its average pace in both 2011 and 2012 (figure 3).

Meanwhile, the unemployment rate declined to 7½ percent in the second quarter of this year from around 8¼ percent a year earlier. A variety of alternative, broader measures of labor force underutilization have also improved over the past year, roughly in line with the official unemployment rate (figure 4).

While the unemployment rate and total payroll employment have improved further, the labor force participation rate has continued to decline, on balance. As a result, the employment–population ratio, a measure that combines the unemployment rate and labor force participation rate, has changed little so far this year. To an important extent, the decline in the participation rate likely reflects changing demographics—most notably the increasing share in the population of older persons, who have lower-than-average participation rates—that would have occurred regardless of the strength of the labor market. However,

it is also likely that some of the decline in the participation rate reflects an increase in the number of workers who have stopped looking for work because of poor job prospects.¹

... but considerable slack in labor markets remains ...

Although labor market conditions have improved moderately so far this year, the job market remains weak overall. The unemployment rate and other measures of

labor underutilization are still well above their pre-recession levels, despite payroll employment having now expanded by nearly 7 million jobs since its recent trough and the unemployment rate having fallen 2½ percentage points since its peak. Moreover, unemployment has been unusually concentrated among the long-term unemployed; in June, the fraction of the unemployed who had been out of work for more than six months remained greater than one-third, although this share has continued to edge down (figure 5). In addition, last month, 8 million people, or 5 percent of the workforce, were working part time because they were unable to find full-time work due to economic conditions.

... and gains in compensation have been slow

Increases in hourly compensation continue to be restrained by the weak condition of the labor market. The 12-month change in the employment cost index for private industry

1. As was discussed in the box "Assessing Conditions in the Labor Market" in the February 2013 *Monetary Policy Report*, the unemployment rate typically provides a very good summary of labor market conditions; however, other indicators also provide important perspectives on the health of the labor market, with the most accurate assessment of labor market conditions obtained by combining the signals from many such indicators. For the box, see Board of Governors of the Federal Reserve System (2013), *Monetary Policy Report* (Washington: Board of Governors, February), www.federalreserve.gov/monetarypolicy/mpr_20130226_part1.htm.

4. Measures of labor underutilization, 2001–13

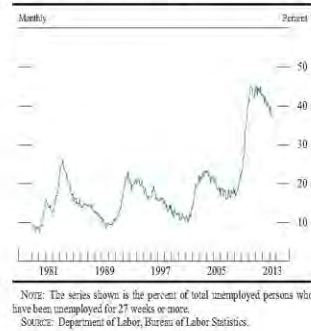


Note: U-4 measures total unemployed plus discouraged workers, as a percent of the labor force plus discouraged workers. Discouraged workers are not currently looking for work because they believe no jobs are available for them. U-5 measures total unemployed plus all marginally attached to the labor force, 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 past 12 months. U-6 measures total unemployed plus all marginally attached workers plus total employed part time for economic reasons, as a percent of the labor force plus all marginally attached workers.

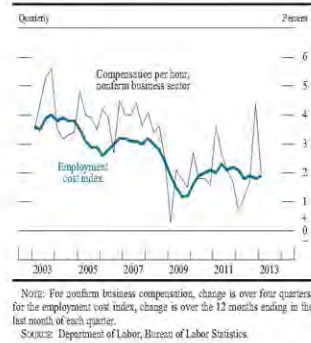
Sources: Department of Labor, Bureau of Labor Statistics.

6 PART 1: RECENT ECONOMIC AND FINANCIAL DEVELOPMENTS

5. Long-term unemployed, 1979–2013



6. Measures of change in hourly compensation, 2003–13



workers, which measures both wages and the cost to employers of providing benefits, has remained close to 2 percent throughout most of the recovery (figure 6). Compensation per hour in the nonfarm business sector—a measure derived from the labor compensation data in the national income and product accounts—rose 2 percent over the year ending in the first quarter of 2013. Similarly, average hourly earnings for all employees—the timeliest measure of wage developments—increased 2¼ percent in nominal terms over the 12 months ending in June. Even with relatively slow productivity gains, the change in unit labor costs faced by firms—an estimate of the extent to which nominal hourly compensation rises in excess of labor productivity—has remained subdued.

Consumer price inflation has been especially low . . .

The price index for personal consumption expenditures (PCE) increased at an annual rate of just ½ percent over the first five months of the year, down from a rise of 1½ percent over 2012 and below the FOMC's long-run objective of 2 percent (figure 7). The very low rate of inflation so far this year partly reflects declines in consumer energy prices, but price inflation for other consumer goods and services has also been subdued. Consumer food prices have remained largely unchanged so far this year, and consumer prices excluding food and energy increased at an annual rate of 1 percent in the first five months of this year after rising 1½ percent over 2012. With wages growing slowly and materials prices flat or moving downward, firms have generally not faced cost pressures that they might otherwise try to pass on.

. . . as some transitory factors weighed on prices . . .

In addition to the decline in energy prices, this year's especially low inflation reflects, in part, other special factors that are expected to be transitory. Notably, increases in both medical services prices and the nonmarket component

of PCE prices have been unusually low. While the average rate of medical-price inflation as measured by the PCE index has been considerably lower during the past few years than it was earlier, the increase over the first five months of 2013—at below ½ percent—has been extraordinarily muted, largely reflecting the effects on medical services prices of cuts in Medicare reimbursements associated with federal budget sequestration. (In contrast, medical services prices in the consumer price index (CPI), which exclude most Medicare payments, have risen at an annual rate of nearly 2 percent so far this year.) Because medical services have a relatively large weight in PCE expenditures (as the PCE price index reflects payments by all payers, not just out-of-pocket expenses as in the CPI), price changes in this component of spending can have a sizable effect on top-line PCE inflation.

The nonmarket PCE price index covers spending components for which market prices are not observed, such as financial services rendered without explicit charge; as a result, the Bureau of Economic Analysis imputes prices for those items. Overall, this nonmarket index declined early this year before moving up again in recent months; however, these prices tend to be volatile and appear to contain little signal for future inflation.

... and as oil and other commodity prices declined ...

Global oil prices have come down, on net, from their February peak of nearly \$120 per barrel, though in recent weeks they have increased somewhat from their spring lows to almost \$110 per barrel (figure 8). Tensions in the Middle East have likely continued to put upward pressures on crude oil prices, but those pressures have been mitigated by concerns about the strength of oil demand in China and the rest of emerging Asia and by rising oil production in North America. Nonfuel commodity prices have eased since the beginning of the year, also reflecting slowing economic growth in emerging Asia. Notably, the

7. Change in the chain-type price index for personal consumption expenditures, 2007–13



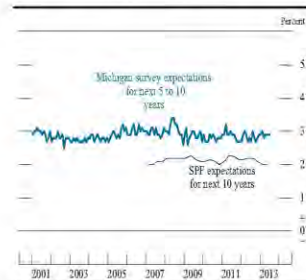
NOTE: The data extend through May 2013; changes are from one year earlier.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

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



NOTE: The data are weekly through July 12, 2013. The price of oil is the spot price of Brent crude oil, and the price of nonfuel commodities is an index of 23 primary-commodity prices.
SOURCE: Commodity Research Bureau.

9. Median inflation expectations, 2001–13



Note: The Michigan survey data are monthly and extend through a preliminary estimate for July 2013. The SPF data for inflation expectations for personal consumption expenditures are quarterly and extend from 2007:Q1 through 2013:Q2.

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

10. Inflation compensation, 2001–13



Note: 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.

price of iron ore, widely viewed as an indicator of Chinese demand for commodities, has fallen roughly 20 percent since early January. Along with falling commodity prices, prices of non-oil imported goods declined in the first half of 2013, also likely holding down domestic price increases this year.

... but longer-term inflation expectations remained in their historical range

The Federal Reserve monitors the public's expectations of inflation, in part because these expectations may influence wage- and price-setting behavior and thus actual inflation. Survey-based measures of longer-term inflation expectations have changed little, on net, so far this year. Median expected inflation over the next 5 to 10 years, as reported in the Thomson Reuters/University of Michigan Surveys of Consumers (Michigan survey), was 2.9 percent in early July, within the narrow range of the past decade (figure 9).² In the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, the median expectation for the increase in the PCE price index over the next 10 years was 2 percent in the second quarter of this year, similar to its level in recent years.

Measures of medium- and longer-term inflation compensation derived from the differences between yields on nominal and inflation-protected Treasury securities have declined between $\frac{1}{4}$ and $\frac{1}{2}$ percentage point so far this year (figure 10). Nonetheless, these measures of inflation compensation also remain within their respective ranges observed over the past several years, as the recent declines reversed the rise over the second half of last year. In general, movements in inflation compensation can reflect not only market participants' expectations of future inflation but also changes in investor risk aversion and fluctuations in the relative liquidity of nominal versus inflation-protected securities; the recent declines in inflation compensation may have been amplified

2. The question in the Michigan survey asks about inflation generally but does not refer to any specific price index.

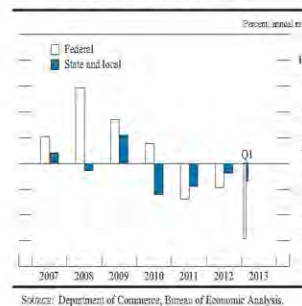
by a reduction in demand for Treasury inflation-protected securities amid increased volatility in fixed-income markets.

Fiscal consolidation has quickened, leading to stronger headwinds but smaller deficits

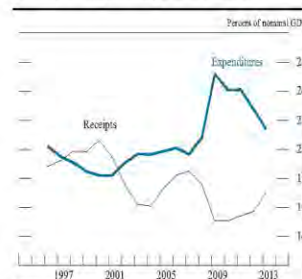
Fiscal policy at the federal level has tightened significantly this year. As discussed in the box “Economic Effects of Federal Fiscal Policy,” fiscal policy changes—including the expiration of the payroll tax cut, the enactment of other tax increases, the effects of the budget caps on discretionary spending, the onset of the sequestration, and the declines in defense spending for overseas military operations—are estimated, collectively, to be exerting a substantial drag on economic activity this year. Even prior to the bulk of the spending cuts associated with the sequestration that started in March, total real federal purchases contracted at an annual rate of nearly 9 percent in the first quarter, reflecting primarily a significant decline in defense spending (figure 11). The sequestration will induce further reductions in real federal expenditures over the next few quarters. For example, many federal agencies have announced plans to furlough workers, especially in the third quarter. However, considerable uncertainty continues to surround the timing of these effects.

These fiscal policy changes—along with the ongoing economic recovery and positive net payments to the Treasury by Fannie Mae and Freddie Mac—have resulted in a narrower federal deficit this year. Nominal outlays have declined substantially as a share of GDP since their peak during the previous recession, and tax receipts have moved up to about 17 percent of GDP, their highest level since the recession (figure 12). As a result, the deficit in the federal unified budget fell to about \$500 billion over the first nine months of the current fiscal year, almost \$400 billion less than over the same period a year earlier. Accordingly, the Congressional Budget Office projects that the budget deficit for fiscal year 2013 as a whole will be 4 percent of GDP, markedly narrower than

11. Change in real government expenditures on consumption and investment, 2007–13



12. Federal receipts and expenditures, 1995–2013



Note: Through 2012, receipts and expenditures are for fiscal years (October–September). GDP is for the four quarters ending in Q3. For 2013, receipts and expenditures are for the 12 months ending in June, and GDP is the average of 2012:Q4 and 2013:Q1. Receipts and expenditures are on a unified-budget basis.

Source: Office of Management and Budget.

Economic Effects of Federal Fiscal Policy

Federal fiscal policy has had important effects on the pace of economic growth in recent years. One useful indicator of the stance of fiscal policy is the structural component of the federal budget deficit. The structural deficit excludes the cyclical part of the deficit—that is, changes in government revenues and expenditures that occur automatically over the business cycle. (It also excludes the budgetary effects of financial stabilization programs.¹) Changes in

the structural deficit mainly result from fiscal policy actions: Expansionary fiscal policies that can boost near-term economic growth generate increases in the structural deficit, whereas contractionary policies that can temporarily restrain growth generate reductions in the structural deficit.

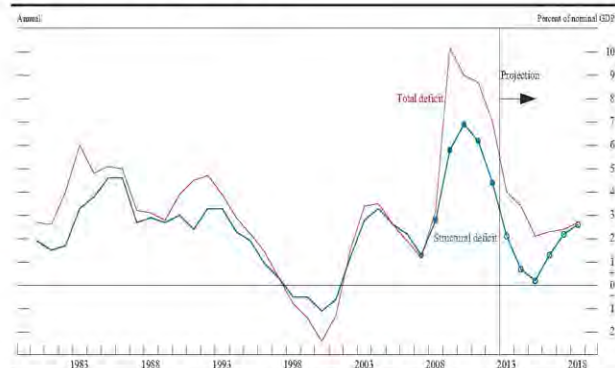
The evolution of one measure of the structural deficit is shown by the blue line in figure A.² During

1. Financial stabilization programs include the Troubled Asset Relief Program (TARP), the conservatorship of Fannie Mae and Freddie Mac, and deposit insurance. These programs are excluded from the structural deficit because, although the programs helped stabilize financial markets and alleviate the crisis, neither their budgetary nor their economic effects are well captured in the deficit figures, owing in part to the accounting procedures used

to score these programs in the budget. For example, in the case of the TARP, the budget scores the estimated net subsidy cost of the program (adjusted for market risk) as an outlay. Reassessments of the subsidy cost have led to large fluctuations in TARP-related outlays from year to year that do not reflect changes in policy.

2. The structural deficit used here is constructed based on estimates by the Congressional Budget Office. For estimates of the cyclical component of the deficit, see Congressional

A. Total and structural federal budget deficit, 1980–2018



NOTE: The data are on a unified-budget basis and are for fiscal years (October–September). GDP is for the four quarters ending in Q3. Deficits appear as positive numbers. The structural deficit excludes the cyclical part of the deficit as well as the budgetary effects of financial stabilization programs, which include the Troubled Asset Relief Program, the conservatorship of Fannie Mae and Freddie Mac, and deposit insurance.

SOURCE: Federal Reserve Board calculations based on Congressional Budget Office data and projections.

the recession and early in the recovery, federal fiscal policy was quite expansionary, as indicated by the widening of the structural deficit from 1 1/4 percent of gross domestic product (GDP) in fiscal year 2007 to 7 percent in fiscal 2010. The tax cuts and federal spending increases put in place by the Economic Stimulus Act of 2008; the American Recovery and Reinvestment Act of 2009; and the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 were the primary policy changes contributing to the increase in the structural deficit over this period.³ In addition, the so-called automatic stabilizers caused the total deficit to be wider than the structural deficit. Starting in 2011, however, fiscal policy transitioned from expansionary to contractionary as the structural deficit began to narrow. The narrowing intensified somewhat last year as the structural deficit decreased from 6 1/4 percent of GDP in 2011 to 4 1/2 percent of GDP in 2012. As some temporary stimulus-related policies expired, federal policymakers shifted to deficit-reduction efforts with the enactment of the Budget Control Act of 2011, and spending on overseas military operations continued to decrease.

Budget Office (2013), *The Effects of Automatic Stabilizers on the Federal Budget as of 2013* (Washington: CBO, March), available at www.cbo.gov/publication/43977. For projections of the total deficit, and of transactions related to financial stabilization programs, for fiscal years 2013–18, see Congressional Budget Office (2013), *Updated Budget Projections: Fiscal Years 2013 to 2023* (Washington: CBO, May), available at www.cbo.gov/publication/44172.

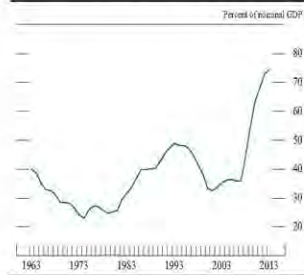
3. Several supplemental appropriations bills enacted during this period also contributed to the increase in the structural deficit.

This year, the structural deficit is expected to decline a further 2 1/4 percent of GDP. This large decrease reflects the expiration of the temporary payroll tax cut and the enactment of some income tax increases, as well as significant restraint on government expenditures from the budget caps on discretionary spending specified in the Budget Control Act, the onset of the spending sequestration, and further declines in defense spending for overseas operations. The Congressional Budget Office estimated that the deficit-reduction policies in current law generating the 2 1/4 percentage point narrowing in the structural deficit will also restrain the pace of real GDP growth by 1 1/2 percentage points this calendar year, relative to what it would have been otherwise.⁴ Under current law, fiscal policy is slated during the next couple of years to continue restraining economic growth, albeit to a diminishing extent compared with the current year, as the structural deficit shrinks further but at a slowing pace.

Despite the substantial near-term narrowing of the structural deficit, the federal government continues to face significant longer-term fiscal pressures. Indeed, under current policies, the structural deficit is projected to begin rising again later in this decade, in large part reflecting the budgetary effects of population aging and rising health-care costs, along with mounting debt service payments.

4. 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.

13. Federal government debt held by the public, 1963–2013



NOTE: The data for debt through 2012 are as of year-end, and the corresponding values for GDP are for Q4 at an annual rate. The observation for 2013 Q1 is based on an estimate for debt in Q1 and GDP in Q1. Excludes securities held as investments of federal government accounts.
SOURCE: Department of Commerce, Bureau of Economic Analysis; Department of the Treasury, Financial Management Service.

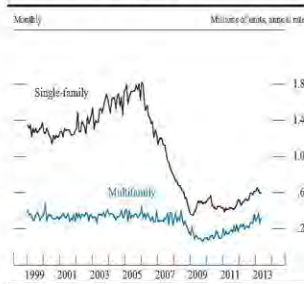
the deficit of 7 percent of GDP in fiscal 2012. In addition, as shown in box figure A, the deficit is projected to narrow further over the next couple of years in light of ongoing policy actions and continued improvement in the economy. Despite the substantial decline in the deficit, federal debt held by the public has continued to rise and stood at 75 percent of nominal GDP in the first quarter of 2013 (figure 13).

At the state and local level as well, the strengthening economy has helped foster a gradual improvement in the budget situations of most jurisdictions. In the first quarter of 2013, state tax receipts came in 9 percent higher than a year earlier. (Some of the recent strength in receipts, though, likely reflects tax payments on income that was shifted into 2012 in anticipation of higher federal tax rates this year.) Consistent with improving sector finances, states and municipalities are no longer reducing their workforces; employment in the nonfederal government sector edged up over the first half of the year after contracting only slightly in 2012. However, construction expenditures by these governments have declined significantly further this year. In all, real government purchases at the state and local level decreased in the first quarter and have imposed a drag on the pace of economic growth so far this year.

The housing market recovery continued to gain traction . . .

Activity in the housing market has continued to strengthen, supported by low mortgage rates, sustained job gains, and improved sentiment on the part of potential buyers. In the Michigan survey, many households report that low interest rates and house prices make it a good time to buy a home; a growing percentage of respondents also expect that house price gains will continue. Reflecting the improving demand conditions, sales of both new and existing homes have continued to move up, on net, this year. Construction of new housing units has also trended up over the past year (figure 14), contributing to solid rates of increase in real residential investment in the first half of 2013.

14. Private housing starts, 1999–2013



NOTE: The data extend through May 2013.
SOURCE: Department of Commerce, Bureau of the Census.

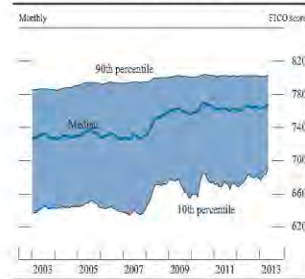
Even so, the level of construction activity remains low by historical standards. The steep rise in mortgage interest rates since May could temper the pace of home sales and construction going forward, though the pace of purchase mortgage applications so far has shown no material signs of slowing, even as the pace of refinancing applications has tailed off sharply.

The strengthening in housing demand has occurred despite the fact that mortgage credit remains limited for borrowers without excellent credit scores or the ability to make sizable down payments. Responses to special questions in the Federal Reserve's April Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS) suggested that some banks had actually tightened standards over the past year on some loans that are eligible for purchase by the government-sponsored enterprises and loans guaranteed by the Federal Housing Administration, specifically those to borrowers with credit scores below 620 and with low down payments. Indeed, only about 10 percent of new prime mortgage originations made this spring were reported to be associated with FICO scores below 690, compared with a quarter of originations in 2005 (figure 15).

... as house prices rose further

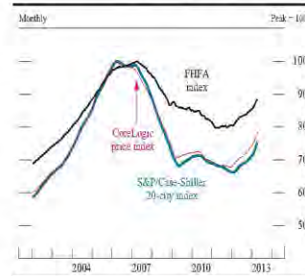
House prices, as measured by several national indexes, have increased significantly further since the end of last year (figure 16). In particular, the CoreLogic repeat-sales index rose about 7 percent (not at an annual rate) over the first five months of 2013 to reach its highest level since the third quarter of 2008. Some of the largest recent gains have occurred where the housing market has been most severely depressed. Recent increases notwithstanding, house prices remain far below the peaks reached before the recession, and the national price-to-rent ratio continues to be near its long-run average. Still, the increase in house prices has helped to materially reduce the number of "underwater" mortgages and made households somewhat less likely to default on their mortgages.

15. Credit scores on new prime mortgages, 2003–13



Note: Excludes purchase mortgages only. The data extend through May 2013.
Source: McDash Analytics, LLC, a wholly owned subsidiary of Lender Processing Services, Inc.

16. Prices of existing single-family houses, 2002–13



Note: The S&P/Case-Shiller and FHFA data extend through April 2013. The CoreLogic data extend through May 2013.
Source: CoreLogic; Federal Housing Finance Agency; S&P.

17. Mortgage interest rate and mortgage refinance index, 1990–2013



NOTE: The interest rate data are weekly through July 10, 2013. The refinance data are seasonally adjusted 4-week moving averages through July 5, 2013.

SOURCE: For interest rate, Federal Home Loan Mortgage Corporation; for refinance index, Mortgage Bankers Association.

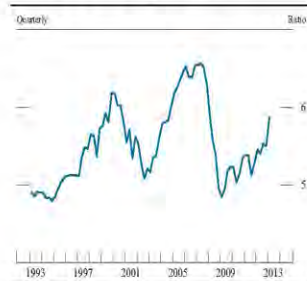
18. Change in real personal consumption expenditures, 2007–13



NOTE: The reading for 2013:H1 is the annualized May/Q4 change.

SOURCE: Department of Commerce, Bureau of Economic Analysis.

19. Wealth-to-income ratio, 1993–2013



NOTE: The ratio is 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.

Mortgage interest rates increased but remained low by historical standards

Mortgage interest rates have increased significantly in the past couple of months from record lows reached earlier this year (figure 17). However, rates are still low by historical standards, reflecting in part the Federal Reserve's ongoing purchases of mortgage-backed securities (MBS) and highly accommodative overall stance of monetary policy. The spread between rates on conforming mortgages and yields on agency-guaranteed MBS has decreased slightly since the end of 2012.

Low mortgage rates, along with rising house prices, continued to facilitate a significant pace of refinancing for most of the first half of 2013, which has helped households reduce monthly debt service payments. However, refinancing remained difficult for households without solid credit ratings and those with limited home equity. Moreover, as mortgage rates moved higher, refinancing activity began to decrease sharply in May.

Consumer spending has held up despite the drag from tax increases early this year

Real consumption expenditures rose at an annual rate of about 2 percent over the first five months of this year, about the same as in the previous two years (figure 18). These increases have occurred despite higher taxes and have been supported by several factors. The gains this year in house prices and equity values have helped households recover some of the wealth lost during the recession; indeed, the ratio of household net wealth to income is estimated to have moved up sharply in the first quarter (figure 19). In recent months, indicators of consumer sentiment have become more upbeat as well (figure 20). Furthermore, in contrast to mortgage rates, interest rates on auto loans and credit cards have changed little, on balance, since the end of 2012. With interest rates low, the household debt service ratio—the ratio of required principal and interest payments

on outstanding household debt to disposable personal income—remained near historical lows (figure 21).

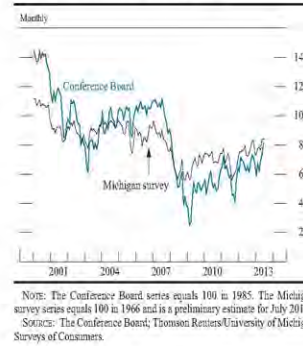
In addition, real disposable personal income has increased slightly, on balance, over the past year, as moderate gains in employment and wages have more than offset the implications for income of changes in tax policy.³ And household purchasing power has been supported so far this year by low consumer price inflation. On balance, moderate increases in spending have outpaced disposable income growth, pushing the personal saving rate down to around 3 percent in recent months, close to the level that prevailed before the recession (figure 22).

The financial conditions of households continued to improve slowly

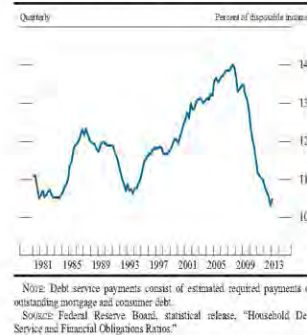
Although mortgage debt continued to contract amid still-tight credit conditions for some borrowers, consumer credit expanded at an annual rate of about 6 percent in the first quarter of 2013. Student loans, the vast majority of which are guaranteed or originated by the federal government and subject to minimal underwriting criteria, are estimated to have increased rapidly and now total nearly \$1 trillion, making them the largest category of consumer indebtedness outside of mortgages. Auto loans are also estimated to have increased at a robust pace. Stable collateral values and favorable conditions in the asset-backed securities market may have contributed to easier standards for such loans. In contrast, revolving consumer credit (primarily credit card lending) was little changed in the first

3. The income data have been quite volatile in recent months, reflecting both direct and indirect effects of the changes in tax policy this year. Personal income is reported to have surged late last year and then fallen back sharply early this year, as many firms apparently shifted dividend and employee bonus payments into 2012 in anticipation of higher marginal tax rates for high-income households this year. In addition, the rise in the payroll tax rate and a surge in personal income taxes at the beginning of the year pushed down disposable personal income in the first quarter.

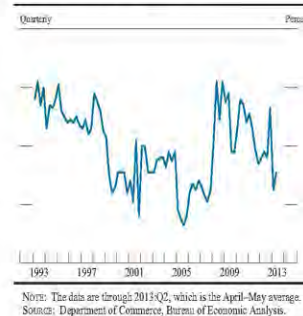
20. Consumer sentiment indexes, 2000–13



21. Household debt service, 1980–2013



22. Personal saving rate, 1993–2013



23. Credit card balances, 2000–13



Note: Subprime refers to borrowers with Equifax Risk Scores lower than 660; prime, between 660 and 779; and superprime, greater than 779.

Source: Federal Reserve Bank of NY Consumer Credit Panel, Equifax.

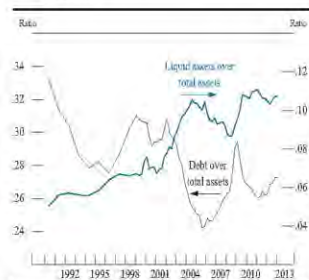
quarter, and standards and terms on credit card loans appeared to remain tight, especially for consumers with less-than-pristine credit histories. For instance, spreads of interest rates on credit card loans over reference interest rates remained historically wide. Consequently, credit card debt extended to consumers with prime credit scores remained well below its pre-crisis levels, while debt extended to those with subprime credit scores—that is, Equifax Risk Scores below 660—continued to trend down (figure 23).

According to the most recent available data, indicators of distress for most types of household debt have declined since the end of 2012. For home mortgages, for example, the fraction of current mortgages becoming 30 or more days delinquent has now reached relatively low levels as a result of strict underwriting conditions for new mortgages as well as improved conditions in housing and labor markets. Measures of late-stage mortgage delinquency, such as the inventory of properties in foreclosure, also improved but remained elevated. Delinquency rates on student loans also remained high, likely reflecting in part the lack of underwriting on the federally backed loans that make up the bulk of the student loans outstanding.

The financial conditions of nonfinancial firms continued to be strong . . .

In the first quarter, the aggregate ratio of liquid to total assets for nonfinancial firms ticked up and remained near its highest level in 20 years, while the aggregate ratio of debt to assets was still well below its average over the same period (figure 24). Strong balance sheets, in turn, have contributed to solid credit quality: Bond default rates, as of June, stayed low by historical standards, and the delinquency rate on commercial and industrial (C&I) loans continued to fall in the first quarter from already low levels. However, over the first half of the year, the volume of nonfinancial corporate bonds that were upgraded by Moody's Investors Service was less than the volume downgraded.

24. Financial ratios for nonfinancial corporations, 1990–2013



Note: The data are annual through 1988 and quarterly thereafter.

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... and corporate bond and loan issuance remained robust

With corporate credit quality strong and interest rates near historically low levels through much of the first half of 2013 (figure 25), nonfinancial firms continued to raise funds, especially using longer-duration instruments. The pace of bond issuance by both investment- and speculative-grade nonfinancial firms remained extraordinarily brisk until interest rates rose significantly in May, while nonfinancial commercial paper (CP) outstanding was little changed (figure 26). C&I loans outstanding at commercial banks in the United States continued to expand during the first half of 2013 but at a slower pace than in the second half of 2012, when firms reportedly ramped up their C&I borrowing in part to make larger-than-usual dividend and bonus payments in advance of anticipated year-end tax hikes. A relatively large fraction of respondents to the April SLOOS indicated that, over the preceding three months, they had eased standards and pricing terms for C&I loans to firms of all sizes. Meanwhile, issuance of leveraged loans extended by nonbank institutions in the syndicated loan market was very elevated (figure 27), boosted by strong investor demand for these floating-rate instruments manifested through inflows to loan mutual funds and rapid growth of newly established collateralized loan obligations. More than two-thirds of the proceeds from such syndicated loan issuance, however, were reportedly used to repay existing debt.

Borrowing conditions for small businesses improved, though demand for credit remained subdued

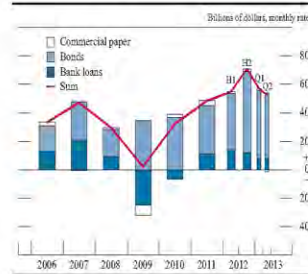
Some indicators of borrowing conditions for small businesses have improved since the end of 2012. According to the surveys conducted by the National Federation of Independent Business (NFIB) during the first half of 2013, the fraction of small businesses that found credit more difficult to obtain than three months prior declined on net. Recent

25. Corporate bond yields by securities rating, 1997–2013



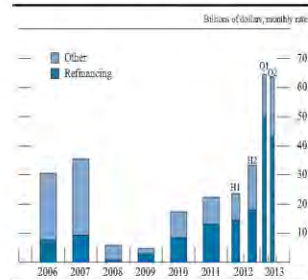
NOTE: The yields shown are yields on 10-year bonds.
SOURCE: Derived from smoothed corporate yield curves using Merrill Lynch bond data.

26. Selected components of net financing for nonfinancial businesses, 2006–13



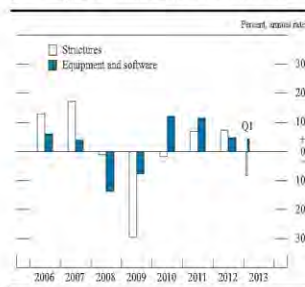
NOTE: The data for the components except bonds are seasonally adjusted.
SOURCE: Federal Reserve Board, flow of funds data.

27. Leveraged loans extended by nonbank institutions, 2006–13



NOTE: Refinancing represents the portion of syndicated loan issuance reportedly being used to repay existing debt.
SOURCE: Thomson Reuters LPC's LoanConnector.

28. Change in real business fixed investment, 2006–13



readings from the Federal Reserve's 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—a large share of which likely consist of loans to small businesses—continued to edge down, though they remained elevated.⁴ However, demand for credit from small firms apparently remained subdued compared with demand from large and middle-market firms. Relatively large fractions of respondents in recent NFIB surveys indicated that they did not have any borrowing needs, and the total dollar volume of business loans with original amounts of \$1 million or less outstanding at U.S. commercial banks was little changed in the first quarter.

However, business spending on capital investment has been rising at only a modest pace

Despite the large amount of business borrowing, businesses' capital investment has been rising only modestly. Real spending on equipment and software (E&S) increased at an annual rate of 4 percent in the first quarter after having risen at a similar, below-average pace in 2012 (figure 28); these increases likely reflect the tepid growth in business output over the past year. Shipments and orders of nondefense capital goods and other forward-looking indicators of business spending are consistent with further moderate gains in E&S spending in the spring and summer of this year.

Business investment in structures has also been relatively low so far this year, even apart from a sharp drop-off in expenditures on wind-power facilities following a tax-related burst of construction late last year. The level of investment in drilling and mining structures has stayed elevated, supported by high oil prices and the continued exploitation of new drilling technologies. However, investment in nonresidential buildings continues to be restrained by high vacancy

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.

rates for existing properties, low commercial real estate (CRE) prices, and tight financing conditions for new construction. Indeed, banks' holdings of construction and land development loans have contracted every quarter since the first half of 2008.

Despite weak fundamentals, conditions in markets for CRE financing appeared to loosen somewhat. A moderate fraction of banks in the April SLOOS again reported having eased their lending standards on CRE loans, while a somewhat larger fraction continued to report some increase in demand for these loans. In addition, the pace of issuance of commercial mortgage-backed securities has stepped up, on balance, this year, but it remained well below its peak reached in 2007 (figure 29).

Foreign trade has been relatively weak

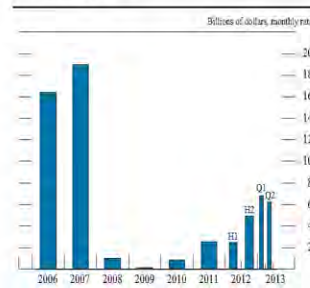
Export demand, which provided substantial support to domestic activity earlier in the recovery, has weakened since the middle of 2012, partly reflecting subdued foreign economic activity. Real exports of goods and services declined at an annual rate of 1 percent in the first quarter of 2013 (figure 30), though data for the first two months of the second quarter suggest that they rebounded. Exports to Japan have been particularly weak, but those to Canada continue to rise.

Real imports of goods and services edged down in the first quarter after falling substantially in the fourth quarter of 2012. Data for April and May suggest that imports recovered at a moderate pace in the second quarter. Although imports of non-oil goods and services rose, imports of oil declined further as U.S. oil production continued its climb of recent years.

Altogether, net exports were a neutral influence on the growth of real GDP in the first quarter of 2013, and partial data suggest that the same was the case in the second quarter.

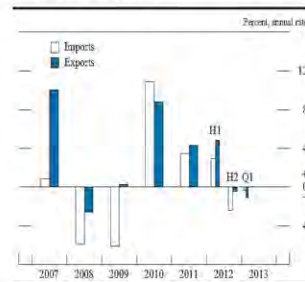
The current account deficit remained at about 2½ percent of GDP in the first quarter of 2013 (figure 31), a level little changed since 2009.

29. Commercial mortgage-backed securities issuance, 2006–13



Source: Harrison Scott Publications Commercial Mortgage Alert.

30. Change in real imports and exports of goods and services, 2007–13



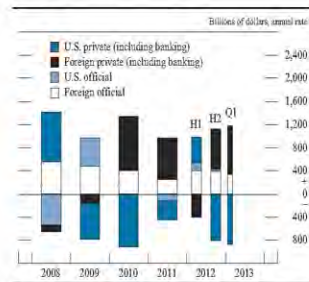
Source: Department of Commerce, Bureau of Economic Analysis.

31. U.S. trade and current account balances, 2004–13



Source: Department of Commerce, Bureau of Economic Analysis.

32 U.S. net financial inflows, 2008–13



Note: 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. 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, 1993–2013



Note: Nonfederal saving is the sum of personal and nonbusiness saving and the net saving of state and local governments.

Source: Department of Commerce, Bureau of Economic Analysis.

The current account deficit had narrowed substantially in late 2008 and early 2009 when U.S. imports dropped sharply, in part reflecting the steep decline in oil prices.

In the first quarter of 2013, the current account deficit continued to be financed by strong financial inflows, mostly from purchases of Treasury securities by both foreign official and foreign private investors (figure 32).

Consistent with continued improvement in market sentiment, U.S. investors made further strong purchases of foreign securities, especially equities.

National saving is very low

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 first quarter of 2013, net national saving was 1 percent of nominal GDP, up from figures that averaged around zero over the past few years. As discussed earlier, the near-term federal deficit has narrowed because of fiscal policy changes and the economic recovery, and further declines in the federal budget deficit over the next few years should boost national saving somewhat. With the economy still weak and demand for investable funds limited, the low level of national saving is not constraining growth or leading to higher interest rates. However, 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.

Financial Developments

The expected path for the federal funds rate in 2014 and 2015 steepened . . .

Market-based measures of the expected future path of the federal funds rate moved higher over the first half of the year, as investors responded to somewhat better-than-

expected incoming economic data and to communications from Federal Reserve officials that were seen as suggesting a tighter stance of monetary policy than had been anticipated. The modal path of the federal funds rate—that is, the values for future federal funds rates that market participants see as most likely—derived from interest rate options shifted up considerably, especially around the June FOMC meeting, suggesting that investors may now expect the target funds rate to lift off from its current range significantly earlier than they expected at the end of 2012. However, a part of this increase may have reflected a rise in term premiums associated with increased uncertainty about the monetary policy outlook. According to a survey of primary dealers conducted shortly after the June FOMC meeting by the Open Market Desk at the Federal Reserve Bank of New York, dealers' expectations of the date of 'liftoff' have moved up one quarter since the end of last year, to the second quarter of 2015.⁵

... while yields on longer-term securities increased significantly but remained low by historical standards

Reflecting the same factors, yields on longer-term Treasury securities and agency MBS are also substantially higher now than they were at the end of last year (figures 34 and 35). The rise in longer-term yields appears to have been amplified by a pullback from duration risk as well as technical factors, including rapid changes in trading strategies and positions that had been predicated on the continuation of very low rates and volatility. On balance, yields on 5-, 10-, and 30-year nominal Treasury securities have increased between 65 and 85 basis points, on net, to 1½ percent, 2½ percent, and 3½ percent, respectively, since the end of last year.

Yields on 30-year agency MBS increased more than those on Treasury securities, rising about

5. The results of the survey of primary dealers are available on the Federal Reserve Bank of New York's website at www.newyorkfed.org/markets/primarydealer_survey_questions.html.

34. Yields on nominal Treasury securities, 2000–13



NOTE: The Treasury ceased publication of the 30-year constant maturity series on February 18, 2002, and resumed that series on February 9, 2006.
SOURCE: Department of the Treasury.

35. Yield and spread on agency mortgage-backed securities, 2000–13



NOTE: The data are daily. Yield shown is for the Fannie Mae 30-year current coupon, five 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.

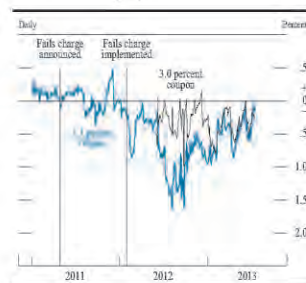
SOURCE: Department of the Treasury, Barclays.

1¼ percentage points, on net, since the end of 2012, to about 3½ percent. Agency MBS yields also rose significantly more than the yields on comparable nominal Treasury securities after adjusting for the effects of higher interest rates on the likelihood that borrowers will prepay their mortgages (the option-adjusted spread), likely reflecting investors' reassessment of the outlook for the Federal Reserve's MBS purchases as well as subsequent market dynamics.

Nonetheless, yields on longer-term securities continue to be low by historical standards. Those low levels reflect several factors, including subdued inflation expectations as well as still-modest economic growth prospects in the United States and other major developed economies. In addition, despite their recent rise, term premiums—the extra return investors expect to obtain from holding longer-term securities as opposed to holding and rolling over a sequence of short-term securities for the same period—remain small, reflecting both the FOMC's ongoing large-scale asset purchase program and strong demand for longer-term securities from global investors.

Indicators of market functioning in both the Treasury and agency MBS markets were generally solid over the first half of the year. In particular, the Desk's outright purchases of Treasury securities and agency MBS did not appear to have a material adverse effect on liquidity in those markets. For example, available data suggest bid-asked spreads in Treasury and agency MBS markets continued to be in line with recent averages, though some widening has been observed of late amid increased market volatility. In the Treasury market, auctions generally continued to be well received by investors. In the agency MBS market, settlement fails remained low, and implied financing rates in the “dollar roll” market—an indicator of the scarcity of agency MBS for settlement—have drifted up over the past six months, indicating reduced settlement pressures (figure 36).⁶

36. Dollar-roll implied financing rates (front month),
Fannie Mae 30-year, 2011–13



Note: The 3.0 percent coupon data series begins on June 1, 2012.
Source: JP, Morgan.

6. Dollar roll transactions consist of a purchase or sale of agency MBS with the simultaneous agreement to sell

Short-term funding markets continued to function well

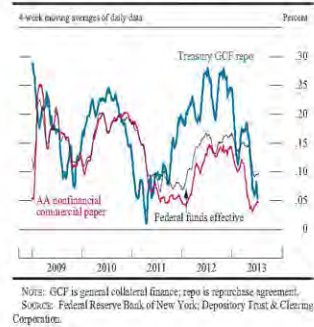
Conditions in short-term funding markets remained good, with many money market rates having edged down from already low levels since the end of 2012 to near the bottom of the ranges they have occupied since the zero-lower-bound period began (figure 37). In the market for repurchase agreements, bid-asked spreads and haircuts for most collateral types were reportedly little changed, while rates moved down slightly, on net, for general collateral finance repurchase agreements. Despite the high level of reserve balances and the substantially reduced volume of trading in the federal funds market since 2008, the effective federal funds rate has continued to be strongly correlated with these money market rates. Rates on asset-backed commercial paper (ABCP) also fell, and spreads on ABCP with European bank sponsors have generally converged back to those on ABCP with U.S. bank sponsors. Rates on unsecured financial CP for both U.S. and European issuers have remained low, even during the temporary flare-up of concerns about European financial stability surrounding the banking problems in Cyprus, while forward measures of funding spreads have continued to be narrow by historical standards.

Broad equity price indexes increased further . . .

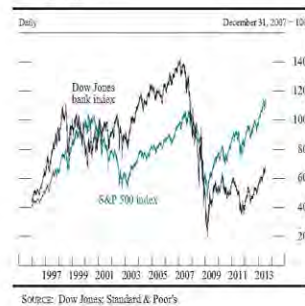
Broad equity price indexes notched substantial gains and reached record levels in nominal terms, boosted by improved market sentiment regarding the economic outlook, the FOMC's sustained highly accommodative monetary policy, and stable expectations about medium-term earnings growth (figure 38). Despite the increased volatility around the time of the June FOMC meeting, as of mid-July, broad measures of equity prices were 18 percent higher, on net, than their levels at the end of 2012. Nonetheless, the spread between the

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.

37 Overnight money market rates, 2009–13



38 Equity prices, 1996–2013



39. Market-implied equity premium, 1995-2013



NOTE: 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 Survey of Professional Forecasters 10-year CPI inflation expectations.

SOURCE: Standard & Poor's; Thomson Reuters Financial; Federal Reserve Board; Federal Reserve Bank of Philadelphia.

12-month expected forward earnings-price ratio for the S&P 500 and a long-run real Treasury yield—a rough gauge of the equity risk premium—stayed very elevated by historical standards, suggesting that investors remain somewhat cautious in their attitudes toward equities (figure 39). Outside of the period surrounding the June FOMC meeting, implied volatility for the S&P 500 index, as calculated from option prices, generally remained near the bottom end of the range it has occupied since the onset of the financial crisis.

... and market sentiment toward financial institutions continued to strengthen as credit quality improved

On average, the equity prices of domestic financial institutions have outperformed broader equity indexes since the end of last year. Improved investor sentiment toward the financial sector reportedly was driven by perceptions of reduced downside risk in the housing market as well as expectations of continued improvements in credit quality and of increased net interest margins as the yield curve steepened over the past few months. However, prices of real estate investment trust (REIT) shares underperformed, especially after interest rates started rising in May, partially reflecting a broader shift on the part of investors from income-oriented shares toward more cyclically sensitive issues. Shares of mortgage REITs were particularly affected by the sharp rise in Treasury and agency MBS yields.

Equity prices for large domestic banks have increased 24 percent since the end of 2012 (figure 38). However, they have yet to fully recover from the very depressed levels reached during the financial crisis. Standard measures of the profitability of bank holding companies (BHCs) edged down in the first quarter but remained in the upper end of their subdued post-crisis range. BHC profits were held down by modest noninterest income and a further narrowing of net interest margins. By contrast, profits were supported by additional reductions

in noninterest expenses and decreases in provisioning for loan losses, as indicators of credit quality improved further in every major asset class. Banks' allowances for loan and lease losses continued to trend down as charge-offs of bad loans once again exceeded provisions in the first quarter (figure 40).

Risk-based capital ratios (based on current Basel I definitions) of the 25 largest BHCs decreased in the first quarter because of the adoption of the new market risk capital rule, while risk-based capital ratios at smaller BHCs edged up.⁷ Nonetheless, BHCs of all sizes remained well capitalized by historical standards as they prepare for the transition to stricter Basel III requirements (see the box "Developments Related to Financial Stability"). Aggregate credit provided by commercial banks continued to increase in the first half of 2013 (figure 41).

M2 rose at a more moderate rate, but balances remain elevated

M2 has increased at an annual rate of about 4½ percent since the end of 2012, notably slower than the pace registered last year. However, holdings of M2 assets—including their largest component, liquid deposits—remained 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. The monetary base—which is equal to the sum of currency and reserve balances—increased briskly over the first half of the year, driven mainly by the significant rise in reserve balances due to the Federal Reserve's asset purchases.

7. The new market risk capital rule requires banking organizations with significant trading activities to adjust their capital requirements to better account for the market risks of those activities. For more information on this change, see Board of Governors of the Federal Reserve System (2012), "Federal Reserve Board Approves Final Rule to Implement Changes to Market Risk Capital Rule," press release, June 7, www.federalreserve.gov/newsevents/press/bcreg/20120607b.htm.

40. Provisions and charge-offs, 2005–13



NOTE: ALLL is the allowance for loan and lease losses.
SOURCE: Federal Reserve Board, Reporting Form FR Y-9C, "Consolidated Financial Statements for Bank Holding Companies."

41. Change in total bank credit, 1990–2013



NOTE: The data extend through 2013:Q2. The data are seasonally adjusted.
SOURCE: Federal Reserve Board, Statistical Release H-8, "Assets and Liabilities of Commercial Banks in the United States."

Developments Related to Financial Stability

As highlighted in previous *Monetary Policy Reports*, the Federal Reserve has devoted increased resources to monitoring potential risks to financial stability. In addition to new regulations to strengthen the financial system, comprehensive monitoring is necessary because the system will evolve in response to new regulations, and because market participants' risk tolerance and perceptions tend to vary with economic and financial conditions. The Federal Reserve's increased monitoring efforts focus on identifying financial vulnerabilities—features of the financial system that can transmit and amplify the effects of unforeseen adverse events. For example, vulnerabilities can arise through excess leverage, through excess maturity transformation—that is, financing long-term assets with short-term debts—and through the complexity and interconnectedness of financial institutions. In recent years, a stronger regulatory framework and an enhanced focus by the private sector on potential risks have contributed to significant reductions in vulnerabilities and a more resilient U.S. financial system. However, important challenges remain, and the Federal Reserve will monitor developments regarding ongoing and emerging financial vulnerabilities.

The financial strength of the banking sector continued to improve last year. Bank holding companies (BHCs) increased the proportion of common equity in their funding base, continuing a trend of recent years. For example, the ratio of Tier 1 common equity to risk-weighted assets among the firms participating in the recent Comprehensive Capital Analysis and Review and the stress tests mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act) has more than doubled since the first similar stress test in 2009 and totaled 11.3 percent at the beginning of this year.¹ These stress tests are regulatory tools that the Federal Reserve uses to help ensure that financial institutions have robust capital planning processes and are able to maintain adequate capital even following an extended period of adverse economic conditions. Indeed, capital ratios maintained under the hypothetical "severely adverse" macroeconomic scenario specified in the most recent stress tests suggest that BHCs have become more resilient to possible adverse macroeconomic shocks.

The banking system has also improved its liquidity position relative to pre-crisis levels. For example,

large BHCs' holdings of cash and high-quality liquid securities have risen from less than 16 percent of total assets in 2007 to 24 percent in the first quarter of 2013. Further, firms have sharply reduced their dependence on wholesale short-term funding, which proved highly unreliable during the crisis.

In addition, the credit risk of banks' assets has generally declined as banks have tightened lending standards and as some borrowers—both households and nonfinancial firms—have strengthened their financial positions by refinancing their debt at lower interest rates. This improvement has also been aided by the rise in house prices and equity values amid the recovery in economic activity. Consistent with all of these improvements, premiums on BHC credit default swaps (CDS) have fallen by nearly one-half from their 2009 levels. Similarly, systemic risk measures for these firms—which assess the amount of financial stress that would be realized in the event of a sizable financial shock based on CDS premiums, stock prices, and correlations—have declined substantially.

The significant amount of funding channeled through the "shadow banking" sector contributed to the financial system's fragility before the financial crisis, largely because of that sector's reliance on wholesale short-term funds to finance longer-term assets. Activity in this sector contracted significantly in the wake of the crisis and has expanded only moderately since the post-crisis trough. The risks inherent in some forms of shadow banking have been addressed through tighter banking regulations that require more recognition of exposures to off-balance-sheet vehicles, such as asset-backed commercial paper conduits. Nonetheless, significant vulnerabilities associated with wholesale short-term funding remain.

While the extended period of low interest rates has contributed to improved economic conditions and increased resiliency in the financial sector, it could also lead investors to "reach for yield" through excessive leverage, duration risk, credit risk, or other forms of risk-taking. There are signs that the low level of interest rates, as well as improved investor sentiment, has contributed to a modest pickup in leverage and maturity transformation in some markets. However, the recent rise in interest rates and volatility may have led some investors to reevaluate their risk-taking behavior.

Securitization markets grew rapidly over the past year and a half, as investors reportedly increased their exposure to structured finance products in order to boost returns. New U.S. securitization issuance excluding agency residential mortgage-backed securities (MBS) was roughly \$500 billion (at an annual rate) in the first quarter, up sharply from the level a year ago but still well below the peak of over

1. Information on these stress tests and the Comprehensive Capital Analysis and Review is available on the Federal Reserve Board's website at www.federalreserve.gov/bankinfo/reg/stress-tests-capital-planning.htm.

\$2 trillion reached before the crisis: Collateralized loan obligations and commercial mortgage-backed securities (CMBS) accounted for a substantial part of the increase. Dealer responses in the June Senior Credit Officer Opinion Survey on Dealer Financing Terms indicate that demand for funding of securitized products, such as non-agency residential MBS and CMBS, had increased, suggesting some investments were being funded with short-term debt.²

In addition, low Treasury yields likely boosted the pace of investment in corporate bond and loan funds and contributed to sizable issuance of high-yield bonds and syndicated leveraged loans this year. However, spreads of yields on corporate bonds relative to those on comparable-maturity Treasury securities were not unusually narrow by historical standards, and purchases generally do not appear to have been financed with leverage or short-term funding, which should limit the risk of a disorderly unwind. As Treasury yields have risen since the beginning of May, corporate bond funds have experienced substantial outflows and bond yields have risen, although spreads over Treasury securities have posted small mixed changes. For syndicated leveraged loans, underwriting standards, such as the number of covenants and required debt-to-earnings multiples, have been easing, and continued flows to loan funds suggest pressures in underwriting may continue. Banking supervisors are currently working on implementing new supervisory guidance on leveraged lending practices, which should help mitigate the potential for a buildup of vulnerabilities.³

Agency mortgage real estate investment trusts (agency REITs) are another area where investors have displayed a willingness to take on risk to achieve higher returns. Agency REITs purchase agency MBS, funded largely by relatively short-term repurchase agreements, and thus combine high leverage with extensive maturity transformation, creating the potential to disrupt MBS markets if, for instance, rates were to rise sharply. Amid the recent increase in interest rates and widening of MBS spreads, stock prices of agency REITs have fallen about 20 percent, and some of these firms have reportedly sold assets to offset the resulting increase in their leverage. To

date, sales by these agency REITs and other funds with similar positions reportedly have amplified the initial rise in rates and spreads, but market functioning has not been impaired.

At commercial banking firms, the low interest rate environment in recent years has been pressuring net interest margins, and some firms appear to have extended the duration of their securities holdings to boost profits. Supervisors have been working with banks on interest rate risk management practices to ensure that the banks' practices comply with the interagency advisory that was issued in 2010.⁴ Improved practices should make the banks more resilient to unexpected interest rate shocks. The low interest rates also appear to be pressuring profits among life insurance companies, and some insurers have added marginally more credit and liquidity risk to their asset portfolios.

The Federal Reserve has continued to make progress on financial reform. The Federal Reserve recently finalized its proposal to implement the Basel III capital requirements. The final rule promotes a stronger banking system by increasing the quantity and quality of required regulatory capital, which is accomplished by setting a new tier 1 common equity capital ratio of 4.5 percent of risk-weighted assets (RWA), a capital conservation buffer of 2.5 percent of RWA, and strict eligibility criteria for regulatory capital instruments. In addition, the rule contains a supplementary minimum leverage ratio and a countercyclical capital buffer for large and internationally active banking organizations. Furthermore, the Federal Reserve is working this year toward finalization of additional rules that would implement sections 165 and 166 of the Dodd-Frank Act, a broad set of enhanced prudential standards for BHCs with total assets of \$50 billion or more and systemically important nonbank financial companies designated by the Financial Stability Oversight Council (FSOC). The rules relating to resolution planning and stress testing are already completed, and the Federal Reserve is working to finalize rules for capital requirements, liquidity requirements, single-counterparty credit limits, an early remediation regime, and risk management requirements. The FSOC recently designated two nonbank financial firms, and it has proposed the designation of a third firm, which has requested a hearing before the council.

2. The survey is available on the Federal Reserve Board's website at www.federalreserve.gov/econresdata/releases/scos.htm.

3. See Board of Governors of the Federal Reserve System, Division of Banking Supervision and Regulation (2013), "Interagency Guidance on Leveraged Lending," Supervision and Regulation Letter SR 13-3 (March 21), www.federalreserve.gov/bankinfo/reg/srletters/sr1303.htm.

4. See Board of Governors of the Federal Reserve System, Division of Banking Supervision and Regulation (2010), "Interagency Advisory on Interest Rate Risk," Supervision and Regulation Letter SR 10-1 (January 11), www.federalreserve.gov/boarddocs/srletters/2010/sr1001.htm.

42. 10-year nominal benchmark yields, 2012-13



43. Equity indexes for selected foreign economies, 2012-13



International Developments

Foreign bond yields have risen and asset prices have declined, on net, especially in emerging market economies

Foreign benchmark sovereign yields have moved somewhat higher, on net, since the beginning of the year (figure 42). Rates moved lower in March and April, in part reflecting weak incoming data on activity; anticipation of the Bank of Japan's (BOJ) asset purchase program may have also contributed to declining Japanese government bond (JGB) yields early in the year. Since early May, however, as with U.S. Treasury securities, sovereign yields have risen worldwide, as investors responded to better-than-expected U.S. economic data and to Federal Reserve communications about monetary policy. Sovereign yields are up, on net, in Europe, Japan, and Canada and have increased substantially in Korea, Mexico, and other emerging market economies (EMEs).

Equity indexes in the major advanced foreign economies (AFEs) rose earlier in the year (figure 43), especially in Japan, where stock prices continued to soar as Prime Minister Abe's ambitious stimulus program began to take shape. However, since mid-May, equity prices have declined on net. Corporate bond issuance eased somewhat in June as rates climbed higher, but year-to-date issuance totals are still strong relative to recent years. Since the start of the year, sovereign and corporate credit spreads have narrowed slightly. Financial stresses in Europe have remained well below their highs last year despite banking problems in Cyprus and political tensions in several other European countries.

The significantly higher interest rates in EMEs have been accompanied by sharp moves in other EME financial markets. Since mid-May, stock prices have declined and credit spreads have widened markedly. EME bond and equity funds have also experienced sizable outflows, as investors reassessed the economic outlook in

these economies as well as the returns on EME assets relative to those in advanced economies.

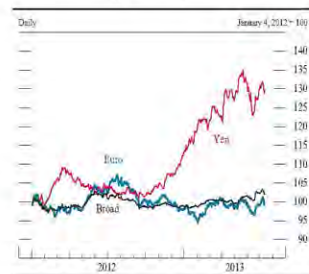
The improved sentiment toward the U.S. economic outlook and anticipation of less-accommodative monetary policy have pushed the U.S. dollar higher against a broad set of currencies since the end of 2012 (figure 44). In particular, the dollar has appreciated sharply against the Japanese yen, on net, as the BOJ adopted a more accommodative monetary policy stance.

Activity in the advanced foreign economies remained subdued despite a pickup . . .

Activity in the AFEs improved to a still-muted pace in the first half of 2013 (figure 45), supported in part by stronger exports and the easing in financial stresses in Europe. The euro-area economy shrank further in the first quarter, but the pace of contraction moderated as consumption stabilized. In the United Kingdom, real GDP resumed growing, at a 1¼ percent pace, in the first quarter; retail sales and the purchasing managers index (PMI) suggest that growth firmed in the second quarter. First-quarter activity accelerated in Japan, reflecting a strong rebound of exports and a pickup in consumption. Canadian growth also firmed in the first quarter, and the labor market notched solid employment gains through the second quarter.

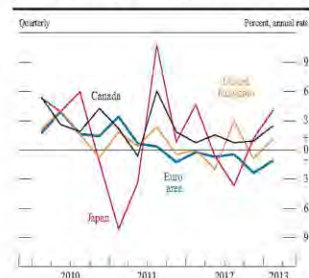
With activity weak and inflationary pressures low, several foreign central banks took additional steps to support their economies. (See the box “The Expansion of Central Bank Balance Sheets” for a broader overview of central bank actions.) The European Central Bank (ECB) and the Reserve Bank of Australia lowered their main policy rates, and the ECB stated after its July meeting that it will keep key policy rates low “for an extended period.” The Bank of England extended its Funding for Lending Scheme until January 2015 and increased banks’ incentives to lend to small and

44. U.S. dollar exchange rate against broad index and selected major currencies, 2012–13



NOTE: The data are in foreign currency units per dollar.
SOURCE: Federal Reserve Board, Statistical Release H.10, “Foreign Exchange Rates.”

45. Real gross domestic product growth in selected advanced foreign economies, 2010–13



SOURCE: For Canada, Statistics Canada; for the euro area, Eurostat; for Japan, Cabinet Office of Japan; for the United Kingdom, Office for National Statistics.

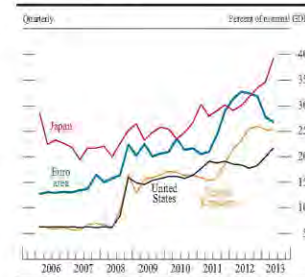
The Expansion of Central Bank Balance Sheets

The severity of the recession associated with the global financial crisis led central banks in some of the advanced economies to take policy measures that drove short-term market interest rates nearly to zero. As the recession dragged on, however, several major central banks—including the Federal Reserve, the Bank of England (BOE), the Bank of Japan (BOJ), and the European Central Bank (ECB)—sought to provide further economic stimulus through the adoption of unconventional policies that aimed to reduce longer-term interest rates and ease financial conditions more generally. These policies, which included purchases of longer-term assets and repurchase operations with extended terms to maturity, left the central banks with balance sheets of unprecedented size. Total assets of the Federal Reserve rose from about 6 percent of gross domestic product (GDP) (around \$870 billion) in the summer of 2007 to 22 percent of GDP (\$3.5 trillion) as of June 2013. As shown in figure A, the assets of the BOE, BOJ, and ECB also increased markedly relative to the sizes of their economies. This box offers some detail on the circumstances and policies that led to the balance sheet expansions for these central banks.

Like the Federal Reserve, the BOE began its asset purchases relatively soon after the advent of the global financial crisis. Also like the Federal Reserve, the goals of the BOE's purchases were to help lower longer-term interest rates and to ease financial conditions more broadly, thereby providing further support for economic growth. During its initial program, between March 2009 and January 2010, the BOE bought £200 billion (14 percent of GDP) of longer-term assets, mostly U.K. government bonds, with commercial

paper and corporate bonds making up the residual. The BOE resumed purchases in October 2011 as the economy continued to struggle amid spillovers from the euro-area financial crisis. Total securities holdings are currently near £375 billion, or almost 25 percent of GDP, and account for nearly all of the BOE's balance sheet.

A. Central bank assets in selected advanced economies, 2006–13



NOTE: For the United Kingdom, the series starts in 2006:Q2. For the euro area, 2013:Q2 assets are as of the end of May. For each economy, 2013:Q2 assets are divided by 2013:Q1 GDP.

SOURCE: For the euro area, European Central Bank and Eurostat; for Japan, Bank of Japan and Cabinet Office of Japan; for the United Kingdom, Bank of England and Office for National Statistics; for the United States, Federal Reserve Board and Bureau of Economic Analysis.

Compared with the Federal Reserve or the BOE, initially the BOJ did not expand its balance sheet as much during the crisis, but more recently it has laid out plans for substantial asset purchases. By late 2010, with entrenched deflation and GDP still well below its pre-crisis peak, the BOJ announced its Asset Purchase Program of about ¥35 trillion (about 7 percent of GDP) and later expanded the size of the program to ¥101 trillion by the end of 2012. But in January of this year, the BOJ announced plans to begin a series of open-ended asset purchases in pursuit of its now-higher 2 percent inflation target. And, finally, in April the BOJ announced that it would enter a new phase of monetary easing, accelerating asset purchases to double the monetary base within two years in pursuit of its inflation target. The BOJ also substantially extended the maturity of its Japanese government bond (JGB) purchases. All maturities, including 40-year bonds, are eligible, and the average maturity of JGB purchases has risen from slightly less than 3 years to about 7 years. To date, asset purchases have increased the size of the BOJ's balance sheet to almost 40 percent of GDP. The BOJ expects its balance sheet to reach approximately 60 percent of 2012 GDP by the end of 2014.

In contrast to the other central banks, the ECB has taken a different approach to balance sheet expansion but, nonetheless, one that has offered support to economic activity. The ECB has conducted very few outright purchase operations. The main exception was the Securities Markets Programme, terminated in late 2012, under which the ECB holdings reached almost €220 billion in peripheral sovereign debt in January 2012 (about 2.5 percent of euro-area GDP). Instead, its substantial balance sheet expansion has been driven primarily by loans to banks and, in

particular, longer-term refinancing operations (LTROs), which have maturities of one month or longer. In the fall of 2008, departing from its past practice of offering banks a fixed amount of loans at interest rates determined by auction, the ECB announced it would provide unlimited collateralized loans to banks at a fixed rate. The size of the ECB's balance sheet increased about €0.5 trillion (almost 6 percent of the GDP of the euro area) to about €2 trillion (around 22 percent of euro-area GDP) in 2008 and remained near that level until mid-2011. Severely deteriorating financial conditions in Europe led the ECB in December 2011 to announce LTROs with maturities of three years. Banks drew a bit more than €1 trillion under these LTROs, pushing the ECB's balance sheet to over 30 percent of GDP. The stated aim of the LTROs was to provide liquidity to the financial system rather than to ease monetary policy. However, insofar as the LTROs helped pushed down bank funding costs and sovereign yields in vulnerable European countries and alleviated financial stresses more generally, they likely provided some support to economic activity as well. By the same token, the ECB's latest program, Outright Monetary Transactions (OMT), is focused on reducing the currency risk premium embedded in European sovereign bonds, which has the benefit of easing financial conditions generally but especially in countries with high sovereign spreads. To this point, no purchases have been made under the OMT program. Even so, its availability as a backstop appears to have helped ease financial stresses in Europe, which, in turn, has likely reduced the downward pressure on the economy.

medium-sized businesses. In April, the BOJ announced a sharp rise in its purchases of JGBs and other assets, as well as an extension of the maturity of the JGBs that it purchases.

Authorities in some AFEs also eased fiscal policy in response to still-subdued activity. The Japanese parliament approved a fiscal stimulus package worth about 2 percent of GDP, with the bulk of the spending directed to infrastructure projects. European authorities postponed deadlines for several euro-area countries, including France and Spain, to reduce fiscal deficits below 3 percent of GDP.

... while growth slowed in the emerging market economies

Aggregate real GDP growth in the EMEs picked up in the fourth quarter of 2012 despite the weakness in Europe and the United States, led by a strong performance of the Chinese economy. However, EME growth slowed considerably in the first quarter, in part as a step-down in Chinese growth weighed on activity in the rest of emerging Asia and on the commodity-dependent economies of South America. Recent indicators of exports, industrial production, and PMIs suggest that EME activity remained subdued in the second quarter. Amid concerns about economic growth and lack of inflationary pressures, the central banks of several countries in Asia and Latin

America further eased monetary policy over the first half of the year. However, more recently, concerns about reversal of capital inflows and currency depreciation pressures are giving EME central banks pause about further rate cuts, and a few have begun to raise rates.

In China, macroeconomic data for the second quarter indicate that growth continued to be modest by the standards of recent years. Although retail sales rose slightly faster in April and May than in the subdued first quarter, fixed investment increased at roughly its first-quarter pace.

Activity also cooled across Latin America. In Mexico, growth had already slowed in the second half of last year, weighed down by weaker U.S. manufacturing activity. Growth slowed further in the first quarter, as exports declined and domestic demand weakened. In response, the Bank of Mexico reduced its policy rate for the first time since mid-2009. Mexican activity appears to have remained subdued in the second quarter. Brazilian real GDP growth stepped down a little in the first quarter, extending the lackluster performance of the past two years. Indicators of economic activity for the second quarter, including industrial production and exports, have been mixed. Unlike many of its EME counterparts, Brazil's central bank raised its policy rate to combat rising inflation.

PART 2

MONETARY POLICY

With unemployment still well above normal levels and inflation below its longer-run objective, the Federal Open Market Committee (FOMC) has continued its highly accommodative monetary policy this year by maintaining its forward guidance with regard to the target for the federal funds rate and continuing its program of large-scale asset purchases.

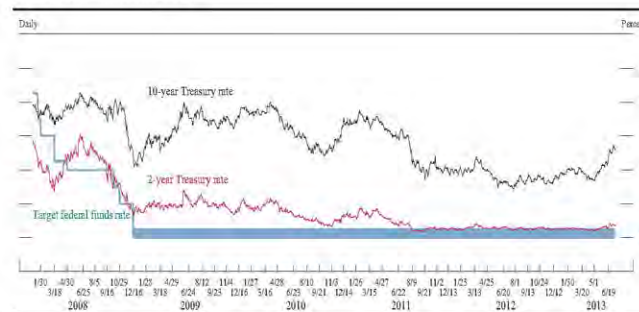
To foster the attainment of maximum employment and price stability, the FOMC kept in place its forward guidance on the path of the federal funds rate . . .

With unemployment still elevated and declining only gradually, and inflation having moved further below the Committee's 2 percent longer-run objective, the FOMC has maintained its highly accommodative monetary policy stance this year. Because the target range for the federal funds rate remains at its effective lower bound, the Committee has been relying mainly on its forward guidance about the future path of the federal funds rate and on its program of large-scale asset purchases to make progress toward its mandated objectives.

With regard to the federal funds rate, the Committee has continued to indicate its expectation that the current exceptionally

low target range of 0 to ¼ percent will 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 a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored (figure 46). In determining how long to maintain its target range for the federal funds rate, the Committee has stated that it would also consider other information, including additional measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial developments. The FOMC also has reiterated that a highly accommodative stance of monetary policy would remain appropriate for a considerable time after the asset purchase program ends and the economic recovery strengthens. Moreover, the Committee has indicated that when it decides to begin

46. Selected interest rates, 2008–13



NOTE: 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, Federal Reserve Board.

to remove policy accommodation, it would take a balanced approach consistent with its longer-run goals of maximum employment and inflation of 2 percent.

... and maintained its policy of large-scale asset purchases ...

To sustain downward pressure on longer-term interest rates, support mortgage markets, and help make broader financial conditions more accommodative, the FOMC has continued its large-scale asset purchases; the Committee also has maintained its practices of reinvesting principal payments it receives on agency debt and agency-guaranteed mortgage-backed securities (MBS) in new agency MBS and of rolling over maturing Treasury securities at auction. Over the first half of this year, purchases of longer-term securities totaled \$510 billion, with the Committee purchasing additional agency MBS at a pace of \$40 billion per month and longer-term Treasury securities at a pace of \$45 billion per month. The Committee reconfirmed at each meeting during the first half of 2013 that it would continue purchasing Treasury and agency MBS until the outlook for the labor market has improved substantially in a context of price stability.

In determining the size, pace, and composition of its asset purchases, the Committee has taken account of the likely efficacy and costs of such purchases. As noted in the minutes of the March FOMC meeting, most participants saw asset purchases as having a meaningful effect in easing financial conditions—for example, keeping longer-term interest rates, including mortgage rates, lower than they would be otherwise—and so supporting economic growth.⁸ FOMC participants generally judged that these benefits outweighed the likely costs and risks of additional purchases. However, the Committee has continued to monitor those

costs and risks, including possible effects on financial stability, security market functioning, the smooth withdrawal of monetary accommodation when it eventually becomes appropriate, and the Federal Reserve's net income.⁹

... while providing additional information about potential adjustments to its asset purchases

During the first half of 2013, the FOMC took various steps to provide greater clarity regarding its thinking about possible adjustments in the pace of asset purchases and the eventual cessation of those purchases. In its statement after the March meeting, the Committee added that the size, pace, and composition of its asset purchases would reflect the extent of progress toward its economic objectives, in addition to the likely efficacy and costs of such purchases.¹⁰ And in May, to highlight its willingness to adjust the flow of purchases in light of incoming information, the Committee noted that it was prepared to increase or reduce the pace of its purchases to maintain appropriate policy accommodation as the outlook for the labor market or inflation changed.¹¹

At the June FOMC meeting, Committee participants generally thought it would be helpful to provide greater clarity about the Committee's approach to decisions about its asset purchase program and thereby reduce investors' uncertainty about how it might

8. See Board of Governors of the Federal Reserve System (2013), "Minutes of the Federal Open Market Committee, March 19–20, 2013," press release, April 10, www.federalreserve.gov/newsevents/press/monetary/20130410a.htm.

9. For further discussion of these issues, see the box "Efficacy and Costs of Large-Scale Asset Purchases" in Board of Governors of the Federal Reserve System (2013), *Monetary Policy Report* (Washington: Board of Governors, February), www.federalreserve.gov/monetarypolicy/mpr_20130226_part2.htm.

10. See Board of Governors of the Federal Reserve System (2013), "Federal Reserve Issues FOMC Statement," press release, March 20, www.federalreserve.gov/newsevents/press/monetary/20130320a.htm.

11. See Board of Governors of the Federal Reserve System (2013), "Federal Reserve Issues FOMC Statement," press release, May 1, www.federalreserve.gov/newsevents/press/monetary/20130501a.htm.

react to future economic developments. In choosing to provide this clarification, the Committee made no changes to its approach to monetary policy. Against this backdrop, Chairman Bernanke, at his postmeeting press conference, described a possible path for asset purchases that the Committee would anticipate implementing if economic conditions evolved in a manner broadly consistent with the outcomes the Committee saw as most likely.¹² The Chairman noted that such economic outcomes involved continued gains in labor markets, supported by moderate growth that picks up over the next several quarters, and inflation moving back toward its 2 percent objective over time. If the economy were to evolve broadly in line with the Committee's expectations, the FOMC would moderate the pace of purchases later this year and continue to reduce the pace of purchases in measured steps until purchases ended around the middle of next year, at which time the unemployment rate would likely be in the vicinity of 7 percent, with solid economic growth supporting further job gains and inflation moving back toward the FOMC's 2 percent target.

In emphasizing that the Committee's policy was in no way predetermined, the Chairman noted that if economic conditions improved faster than expected, the pace of asset purchases could be reduced somewhat more quickly. Conversely, if the outlook for the economy or the labor market became less favorable, inflation did not move over time toward the Committee's 2 percent longer-term objective, or financial conditions were judged to be inconsistent with further progress in the labor markets, reductions in the pace of purchases could be delayed or the pace increased for a time. The Chairman also drew a strong distinction between the asset purchase program and the forward guidance regarding the target for the federal funds rate, noting that the Committee anticipates that there

will be a considerable period between the end of asset purchases and the time when it becomes appropriate to increase the target for the federal funds rate.

The Committee's large-scale asset purchases led to a significant increase in the size of the Federal Reserve's balance sheet

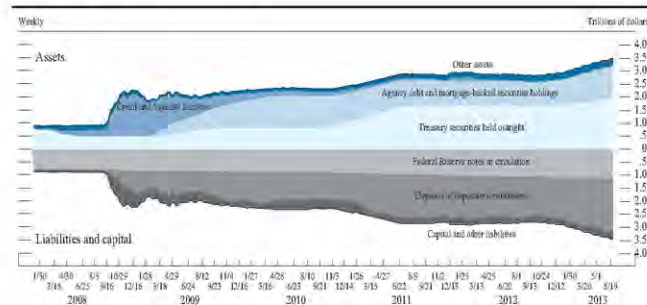
As a result of the Committee's large-scale asset purchase program, Federal Reserve assets have increased significantly since the end of last year (figure 47). The par value of the System Open Market Account's (SOMA) holdings of U.S. Treasury securities increased about \$300 billion to \$2 trillion, and the par value of its holdings of agency debt and MBS increased about \$270 billion, on net, to \$1.3 trillion.¹³ These asset purchases accounted for nearly all of the increase in total assets of the Federal Reserve and were accompanied by a significant rise in reserve balances over the period. As of July 10, the SOMA's holdings of Treasury and agency securities constituted 56 percent and 36 percent, respectively, of the \$3.5 trillion in total Federal Reserve assets. By contrast, balances of facilities established during the financial crisis declined further from already low levels.¹⁴

13. The difference between changes in the par value of SOMA holdings and the amount of purchases of securities since the end of 2012 reflects, in part, lags in settlements.

14. The outstanding amount of dollars provided through the temporary U.S. dollar liquidity swap arrangements with foreign central banks decreased \$7 billion to about \$1 billion because of the improvement in offshore U.S. dollar funding markets. During the financial crisis, the Federal Reserve created several special lending facilities to support financial institutions and markets and strengthen economic activity. These facilities were closed by 2010; however, some loans made under the Term Asset-Backed Securities Loan Facility, which is closed to new lending, remain outstanding and will mature over the next two years. Other programs supported certain specific institutions in order to avert disorderly failures that could have resulted in severe dislocations and strains for the financial system as a whole and harmed the U.S. economy. While the loans made by the Federal Reserve under these programs have been repaid, the Federal Reserve will continue to receive cash flows generated from assets remaining in the

12. See Ben S. Bernanke (2013), "Transcript of Chairman Bernanke's Press Conference," June 19, www.federalreserve.gov/mediacenter/files/FOMCpresconf20130619.pdf.

47. Federal Reserve assets and liabilities, 2008–13



Note: The data extend through July 10, 2013. Credit and liquidity facilities consists of primary, secondary, and seasonal credit; term auction credit; central bank liquidity swaps; support for Maiden Lane, Bear Stearns, and AIG; and other credit facilities, including the Primary Dealer Credit Facility, the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility, the Commercial Paper Funding Facility, and the Term Asset-Backed Securities Loan Facility. Other assets includes noncovered premiums and discounts on securities held outright. Other liabilities includes reverse repurchase agreements, the U.S. Treasury General Account, and the U.S. Treasury Supplementary Financing Account. The dates on the horizontal axis are those of regularly scheduled Federal Open Market Committee meetings.

Sources: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances," www.federalreserve.gov/releases/h41/.

Interest income on the SOMA portfolio continued to support a substantial sum of remittances to the Treasury Department. In the first quarter, the Federal Reserve provided more than \$15 billion of such distributions to the Treasury.¹⁵ The Federal Reserve has also released detailed transactions data on open market operations and discount window operations with a two-year lag in compliance with the Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010.

The Committee also reviewed the principles for policy normalization

During its May and June meetings, the FOMC reviewed the Federal Reserve's principles for the eventual normalization of the stance of monetary policy, which initially were published in the minutes of the Committee's June 2011

meeting.¹⁶ The Committee's discussion included various aspects of those principles—the size and composition of the SOMA portfolio in the longer run, the use of a range of reserve-draining tools, the approach to sales of securities, the eventual framework for policy implementation, and the relationship between the principles and the economic thresholds in the Committee's forward guidance on the federal funds rate. Meeting participants, in general, continued to view the broad principles set out in 2011 as still applicable. Nonetheless, they agreed that many of the details of the eventual normalization process would likely differ from those specified two years ago, that the appropriate details would depend in part on economic and financial developments between now and the time when it becomes appropriate to begin normalizing monetary policy, and that the Committee would need to provide additional information about its intentions as that time approaches. Participants continued

portfolios established in connection with such support, principally the portfolio of Maiden Lane LLC.

15. The *Quarterly Report on Federal Reserve Balance Sheet Developments* for the first quarter is available on the Federal Reserve Board's website at www.federalreserve.gov/monetarypolicy/quarterly-balance-sheet-developments-report.htm.

16. See Board of Governors of the Federal Reserve System (2011), "Minutes of the Federal Open Market Committee, June 21–22, 2011," press release, July 12, www.federalreserve.gov/newsevents/press/monetary/20110712a.htm.

to think that the Federal Reserve should, in the long run, hold predominantly Treasury securities. Most, however, now anticipated that the Committee would not sell agency MBS as part of the normalization process, although some indicated that limited sales might be warranted in the longer run to reduce or eliminate residual holdings.

The Federal Reserve continued to test tools that could potentially be used to manage reserves.

As part of the Federal Reserve's ongoing program to ensure the readiness of tools to manage reserves, the Federal Reserve conducted a series of small-scale transactions with eligible counterparties. During the first half of 2013, the Federal Reserve conducted four repurchase agreement (repo) operations and three reverse repurchase agreement (reverse repo) operations. Operation sizes ranged between \$0.2 and \$2.8 billion using all eligible collateral types. While the repo transactions

were conducted only with primary dealers, two of the reverse repo operations were open to the expanded set of eligible counterparties, which include not only primary dealers, but also banks, government-sponsored enterprises, and money market funds.¹⁷ In addition, the Federal Reserve Board conducted three operations for 28-day term deposits under the Term Deposit Facility (TDF). These operations included two competitive single-price TDF auctions totaling \$3 billion in deposits and an offering with a fixed-rate, full-allotment format, which totaled \$10 billion in deposits.

17. To prepare for the potential need to conduct large-scale reverse repo transactions, the Federal Reserve Bank of New York is developing arrangements with an expanded set of counterparties with which it can conduct these transactions. These counterparties are in addition to the existing set of primary dealer counterparties with which the Federal Reserve can already conduct reverse repos. The list of the expanded set of counterparties is available on the Federal Reserve Bank of New York's website at www.newyorkfed.org/markets/expanded_counterparties.html.

PART 3

SUMMARY OF ECONOMIC PROJECTIONS

The following material appeared as an addendum to the minutes of the June 18–19, 2013, meeting of the Federal Open Market Committee.

In conjunction with the June 18–19, 2013, 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 2013 through 2015 and over the longer run.¹⁸ 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, FOMC participants projected that, under appropriate monetary policy, the pace of economic recovery would gradually pick up over the 2013–15 period, and inflation would move up from recent very low readings but remain subdued (table 1 and figure 1). Almost all of the participants projected that inflation, as measured by the annual change in the price index for personal consumption expenditures (PCE), would be running at or a little below the Committee's 2 percent objective in 2015.

As shown in figure 2, most participants judged that highly accommodative monetary policy was likely to be warranted over the next few

18. Although President Primalto was unable to attend the June 18–19, 2013, FOMC meeting, she submitted economic projections.

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, June 2013
Percent

Variable	Central tendency ^a				Range ^b			
	2013	2014	2015	Longer run	2013	2014	2015	Longer run
Change in real GDP.....	2.3 to 2.6	3.0 to 3.5	2.9 to 3.6	2.3 to 2.5	2.0 to 2.6	2.2 to 3.6	2.3 to 3.8	2.0 to 3.0
March projection.....	2.3 to 2.8	2.9 to 3.4	2.9 to 3.7	2.3 to 2.5	2.0 to 3.0	2.6 to 3.8	2.5 to 3.8	2.0 to 3.0
Unemployment rate.....	7.2 to 7.3	6.5 to 6.8	5.8 to 6.2	5.2 to 6.0	6.9 to 7.5	6.2 to 6.9	5.7 to 6.4	5.0 to 6.0
March projection.....	7.3 to 7.5	6.7 to 7.0	6.0 to 6.5	5.2 to 6.0	6.9 to 7.6	6.1 to 7.1	5.7 to 6.5	5.0 to 6.0
PCE inflation.....	0.8 to 1.2	1.4 to 2.0	1.6 to 2.0	2.0	0.8 to 1.5	1.4 to 2.0	1.6 to 2.3	2.0
March projection.....	1.3 to 1.7	1.5 to 2.0	1.7 to 2.0	2.0	1.3 to 2.0	1.4 to 2.1	1.6 to 2.6	2.0
Core PCE inflation ^c	1.2 to 1.3	1.5 to 1.8	1.7 to 2.0		1.1 to 1.5	1.5 to 2.0	1.7 to 2.3	
March projection.....	1.5 to 1.6	1.7 to 2.0	1.8 to 2.1		1.5 to 2.0	1.5 to 2.1	1.7 to 2.6	

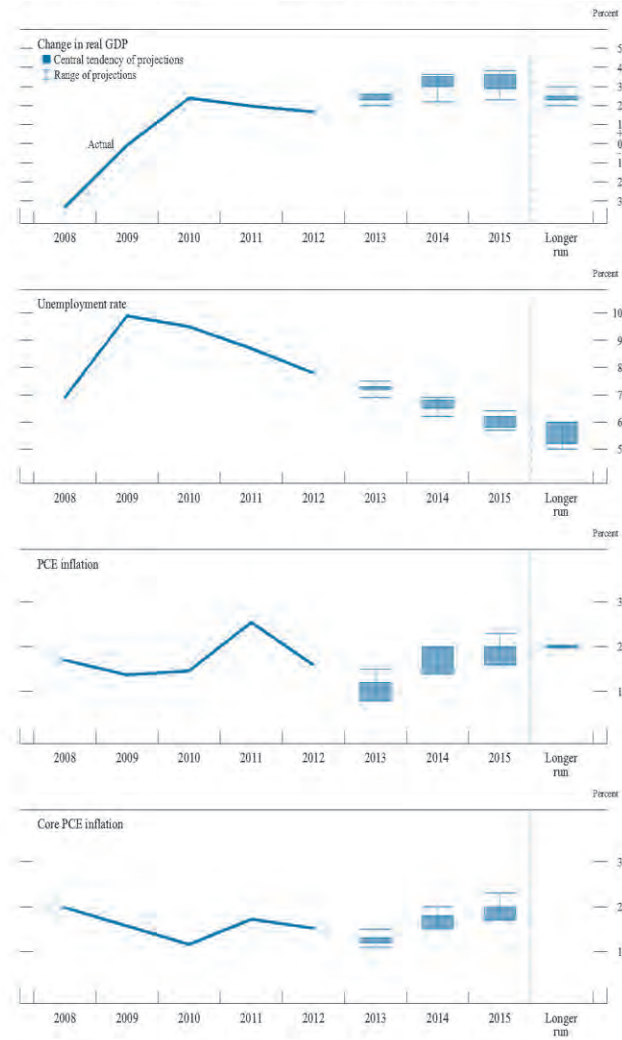
Notes: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the 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 in the absence of further shocks to the economy. The March projections were made in conjunction with the meeting of the Federal Open Market Committee on March 19–20, 2013.

^a The central tendency excludes the three highest and three lowest projections for each variable in each year.

^b The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.

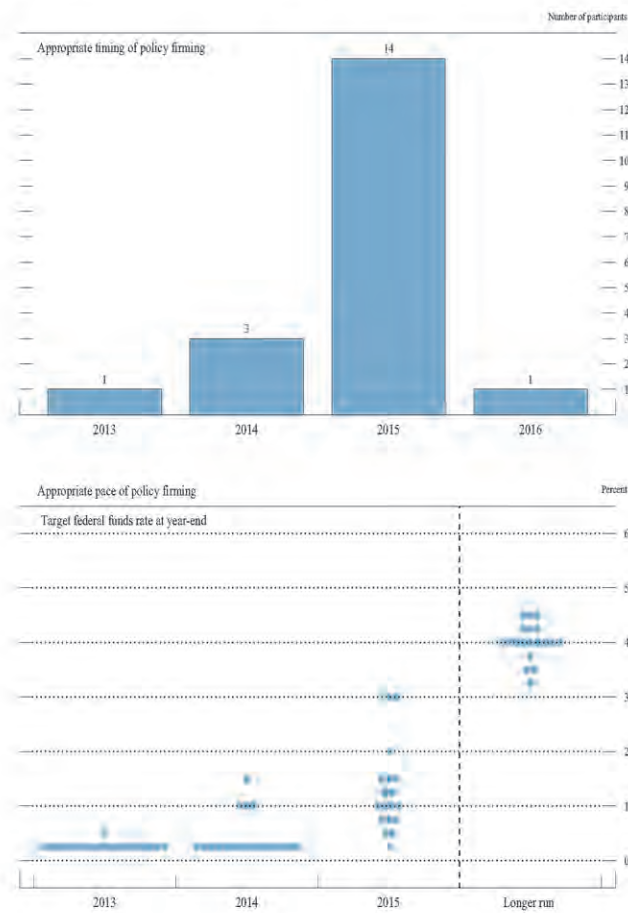
^c Longer-run projections for core PCE inflation are not collected.

Figure 1. Central tendencies and ranges of economic projections, 2013–15 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.

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



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 $\frac{1}{4}$ percent will occur in the specified calendar year. In March 2013, the numbers of FOMC participants who judged that the first increase in the target federal funds rate would occur in 2013, 2014, 2015, and 2016 were, respectively, 1, 4, 13, and 1. In the lower panel, each shaded circle indicates the value (rounded to the nearest $\frac{1}{4}$ percentage point) of an individual participant's judgement of the appropriate level of the target federal funds rate at the end of the specified calendar year or over the longer run.

years to support continued progress toward maximum employment and a gradual return toward 2 percent inflation. Moreover, all participants but one judged that it would be appropriate to continue purchasing both agency mortgage-backed securities (MBS) and longer-term Treasury securities at least until later this year.

A majority of participants saw the uncertainty associated with their outlook for economic growth and the unemployment rate as similar to that of the past 20 years. An equal number of participants also indicated that the risks to the outlook for real gross domestic product (GDP) growth and the unemployment rate were broadly balanced. Some participants, however, continued to see downside risks to growth and upside risks to unemployment. A majority of participants indicated that the uncertainty surrounding their projections for PCE inflation was similar to historical norms, and nearly all considered the risks to inflation to be either broadly balanced or weighted to the downside.

The Outlook for Economic Activity

Participants projected that, conditional on their individual assumptions about appropriate monetary policy, the economy would grow at a faster pace in 2013 than it had in 2012. They also generally judged that growth would strengthen further in 2014 and 2015, in most cases to a rate above their estimates of the longer-run rate of output growth. Most participants noted that the high degree of monetary policy accommodation assumed in their projections, continued improvement in the housing sector and the accompanying rise in household net worth, and the absence of further fiscal tightening should result in a pickup in growth; however, they pointed to the foreign economic outlook as an ongoing downside risk.

The central tendency of participants' projections for real GDP growth was 2.3 to 2.6 percent for 2013, 3.0 to 3.5 percent for

2014, and 2.9 to 3.6 percent for 2015. Most participants noted that their projections were little changed since March, with the downward revisions to growth in 2013 reflecting the somewhat slower-than-anticipated growth in the first half. The central tendency for the longer-run rate of growth of real GDP was 2.3 to 2.5 percent, unchanged from March.

Participants anticipated a gradual decline in the unemployment rate over the forecast period; a large majority projected that the unemployment rate would not reach their estimates of its longer-run level before 2016. The central tendencies of participants' forecasts for the unemployment rate were 7.2 to 7.3 percent at the end of 2013, 6.5 to 6.8 percent at the end of 2014, and 5.8 to 6.2 percent at the end of 2015. These projections were slightly lower than in March, with participants reacting to recent data indicating that the unemployment rate had declined by a little more than they had previously expected. 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, the same as in March. Most participants projected that the unemployment rate would converge to their estimates of its longer-run normal rate in five or six years, while some judged that less time would be needed.

As shown in figures 3.A and 3.B, the distributions of participants' views regarding the likely outcomes for real GDP growth and the unemployment rate were relatively narrow for 2013. Their projections for economic activity were more diverse for 2014 and 2015, reflecting their individual assessments of appropriate monetary policy and its economic effects, the likely rate of improvement in the housing sector and households' balance sheets, the domestic implications of foreign economic developments, the prospective path for U.S. fiscal policy, the extent of structural dislocations to the labor market, and a

number of other factors. The dispersion of participants' projections for 2015 and for the longer run was little changed relative to March; there was some reduction in the upper ends of the distributions in 2013 and 2014 for both real GDP growth and the unemployment rate.

The Outlook for Inflation

All participants marked down their projections for both PCE and core PCE inflation in 2013, reflecting the low readings on inflation so far this year. Participants generally judged that the recent slowing in inflation partly reflected transitory factors, and their projections for inflation under appropriate monetary policy over the period 2014–15 were only a little lower than in March. Participants projected that both headline and core inflation would move up but remain subdued, with nearly all projecting that inflation would be equal to, or somewhat below, the FOMC's longer-run objective of 2 percent in each year. Specifically, the central tendency of participants' projections for overall inflation, as measured by the growth in the PCE price index, moved down to 0.8 to 1.2 percent in 2013 and was 1.4 to 2.0 percent in 2014 and 1.6 to 2.0 percent in 2015. The central tendency of the forecasts for core inflation shifted down slightly in 2013 and 2014, to 1.2 to 1.3 percent and 1.5 to 1.8 percent, respectively; the central tendency in 2015 was little changed and broadly similar to that of headline inflation. In discussing factors likely to return inflation to near the Committee's inflation objective of 2 percent, several participants noted that the reversal of transitory factors currently holding down inflation would cause inflation to move up a little in the near term. In addition, many participants viewed the combination of stable inflation expectations and diminishing resource slack as likely to lead to a gradual pickup in inflation toward the Committee's longer-run objective.

Figures 3.C and 3.D provide information on the diversity of participants' views about

the outlook for inflation. The range of participants' projections for overall and core inflation in 2013 shifted down, while those ranges narrowed in 2014–15. The distributions for core and overall inflation in 2015 remained concentrated near the Committee's longer-run objective, and all participants continued to project that overall inflation would converge to the FOMC's 2 percent goal over the longer run.

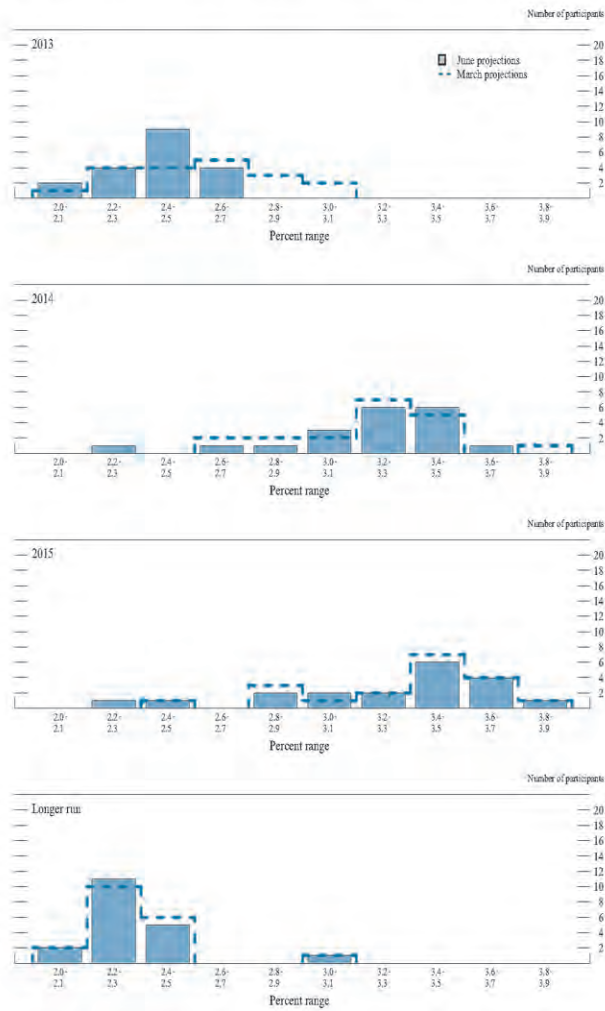
Appropriate Monetary Policy

As indicated in figure 2, most participants judged that exceptionally low levels of the federal funds rate would remain appropriate for a couple of years. In particular, 14 participants thought that the first increase in the target federal funds rate would not be warranted until sometime in 2015, and one judged that policy firming would likely not be appropriate until 2016. Four participants judged that an increase in the federal funds rate in 2013 or 2014 would be appropriate.

All of the participants who judged that raising the federal funds rate target would become appropriate in 2015 also projected that the unemployment rate would decline below 6½ percent during that year and that inflation would remain near or below 2 percent. In addition, most of those participants also 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. Three of the four participants who judged that policy firming should begin in 2013 or 2014 indicated that, in their judgment, 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 keep longer-run inflation expectations well anchored.

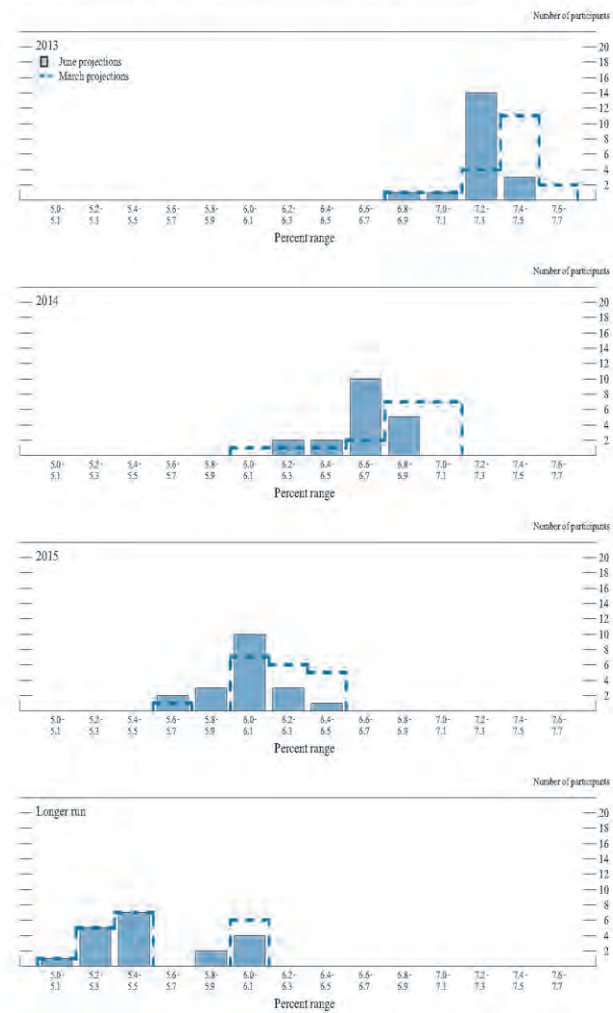
Figure 3.E provides the distribution of participants' judgments regarding the appropriate level of the target federal funds rate at the end of each calendar year from 2013 to 2015 and over the longer run. As

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2013–15 and over the longer run



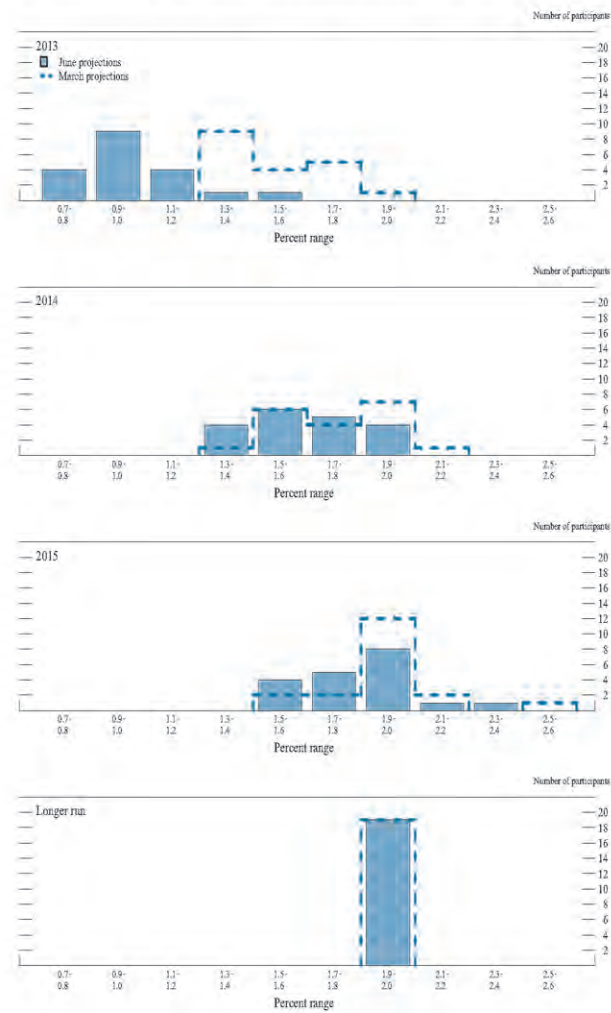
Note: Definitions of variables are in the general note to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2013-15 and over the longer run



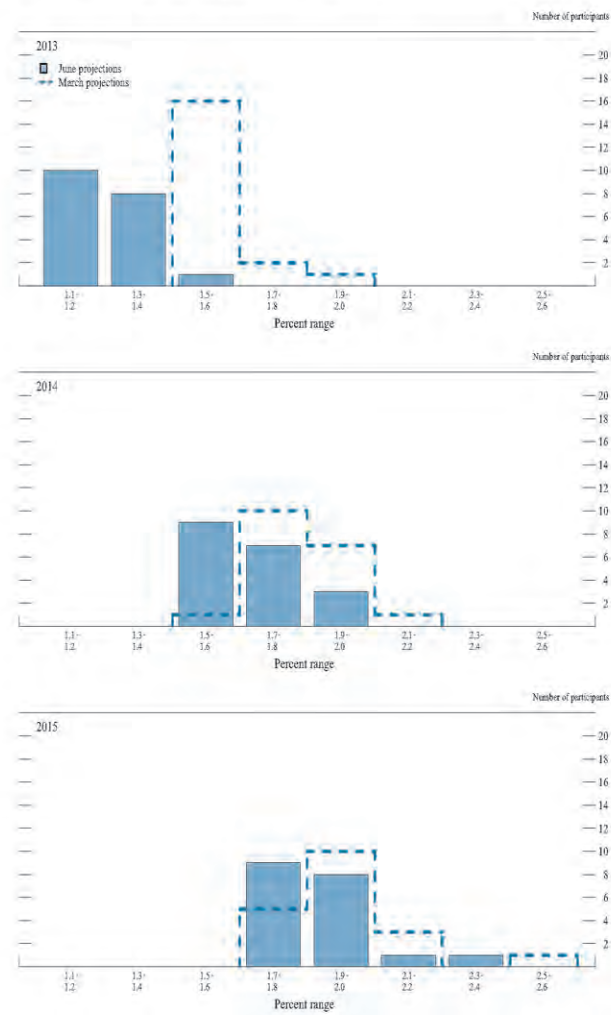
Note: Definitions of variables are in the general note to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2013-15 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, 2013-15



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

Figure 3.E. Distribution of participants' projections for the target federal funds rate, 2013-15 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.

previously noted, most participants judged that economic conditions would warrant maintaining the current low level of the federal funds rate at least until 2015. Among the four participants who saw the federal funds rate leaving the effective lower bound earlier, their projections for the federal funds rate at the end of 2014 ranged from 1 to 1½ percent; however, the median for all participants remained at the effective lower bound. Views on the appropriate level of the federal funds rate at the end of 2015 varied, with the range of participants' projections a bit narrower than in the March Summary of Economic Projections and the median value unchanged at 1 percent.

All participants saw the appropriate target for the federal funds rate at the end of 2015 as still well below their assessments of its expected longer-run value. Estimates of the longer-run target federal funds rate ranged from 3¼ to 4½ percent, reflecting the Committee's inflation objective of 2 percent and participants' individual judgments about the appropriate longer-run level of the real federal funds rate in the absence of further shocks to the economy.

Participants also described their views regarding the appropriate path of the Federal Reserve's balance sheet. Given their respective economic outlooks, all participants but one judged that it would be appropriate to continue purchasing both agency MBS and longer-term Treasury securities. About half of these participants indicated that it likely would be appropriate to end asset purchases late this year. Many other participants anticipated that it likely would be appropriate to continue purchases into 2014. Several participants emphasized that the asset purchase program was effective in supporting the economic expansion, that the benefits continued to exceed the costs, or that continuing purchases would be necessary to achieve a substantial improvement in the outlook for the labor market. A few participants, however, indicated that the Committee could best foster its dual objectives and limit the potential costs of the

program by slowing, or stopping, its purchases at the June meeting.

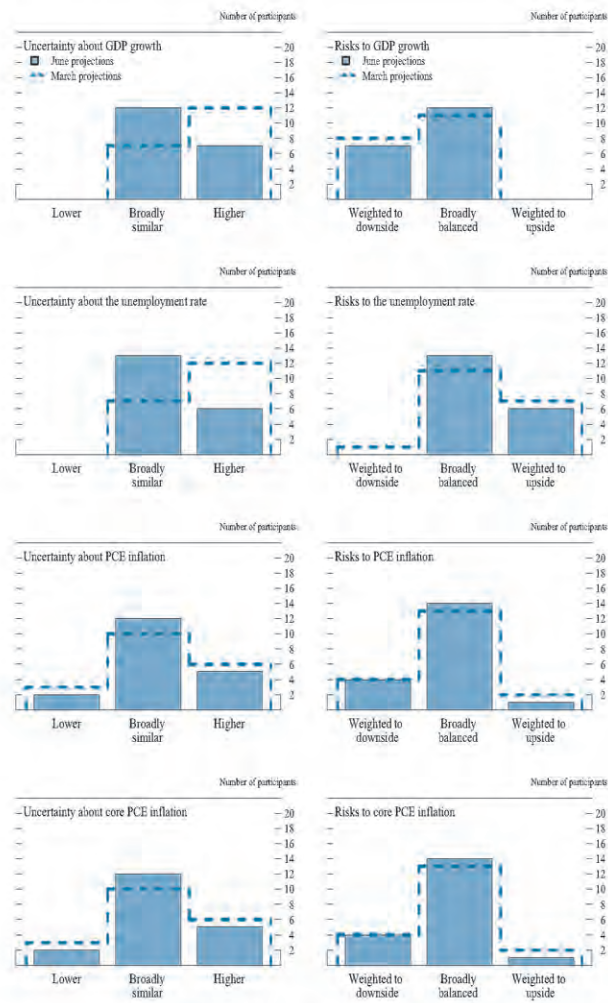
Key factors informing participants' views of the appropriate path for monetary policy included their judgments regarding the values of the unemployment rate and other labor market indicators that would be consistent with maximum employment; the extent to which the economy fell short of maximum employment and the extent to which inflation was running below the Committee's longer-term objective of 2 percent; and the implications of alternative policy paths for the likely extent of progress, over the medium term, in returning employment and inflation to mandate-consistent levels. A couple of participants noted that persistent headwinds and somewhat slower productivity growth since the end of the recession made their assessments of the longer-run normal level of the federal funds rate, and thus of the appropriate path for the federal funds rate, lower than would otherwise be the case.

Uncertainty and Risks

A majority of participants reported that they saw the levels of uncertainty about their projections for real GDP growth and unemployment as broadly similar to the norm during the previous 20 years, with the remainder generally indicating that they saw higher uncertainty about these economic outcomes (figure 4).¹⁹ In March, a similar number of participants had seen the level of uncertainty about real GDP growth and the unemployment rate as above average. A majority of participants continued to judge that the risks to their forecasts of real GDP

19. 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 1993 through 2012. 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 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.

growth and unemployment were broadly balanced, with the remainder generally indicating that they saw the risks to their forecasts for real GDP growth as weighted to the downside and for unemployment as weighted to the upside. The main factors cited as contributing to the uncertainty and balance of risks about economic outcomes were the limits on the ability of monetary policy to offset the effects of adverse shocks when short-term interest rates are near their effective lower bound, as well as challenges with forecasting the path of fiscal policy and economic and financial developments abroad.

Participants reported little change in their assessments of the level of uncertainty and the balance of risks around their forecasts for overall PCE inflation and core inflation. Fourteen participants judged the levels of uncertainty associated with their forecasts for those inflation measures to be broadly similar to, or lower than, historical norms; the same number saw the risks to those projections as broadly balanced. A few participants highlighted the likely role played by the Committee's adoption of a 2 percent inflation goal or its commitment to maintaining accommodative monetary policy as contributing to the recent stability of longer-term inflation expectations and, hence,

Table 2. Average historical projection error ranges:
Percentage points

Variable	2013	2014	2015
Change in real GDP ¹ ,	±1.0	±1.6	±1.8
Unemployment rate ² ,	±0.4	±1.2	±1.8
Total consumer prices ² ,	±0.8	±1.0	±1.0

NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 1993 through 2012 that were released in the summer by various private and government forecasters. As described in the box "Forecast Uncertainty," under certain assumptions, there is about a 70 percent probability that actual outcomes for real GDP, unemployment, and consumer prices will be in ranges implied by the average size of projection errors made in the past. Further information is in David Reifschneider and Peter Tully (2007), "Gauging the Uncertainty of the Economic Outlook from Historical Forecasting Errors," Finance and Economics Discussion Series 2007-40 (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.

the relatively low level of uncertainty. Four participants saw the risks to their inflation forecasts 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 in the current environment. Conversely, one participant saw the risks to inflation as weighted to the upside, citing the present highly accommodative stance of monetary policy and concerns 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 2.0 to 4.0 percent in the current year, 1.4 to 4.6 percent

in the second year, and 1.2 to 4.8 percent in the third year. The corresponding 70 percent confidence intervals for overall inflation would be 1.2 to 2.8 percent in the current year and 1.0 to 3.0 percent in the second and third years.

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
BOJ	Bank of Japan
C&I	commercial and industrial
CP	commercial paper
CPI	consumer price index
CRE	commercial real estate
Desk	Open Market Desk
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
JGB	Japanese government bond
MBS	mortgage-backed securities
Michigan survey	Thomson Reuters/University of Michigan Surveys of Consumers
NFIB	National Federation of Independent Business
PCE	personal consumption expenditures
PMI	purchasing managers index
REIT	real estate investment trust
repo	repurchase agreement
reverse repo	reverse repurchase agreement
SEP	Summary of Economic Projections
SLOOS	Senior Loan Officer Opinion Survey on Bank Lending Practices
SOMA	System Open Market Account
S&P	Standard & Poor's
TDF	Term Deposit Facility