

FEDERAL RESERVE'S SECOND MONETARY POLICY REPORT FOR 2016

HEARING BEFORE THE COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS UNITED STATES SENATE ONE HUNDRED FOURTEENTH CONGRESS SECOND SESSION ON

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

JUNE 21, 2016

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



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

U.S. GOVERNMENT PUBLISHING OFFICE

22-224 PDF

WASHINGTON : 2016

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

COMMITTEE ON BANKING, HOUSING, AND URBAN AFFAIRS

RICHARD C. SHELBY, Alabama, *Chairman*

MIKE CRAPO, Idaho	SHERROD BROWN, Ohio
BOB CORKER, Tennessee	JACK REED, Rhode Island
DAVID VITTER, Louisiana	CHARLES E. SCHUMER, New York
PATRICK J. TOOMEY, Pennsylvania	ROBERT MENENDEZ, New Jersey
MARK KIRK, Illinois	JON TESTER, Montana
DEAN HELLER, Nevada	MARK R. WARNER, Virginia
TIM SCOTT, South Carolina	JEFF MERKLEY, Oregon
BEN SASSE, Nebraska	ELIZABETH WARREN, Massachusetts
TOM COTTON, Arkansas	HEIDI HEITKAMP, North Dakota
MIKE ROUNDS, South Dakota	JOE DONNELLY, Indiana
JERRY MORAN, Kansas	

WILLIAM D. DUHNKE III, *Staff Director and Counsel*

MARK POWDEN, *Democratic Staff Director*

DANA WADE, *Deputy Staff Director*

JELENA MCWILLIAMS, *Chief Counsel*

THOMAS HOGAN, *Chief Economist*

SHELBY BEGANY, *Professional Staff Member*

LAURA SWANSON, *Democratic Deputy Staff Director*

GRAHAM STEELE, *Democratic Chief Counsel*

DAWN RATLIFF, *Chief Clerk*

TROY CORNELL, *Hearing Clerk*

SHELVIN SIMMONS, *IT Director*

JIM CROWELL, *Editor*

C O N T E N T S

TUESDAY, JUNE 21, 2016

	Page
Opening statement of Chairman Shelby	1
Opening statements, comments, or prepared statements of:	
Senator Brown	2
WITNESS	
Janet L. Yellen, Chair, Board of Governors of the Federal Reserve System	4
Prepared statement	41
Responses to written questions of:	
Chairman Shelby	44
Senator Crapo	47
Senator Toomey	49
Senator Kirk	51
Senator Heller	53
Senator Sasse	57
Senator Rounds	63
Senator Menendez	64
Senator Merkley	71
Senator Heitkamp	74

ADDITIONAL MATERIAL SUPPLIED FOR THE RECORD

Monetary Policy Report to the Congress dated June 21, 2016	79
--	----

FEDERAL RESERVE'S SECOND MONETARY POLICY REPORT FOR 2016

TUESDAY, JUNE 21, 2016

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

The Committee met at 10:02 a.m., in room SD-538, Dirksen Senate Office Building, Hon. Richard C. Shelby, Chairman of the Committee, presiding.

OPENING STATEMENT OF CHAIRMAN RICHARD C. SHELBY

Chairman SHELBY. The Committee will come to order.

Today we will receive testimony from Federal Reserve Chair Janet Yellen regarding the Fed's semiannual report on monetary policy. And while Humphrey-Hawkins testimony is a key part of Congress' oversight of our Nation's central bank, it is not sufficient to provide Congress and the American public with a full picture of Fed policymaking.

I have often remarked during these hearings about the importance of striking the right balance between transparency and independence. One of the Fed's stated reasons for maintaining its independence is to avoid politicizing its decisions.

I agree that politics have no place at the Federal Reserve. And while the line between politics and policy can be quite fine, it should, nonetheless, be clear and unambiguous.

The Fed should act, I believe, in a manner consistent with its statutory mandate in the interest of the stability of the U.S. economy whether or not such policies align with the goals of Congress or the Administration.

Our central bank is independent and should remain so. The desire to preserve the Fed's independence should not preclude consideration of additional measures to increase the transparency of the Board's actions. In fact, some have argued that better disclosure of monetary policy strategy could actually bolster independence.

Earlier this year, a prominent group of economists, including three Nobel Prize winners, agreed in a statement that, and I will quote, ". . . publicly reporting a strategy helps prevent policymakers from bending under pressure and sacrificing independence."

The Fed continues to resist calls by Congress to disclose monetary rules, even though it claims to use such rules regularly. In its public communications, the Fed has veered further away from data-driven analysis toward the exercise of even more discretion.

For example, rather than adhering precisely to its stated goals for inflation and employment, the Federal Open Market Committee appears to base certain decisions on factors such as “financial and international developments” that cannot be derived from quantitative analysis.

Similarly, the Fed’s regulatory conduct has become increasingly opaque and complicated. This is demonstrated by the inherent complexity and overlap in its capital and liquidity rules, stress testing, and resolution and recovery planning.

Two weeks ago, a panel of experts testified before this Committee that complex regulations might actually increase rather than decrease risk in the banking system. They also criticized the lack of analysis and transparency in the rulemaking process. This is especially true of Basel rules established by an international committee and imposed by domestic regulators on our institutions, without adequate tailoring.

The Fed did not even do its own quantitative study for Basel III, as it did, Madam Chair, for Basel I and II. It instead relied on the Basel Committee’s analysis, which included data from only 13—only 13—U.S. banks out of the 249 banks that were studied.

Such an approach is concerning. The Fed should perform, I believe, rigorous analysis, not only for each rule but also on the cumulative impact of capital and liquidity regulations. If our banking regulators are unable or unwilling to conduct such analysis, then we should consider mandating it.

Even the European Commission analyzes these factors in its regulatory framework. In a recent Call for Evidence, it solicited feedback from the public to “. . . evaluate the interaction between financial regulations and assess their cumulative impact.” We should expect no less from our own regulators.

Chair Yellen, I look forward to your testimony today and your thoughts on these important issues. I think it is a very important hearing.

Senator Brown.

STATEMENT OF SENATOR SHERROD BROWN

Senator BROWN. Thank you, Mr. Chairman. And, Madam Chair, welcome back to the Committee. We are so glad you are here.

Since your last appearance, the economy has made only modest gains. Inflation remains low. Job creation seems to have slowed. The economies of our trading partners struggle. Uncertainty, most notably with the possibility of Britain’s exit from the European, remains high.

In the face of these headwinds, you would think that politicians here at home would do everything we could to promote our economy. Instead, many of them seem intent on doing just the opposite.

My colleagues on the other side of the aisle are failing to invest in infrastructure, in public works, in research and development, in education, in training—the very building blocks of our economic success. If that were not enough, they are trying their level best to undermine the safeguards that dampened the economic crisis and were erected to prevent the next one. They would like to repeal Dodd-Frank and return our country to the casino capitalism that caused so much ruin for families and communities across our coun-

try. And they are trying to politicize and undermine the Federal Reserve, despite the key actions that it has taken to help the recovery.

Congress rated its reserves and reduced dividend payments in order to pay for a transportation bill. Many of my colleagues are trying to insert Congress into monetary policy decisions. This Committee has yet to even hold a hearing on the two nominees to the Board of Governors of the Federal Reserve, and bad legislative ideas continue to multiply.

The presumptive nominee of the Republican Party is a factory of bad ideas. Moody's Analytics recently released a report that states that, if adopted, his economic proposals would leave our economy "significantly weaker." He suggests that he would replace the current Fed Chair based on imagined partisan political considerations. That is a bad idea. You might argue that someone is failing to pursue the right course on monetary and regulatory policy, but partisan labels should never be part of that discourse.

The presumptive nominee has suggested he would simply renegotiate or renege on our debt, comfortable in the belief that the United States can never default "because you print the money." In his opinion, he understands debt "better than probably anybody." His words. He also thinks, along with the runner-up for the Republican nomination, that this country should return to the gold standard.

When Ron Paul was promoting this idea a few years ago, the *Wall Street Journal* reported on a poll of a panel of economists and whether a return to the gold standard would improve price stability and unemployment. The response was split between those who disagreed and those who strongly disagreed. Not one person thought it would help. So we do not know if it is just a bad idea or a really, really bad idea.

But as one University of Chicago professor put it, "Love of the gold standard implies macroeconomic illiteracy." If your own very good brain is your top consultant, I suppose the unanimous opinion of a diverse group of economists does not count for much.

But for those of us in the evidence-based world, the prospect of this nominee trading imagined for real authority gives added significance to what we do in the Banking Committee and what we do in Congress. That is true in general. It is particularly true with maintaining the independence of the Federal Reserve and the other regulators of the financial services industry.

Madam Chair, I think you have shown your commitment to an independent, data-driven Federal Reserve. I commend you for that. We are grateful for that. I hope we can work together to maintain it.

Thank you.

Chairman SHELBY. Madam Chair, your written testimony in its entirety will be made part of the hearing record. We welcome you here today again. You are no stranger to this Committee, and you proceed as you wish.

**STATEMENT OF JANET L. YELLEN, CHAIR, BOARD OF
GOVERNORS OF THE FEDERAL RESERVE SYSTEM**

Ms. YELLEN. Thank you. Chairman Shelby, Ranking Member Brown, and other Members of the Committee, I am pleased to present the Federal Reserve's semiannual *Monetary Policy Report* to the Congress. In my remarks today, I will briefly discuss the current economic situation and outlook before turning to monetary policy.

Since my last appearance before this Committee in February, the economy has made further progress toward the Federal Reserve's objective of maximum employment. And while inflation has continued to run below our 2-percent objective, the Federal Open Market Committee expects inflation to rise to that level over the medium term. However, the pace of improvement in the labor market appears to have slowed more recently, suggesting that our cautious approach to adjusting monetary policy remains appropriate.

In the labor market, the cumulative increase in jobs since its trough in early 2010 has now topped 14 million, while the unemployment rate has fallen more than 5 percentage points from its peak. In addition, as we detail in the *Monetary Policy Report*, jobless rates have declined for all major demographic groups, including for African Americans and Hispanics. Despite these declines, however, it is troubling that unemployment rates for these minority groups remain higher than for the Nation overall, and that the annual income of the median African American household is still well below the median income of other U.S. households.

During the first quarter of this year, job gains averaged 200,000 per month, just a bit slower than last year's pace. And while the unemployment rate held steady at 5 percent over this period, the labor force participation rate moved up noticeably. In April and May, however, the average pace of job gains slowed to only 80,000 per month or about 100,000 per month after adjustment for the effects of a strike. The unemployment rate fell to 4.7 percent in May, but that decline mainly occurred because fewer people reported that they were actively seeking work. A broader measure of labor market slack that includes workers marginally attached to the workforce and those working part-time who would prefer full-time work was unchanged in May and remains above its level prior to the recession.

Of course, it is important not to overreact to one or two reports, and several other timely indicators of labor market conditions still look favorable. One notable development is that there are some tentative signs that wage growth may finally be picking up. That said, we will be watching the job market carefully to see whether the recent slowing in employment growth is transitory, as we believe it is.

Economic growth has been uneven over recent quarters. U.S. inflation-adjusted gross domestic product is currently estimated to have increased at an annual rate of only $\frac{3}{4}$ percent in the first quarter of this year. Subdued foreign growth and the appreciation of the dollar weighed on exports, while the energy sector was hard hit by the steep drop in oil prices since mid-2014; in addition, business investment outside of the energy sector was surprisingly weak. However, the available indicators point to a noticeable step-

up in GDP growth in the second quarter. In particular, consumer spending has picked up smartly in recent months, supported by solid growth in real disposable income and the ongoing effects of the increases in household wealth. And housing has continued to recover gradually, aided by income gains and the very low level of mortgage rates.

The recent pickup in household spending, together with underlying conditions that are favorable for growth, lead me to be optimistic that we will see further improvements in the labor market and the economy more broadly over the next few years. Monetary policy remains accommodative; low oil prices and ongoing job gains should continue to support the growth of incomes and, therefore, consumer spending; fiscal policy is now a small positive for growth; and global economic growth should pick up over time, supported by accommodative monetary policies abroad. As a result, the FOMC expects that with gradual increases in the Federal funds rate, economic activity will continue to expand at a moderate pace and labor market indicators will strengthen further.

Turning to inflation, overall consumer prices, as measured by the price index for personal consumption expenditures, increased just 1 percent over the 12 months ending in April, up noticeably from its pace through much of last year but still well short of the Committee's 2-percent objective. Much of this shortfall continues to reflect earlier declines in energy prices and lower prices for imports. Core inflation, which excludes energy and food prices, has been running close to 1½ percent. As the transitory influences holding down inflation fade and the labor market strengthens further, the Committee expects inflation to rise to 2 percent over the medium term. Nonetheless, in considering future policy decisions, we will continue to carefully monitor actual and expected progress toward our inflation goal.

Of course, considerable uncertainty about the economic outlook remains. The latest readings on the labor market and the weak pace of investment illustrate one downside risk—that domestic demand might falter. In addition, although I am optimistic about the longer-run prospects for the U.S. economy, we cannot rule out the possibility expressed by some prominent economists that the slow productivity growth seen in recent years will continue into the future. Vulnerabilities in the global economy also remain. Although concerns about slowing growth in China and falling commodity prices appear to have eased from earlier this year, China continues to face considerable challenges as it rebalances its economy toward domestic demand and consumption and away from export-led growth. More generally, in the current environment of sluggish growth, low inflation, and already very accommodative monetary policy in many advanced economies, investor perceptions of and appetite for risk can change abruptly. One development that could shift investor sentiment is the upcoming referendum in the United Kingdom. A U.K. vote to exit the European Union could have significant economic repercussions. For all of these reasons, the Committee is closely monitoring global economic and financial developments and their implications for domestic economic activity, labor markets, and inflation.

I will turn next to monetary policy. The FOMC seeks to promote maximum employment and price stability, as mandated by Congress. Given the economic situation I just described, monetary policy has remained accommodative over the first half of this year to support further improvements in the labor market and a return of inflation to our 2-percent objective. Specifically, the FOMC has maintained the target range for the Federal funds rate at $\frac{1}{4}$ to $\frac{1}{2}$ percent and has kept the Federal Reserve's holdings of longer-term securities at an elevated level.

The Committee's actions reflect a careful assessment of the appropriate setting for monetary policy, taking into account continuing below-target inflation and the mixed readings on the labor market and economic growth seen this year. Proceeding cautiously in raising the Federal funds rate will allow us to keep the monetary support to economic growth in place while we assess whether growth is returning to a moderate pace, whether the labor market will strengthen further, and whether inflation will continue to make progress toward our 2-percent objective.

Another factor that supports taking a cautious approach in raising the Federal funds rate is that the Federal funds rate is still near its effective lower bound. If inflation were to remain persistently low or the labor market were to weaken, the Committee would have only limited room to reduce the target range for the Federal funds rate. However, if the economy were to overheat and inflation seemed likely to move significantly or persistently above 2 percent, the FOMC could readily increase the target range for the Federal funds rate.

The FOMC continues to anticipate that economic conditions will improve further and that the economy will evolve in a manner that will warrant only gradual increases in the Federal funds rate. In addition, the Committee expects that the Federal funds rate is likely to remain, for some time, below the levels that are expected to prevail in the longer run because headwinds—which include restraint on U.S. economic activity from economic and financial developments abroad, subdued household formation, and meager productivity growth—mean that the interest rate needed to keep the economy operating near its potential is low by historical standards. If these headwinds slowly fade over time, as the Committee expects, then gradual increases in the Federal funds rate are likely to be needed. In line with that view, most FOMC participants, based on their projections prepared for the June meeting, anticipate that values for the Federal funds rate of less than 1 percent at the end of this year and less than 2 percent at the end of next year will be consistent with their assessment of appropriate monetary policy.

Of course, the economic outlook is uncertain, so monetary policy is by no means on a preset course and FOMC participants' projections for the Federal funds rate are not a predetermined plan for future policy. The actual path of the Federal funds rate will depend on economic and financial developments and their implications for the outlook and associated risks. Stronger growth or a more rapid increase in inflation than the Committee currently anticipates would likely make it appropriate to raise the Federal funds rate more quickly. Conversely, if the economy were to disappoint, a

lower path of the Federal funds rate would be appropriate. We are committed to our dual objectives, and we will adjust policy as appropriate to foster financial conditions consistent with their attainment over time.

The Committee is continuing its policy of reinvesting proceeds from maturing Treasury securities and principal payments from agency debt and mortgage-backed securities. As highlighted in the statement released after the June FOMC meeting, we anticipate continuing this policy until normalization of the level of the Federal funds rate is well under way. Maintaining our sizable holdings of longer-term securities should help maintain accommodative financial conditions and should reduce the risk that we might have to lower the Federal funds rate to the effective lower bound in the event of a future large adverse shock.

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

Chairman SHELBY. Madam Chair, in recent years the Fed has increasingly used forward guidance to shape market expectations. However, the Fed's frequently incorrect predictions of interest rate increases have caused it to lose some credibility among some quarters.

How would you rate the utility of your forward guidance over the past several months?

Ms. YELLEN. So in the past several months, we have used forward guidance less than we did in the aftermath of the financial crisis when we named calendar dates or gave explicit economic conditions that we would not need to see prevailing in the economy before considering an increase in the Federal funds rate. We used that forward guidance in the aftermath of the crisis in order to help market participants understand how serious the crisis was and how long we thought we would need to maintain the Federal funds rate as its—

Chairman SHELBY. Are you saying you are not using forward guidance now or are you not relying on it as much as you were?

Ms. YELLEN. We are not relying very much on forward guidance. We do publish every 3 months participants' projections for the paths of the Federal funds rate that they believe will be appropriate in light of their expectations about the performance of the economy. And sometimes those paths which participants discuss in their remarks are thought to constitute forward guidance about policy. I do believe those projections are helpful to the public in understanding the path of the economy that participants think is likely and how, if those conditions prevail, they would see monetary policy as evolving.

But as I always emphasize on every occasion, including in my prepared remarks, those paths, while I think they are helpful, are not a preset plan and not in any way a commitment. We are constantly trying to evaluate in light of incoming information the outlook and risks, and you see those paths change over time as we update our evaluation of the economic outlook. And I think that is a critical part of monetary policy.

Chairman SHELBY. Has the slowing of the economy in certain areas caused you to kind of hold back a little bit at times information that you see there?

Ms. YELLEN. So for quite some time now, we have seen mixed developments in the economy—some sectors slowing because of the decline in energy prices, strong dollar foreign growth; others providing an offset. Throughout, until the last couple of months progress in the labor market has held up extremely well.

Now, for the last few months, as I mentioned, job gains averaged 100,000 on a strike-adjusted basis, which is a substantial slowdown from the first quarter and from last year. And it is important for us to see ongoing progress in the labor market, so that is something we want to carefully evaluate and is a focus of our attention. But economic growth has picked up from a weak pace, and if that slowdown is a reflection of weak growth earlier in the year, I am hopeful that we will see stronger job gains going forward. And while it is an important report, I would also emphasize that it is important never to overblow the significance of a single report or a small amount of data. Other information about the labor market suggests it continues to perform well.

Chairman SHELBY. Do you see a clear path ahead as far as your trajectory going forward on the economy picking up? Or are you not sure yet?

Ms. YELLEN. That is what you see in all of the projections that were provided in connection last week with our June FOMC meeting. But, of course, there is uncertainty about that, and given that inflation remains low, we have the ability to watch economic developments and try to make sure the economy is on a favorable path before raising rates.

Chairman SHELBY. Madam Chair, the FOMC's target for the Fed funds rate has been at one-half percent or lower since December 2008. A report last year from the Bank of International Settlements found that the prolonged period of low interest rates may be damaging the U.S. economy, resulting in, and I will quote, "too much debt and too little growth." In addition, the report states that low rates may in part have contributed to costly financial booms and busts.

Do you agree that persistently low interest rates can have negative long-term effects on the U.S. economy? And could you explain?

Ms. YELLEN. Well, I believe that the persistent low interest rates we have had have been essential to—

Chairman SHELBY. Can have—

Ms. YELLEN. —achieving the progress. But, of course, low rates can induce households or banks or firms to reach for yield and can stoke financial instability. And we are very attentive to that possibility, and I would not at this time say that the threats from low rates to financial stability are elevated. I do not think they are elevated at this time. But it is, of course, something that we need to watch because it can have that impact. You mentioned debt. I do not think that we are seeing an undue buildup of debt throughout the economy. Leverage remains at moderate levels, well below where it was prior to the crisis. We are looking at credit growth which has picked up but is not at worrisome levels. So we are monitoring for potential impacts of low rates on financial stability, which I think is appropriate.

Chairman SHELBY. Madam Chair, in an interview earlier this month, Governor Tarullo stated that the Fed is reviewing the ap-

plication of stress tests to regional banks, and he uses the word “probably” will exempt regional banks from the qualitative portion of CCAR.

Last December, the Fed announced it was tailoring CCAR, but the tailoring turned out to be just a restatement of existing policy.

What assurances can you give that this current review is a meaningful effort to tailor CCAR in a way that recognizes the different risk profiles of banks? And if so, when do you expect to publish such changes for comment?

Ms. YELLEN. So we are engaging in a 5-year very serious review that has been informed by consultation with both financial sector participants and outside economists, and I do think that you will see meaningful changes. The suggestion that Governor Tarullo made that banks between \$50 and \$250 billion that are subject to the stress test and CCAR might be left out of the qualitative portions of CCAR, still the stress test would be applied, but the whole qualitative part of CCAR that relates to capital planning, that they might be exempted from that, I think that is very likely. We will look at other changes as well that, as you said, are designed to appropriately tailor it so that its impact is most significant for the largest and most systemic firms. It will be a very meaningful review, and I believe we will be proceeding on it shortly.

Chairman SHELBY. Well, my last observation has to do with you alluded to the fact that, come Thursday, there is a big referendum in the United Kingdom as to whether to stay in the European Union or start leaving. What is the real implication, or can you tell at this point, if the British were to leave the Common Market on us? There could be implications for the Common Market and for Britain.

Ms. YELLEN. Well, it is a very important relationship. It would be significant for the United Kingdom and for Europe as a whole. I think it would usher in a period of uncertainty, and it is very hard to predict, but there could be a period of financial market volatility that would negatively affect financial conditions and the U.S. economic outlook that is by no means certain. But it is something that we will be carefully monitoring.

Chairman SHELBY. Thank you.

Senator Brown.

Senator BROWN. Thank you, Mr. Chairman.

Madam Chair, first, thank you for your work on the recent insurance rules. I am pleased that the Fed has put out an Advance Notice of Proposed Rulemaking to implement capital standards for the two large insurance companies, the two SIFIs, and the 12 insurance companies that are savings and loan holding companies. I appreciate how quickly you have moved on this and your constructive dialog with stakeholders. I think that your response to our efforts here made a huge difference in doing this right.

This week, the Banking Committee will have a second hearing on capital and liquidity rules. Please discuss for us the Fed’s approach to capital and liquidity rules for the Nation’s largest banks. Specifically, have these new rules made our financial system stronger?

Ms. YELLEN. So I do believe that the enhancements that we have put in place to capital and liquidity requirements that are tailored

by firms' size and systemic importance have made an enormous difference to the safety and soundness of the U.S. financial system. The quantity of capital at the largest banking organizations has essentially doubled from before the crisis, and the quality of that capital is very much higher.

In addition to imposing higher static risk-based capital and leverage requirements, our stress testing and capital planning exercises are very detailed, forward-looking exercises that are working to ensure that the largest firms in extremely stressful conditions would be able to go on supporting the credit needs of the U.S. economy, of households and businesses. And I think this has been a very significant exercise and has resulted in a far superior understanding by the firms themselves of the risks they face and improved management of those risks.

Capital is not sufficient to assure financial stability. Often liquidity is what disappears in a financial crisis, and we have put in place, especially for the largest banking organizations, enhancements to liquidity through the liquidity coverage ratio and our proposed net stable funding ratio. And so I think this also works to enhance financial stability. So I think we have a much safer and sounder, less crisis prone system because of the enhancements that we have put in place.

Senator BROWN. Thank you. We have talked in the past about how the current labor market data do not reflect what has happened to minorities whose rates of unemployment are still much higher than the average. In your testimony today, for the first time—and thank you for that—you talked about minority unemployment rates and have included a new section in the semiannual *Monetary Policy Report* with this data and a discussion of whether the gains of the economic expansion have been widely enough shared.

Discuss why the Fed made this addition to the report.

Ms. YELLEN. Well, the Federal Reserve's job is to try to achieve maximum employment and broad gains in the labor market that are as widely distributed as possible. And I believe it is very important for us to monitor how different groups in the labor market are doing to see if what we perceive as broad-based labor market improvement is being widely shared. And there are very significant differences in success in the labor market across demographic groups, and I think it is important for us to be aware of those differences and to focus on them as we think about monetary policy and the broader work that the Federal Reserve does in the area of community development and trying to make sure that financial services are widely available to those that need it, including low- and moderate-income—

Senator BROWN. Well, that brings to mind a meeting I had just a few minutes ago with three people from my home town of Cleveland, three community leaders, about the lack of diversity in terms of gender and ethnicity and race and the lack of diversity in terms of ideas that are the Class C Directors in many of your Federal Reserves, your 12 Federal Reserves around the country, including in Cleveland.

I would like to see and I think many of us on this panel would like to see a more diverse Federal Reserve System, including the

Governors, the reserve bank Presidents in the 12 regions, the Boards of Directors, the advisory committees, and employees.

Discuss what you have done as Chair of the Fed, what more you can do to better address the financial needs of all Americans as you reach into the community better. And I know you have had a goal of doing that. You said that at maybe our first hearing, certainly one of our first meetings, particularly serving those unserved and underserved by the financial system.

Ms. YELLEN. So I am personally committed and the Federal Reserve as an organization is committed to achieving diversity within our workforce and within our leadership at absolutely all levels. I believe we have made progress. I am committed to seeing us make further progress, and in order to make sure that we are taking all of the steps that we possibly can to promote a diversity in economic inclusion, I have launched an interdisciplinary effort within the Federal Reserve to focus on all of our diversity initiatives, both in terms of our own hiring, hiring throughout the Federal Reserve System, our work in community development to promote access to credit, our work in the payment system to foster better and faster payments that can promote financial inclusion.

I do believe we are making some progress, but I want us to make greater progress. At the Board, minorities currently represent 18 percent and women represent 37 percent of senior leadership. That is relatively common. Throughout the Federal Reserve System you would see similar numbers. And we have worked very hard to increase diversity among the reserve bank Directors, and Directors on the branch Boards have made quite a lot of progress. At this point minority representation stands at about 24 percent of reserve bank and branch Board Directors. About 30 percent are women. It is a matter that the Board focuses on annually in its oversight of the reserve banks that we regularly track our progress in increasing diversity in the Boards of Directors, and it is something we will continue to focus on. Diversity is an extremely important goal, and I will do everything I can to further advance it.

Senator BROWN. Thank you. And I want to—my last question, but I want you to share with us in a continual way the progress you are making there, especially in the Class C Directors that they more represent the community, not just in diversity of look and background but diversity of ideas and all that.

Last question. There currently are a record number of job openings, almost 6 million, but the May jobs data show that workers are not being hired for these jobs. What do we do to get Americans who want to work into these available jobs? What do we need to do better?

Ms. YELLEN. So there are an enormous number of job openings, and there is a certain degree of mismatch of workers who are looking for work with the job openings that are available within the Federal Reserve, and I personally have been looking at workforce development programs, job training programs, some of which I think are doing a very good job of trying to build the skills and that are needed to fill available jobs and work to match workers with jobs.

I was recently in Philadelphia and visited a very impressive program that is placing workers who have had trouble in the job mar-

ket into real jobs that can lead to upward mobility and a career in some of the Philadelphia hospitals. I have seen such programs around the country that I think have been effective, but obviously, our job at the Fed is to make sure we have a strong job market, that there are enough jobs that are being created. But helping that matching process, looking at training programs and educational opportunities, I think that is a piece of the puzzle as well.

Senator BROWN. As you have from time to time mentioned—"exhorted" is maybe too strong a word—that Congress needs to do a better job in terms of investment in public works and infrastructure, also you have made comments from time to time about job training. Can you give us more instruction—in my last minute or so, could you give us more instruction on what we should do here?

Ms. YELLEN. Well, I am not going to give you detailed instruction. I think this is up to Congress to decide. But when one looks at either inclusion or inequality or more broadly the fact we are suffering as a country from very low productivity growth, disappointingly low productivity growth, and we think about what the factors are that over time influence productivity growth, the things that have long been identified as important are investments, both private and public, private investment really since the financial crisis has been very weak, but private and public investments, education and workforce development, and the pace of technological progress, which is influenced by the environment that contributes to innovation, the startup of new firms, and research and development and other basic support. So I think all of those areas should be on Congress' list to focus on.

Senator BROWN. Thank you.

Chairman SHELBY. Senator Corker.

Senator CORKER. Madam Chairman, we thank you for being here. Thank you for your service. I had numbers of conversations in this setting and others with your predecessor about QE2 and QE3, and I know the Fed announced in 2014 the normalization process. And both your predecessor and this normalization process that was announced in 2014 stated that the securities that we had built up on the balance sheet would be held to maturity, and then they would run off the balance sheet.

You have basically announced today that we are embarking on QE4 by reinvesting the proceeds, have you not, in new securities, which is a major policy change, is it not, from where the Fed has been in allowing these securities to run off and allowing—maybe I am misunderstanding what you are saying, but I thought I heard you say that the Fed is now, when we reach maturity on these securities, going to reinvest them, which is a pretty big policy change, is it not?

Ms. YELLEN. It is not a policy change. That has long been our policy ever since when QE3 ended, we made clear that we would continue to reinvest maturing proceeds. We have been doing that ever since. We did say that as the economy recovers and the Fed funds rate rises to a somewhat higher level than it is at present, that a day would come when, based on economic and financial conditions, the Committee would begin the process you just described of gradually allowing securities to run off our balance sheet so that we reduce our holdings to a more normal level. And we fully intend

to do that, but I cannot give you a precise timetable for when that policy will begin. It is going to depend on how the economy evolves. But a long time ago, we put out a set of normalization principles where we made clear that that was how we would proceed, namely, continue reinvestment until after we had begun the process of raising the Federal funds rate and achieved sufficient progress there. That remains our intention.

Senator CORKER. Well, thank you for clearing that up. I appreciate that. I know last time you were here, you alluded, we alluded to negative rates, and I know that is what has happened in Japan and the EU. And you were looking into the legality of whether—your staff was looking into whether you felt that you had the legal basis to pursue negative rates. Have you come to a conclusion relative to that?

Ms. YELLEN. I believe we do have the legal basis to pursue negative rates, but I want to emphasize it is not something that we are considering. This is not a matter that we are actively looking at, considering. When we have looked at it or looked at that in the past, we have identified significant shortcomings of that type of approach. I do not think we are going to have to provide accommodation, and if we do, that is not something that is on our list. But I do think we have the legal authority.

Senator CORKER. Very good, and I really appreciate you clearing that up. Obviously, Japan and the EU have not had good benefit from that, or at least it is not benefit that we can see has been good for them. So I appreciate you clearing that up. That is very good.

We look at the Taylor rule from time to time, and I know that the Fed has not adopted the Taylor rule. But if you look at it, Bloomberg has a chart that tracks it, and basically, you know, Fed rates and the Taylor rule have been within a range.

Recently, there is the biggest dichotomy that we have seen in years and years between the Fed funds rate and what they would be if the Taylor rule was being employed. Today it is at 25 to 50 basis points. Under the Taylor rule, we would be at 3.7 percent. That would be a target Fed rate today. A big range difference. Is that because of the headwinds that you have been alluding to and just what you are generally seeing in the market?

Ms. YELLEN. Yes, I believe it is because of the headwinds. One of the numbers in the Taylor rule reflects Professor Taylor's estimate of what we sometimes refer to as the neutral level of the Fed funds rate. It is a level of the Fed funds rate that is consistent with the economy operating at full employment. And that is something that by our estimate has been very depressed in the aftermath of the financial crisis. And discussions about secular stagnation are very much about what is the level of interest rates that is consistent with the economy operating at full employment.

I am hopeful that rate will rise over time, although I am uncertain, but at the moment most of the divergence between our settings and what would be the higher levels that would be called for really reflect the headwinds that have been facing the economy since the financial crisis.

Senator CORKER. The labor—I have only got a little bit of time, but the employment rate really is misleading, is it not, relative to

where we are in the labor market today, meaning that there is still a lot of excess capacity, and I know Ranking Member Brown was alluding to that anew. So that equation is a little bit off. Just because you are not really feeling the employment levels, even though the rates that we show are there, the involvement by the labor market is not what we would like for it to be.

Let me just ask one last thing briefly on living wills. I know that under Section 165 of Dodd-Frank the larger institutions are supposed to present living wills, and you all are supposed to ensure that they can be resolved in bankruptcy. And I know we are going through hopefully the final iteration in the next several months. But I was confused in that Governor Powell recently mentioned that if the Fed just keeps raising capital levels, these institutions will on their own downsize or become less complex. And I am just confused by that.

Is the Federal Reserve, if these institutions cannot be resolved in bankruptcy, going to do what Section 165 of Dodd-Frank tells them to do? Or are you going to rely on raising capital to cause the banks to do it themselves?

Ms. YELLEN. Well, we are insisting that the firms address in some cases deficiencies and in other cases shortcomings that we have found enumerated in the living wills in the last submission, and there is a timetable for doing that. If the firms fail to address the deficiencies or if later on by the summer of 2017 they fail to address the shortcomings we have identified and then we find them deficient, Dodd-Frank does say that the FDIC and the Fed can impose higher capital requirements, liquidity requirements, or ultimately structural changes. Do not expect to have to go there, but we are insisting that the firms address the deficiencies and shortcomings that we have carefully identified.

Senator CORKER. Thank you, Madam Chairman and Mr. Chairman.

Chairman SHELBY. Senator Reed.

Senator REED. Well, thank you very much, Mr. Chairman. And thank you, Madam Chair.

It strikes me that over the last several years you have had a very difficult challenge, we all have, but we have been operating in some respects with one hand tied behind our back, which is that you have been pursuing a very expansionary policy to stimulate the economy, cutting rates and reluctant to raise rates, while we have not had a complementary fiscal policy that invests in infrastructure and other things and allows you the room to raise rates if necessary or to complement your activity with what we are doing. And the point you just made in response to Senator Brown is that this productivity gap, which is very troubling, some of that is just related to decrepit infrastructure. If it takes 2 hours to get someplace, that is 2 lost hours for someone delivering a package. If it takes 10 minutes on a superhighway, that is a productivity increase.

So you are in a position, I think, that you are doing all you can, but it is not enough, and we have to step up. Is that something that you tend to sympathize with?

Ms. YELLEN. Well, I think in the United States and in many other advanced Nations where interest rates are at very low levels,

it is common to say that it is monetary policy, central banks that have been carrying the load. In many parts of the world, fiscal policy has, because of concern about large debt or deficits, not played a supportive role.

I think we have achieved a lot in the United States. We have created over 14 million jobs. The unemployment rate has come down to 4.7 percent. Inflation is still under 2 percent, but I believe moving up. So I think we are making good progress, but if there were to be a negative shock to the economy—and I mentioned this in my testimony—starting with very low levels of interest rates, we do not have a lot of room using our traditional tried and true method to respond. If fiscal policy were more expansionary, this neutral level of interest rates that is one of the factors, the stance of policy, that affects what level of interest rates is neutral for the economy, keeps it on an even keel, and the level would be higher with a different stance of fiscal policy.

Senator REED. We have made progress, I agree, but I think the sense is that not only could we have made more progress, but we are at a point now where you have exhausted most of your leverage in a nonfinancial sense, and if there was a shock, then you have very little to respond with.

Ms. YELLEN. Well, we have the same tools that we used earlier, namely, asset purchases, forward guidance, the maturity distribution, duration of our portfolios, and those are the tools we would rely on.

Senator REED. And just very quickly, the other part of this dilemma is the sense in some places that because interest rates have been so low, there is the possibility of creating a bubble, for example, driving people into equities because there is no return, and the price is driven up not because of the underlying quality of the equity but simply because that is where they can get some money fast. Are you concerned about that?

Ms. YELLEN. Well, yes, as I said earlier, I do not see signs of extreme threats to financial stability at this time. This is something we monitor very closely. But it is something that can happen in a low interest rate environment, so I do not think that I see any broad-based evidence of those financial stability concerns, but it is something that is possible.

Senator REED. And I have less than a minute, but let me just add—with respect to cybersecurity—that we had a discussion last time you were here. It is an increasing problem—in fact, at the Federal Reserve. Public reports say you have been breached in some respects. But just getting to the point, do you have the authority to require your regulated companies to put people on their boards that have cybersecurity expertise, and also to publicly disclose what their cybersecurity general parameters are, or something to indicate to the public that they are taking this seriously?

Ms. YELLEN. Well, it is a focus of our supervision. We do have standards that we expect financial institutions to meet, and just what is expected depends on the complexity and importance of the firm. So we do regard this as a very significant threat.

On your question about Boards of Directors, I do not know that we have looked at that. I would need to get back to you on that.

Senator REED. Thank you.

Ms. YELLEN. But we are certainly supervising financial institutions' ability to address cyberthreats.

Senator REED. Thank you, Madam Chair.

Thank you, Mr. Chairman.

Chairman SHELBY. Senator Vitter.

Senator VITTER. Thank you, Madam Chair, for being here and for your service.

Ms. YELLEN. Thank you.

Senator VITTER. Madam Chair, in April, the Fed finally released the results of the 2015 resolution plans of eight systemically important domestic banking institutions, and five of the Nation's largest banks failed that exercise, including JPMorgan Chase and Bank of America. I have three questions related to that.

First, the *New York Times* in April described this Fed release as stating, "That suggests that if there were another crisis today, the Government would need to prop up the largest banks if it wanted to avoid financial chaos." So Question 1 is: Do you agree with that?

Question 2 is: What do these five banks need to do by October 1st to fully remediate their deficiencies?

And Question 3 is: If they do not by October 1st, will the Fed take more systemic action like raising capital levels?

Ms. YELLEN. So those banks have, over the span of the last several years in which they have been preparing living wills, greatly increased their ability to be resolved in the event of trouble by bankruptcy or, alternatively, Title II is available. I could not guarantee at this point. It depends just what the circumstances are in which a bank fails that bankruptcy would work at this point as a means to resolve one of these firms. We have identified for five of the firms deficiencies. We have been extremely careful in spelling out in detail what those deficiencies are that we want to see remedied by October 1st. And, in addition, we have listed, jointly with the FDIC, a large number of specific shortcomings that the firms have until the summer of 2017 to remedy. And we will be monitoring very carefully and evaluating whether that is done. And as I said, if the deficiencies are not remedied or, later, if the shortcomings are not remedied, they could turn into deficiencies that would lead us to impose higher capital standards or other remedies on these firms if that is not done.

But I think we have learned a lot in the course of the years we have been evaluating these living wills about what it takes to actually resolve a firm in bankruptcy. The firms have learned in this process, and I do think we have made substantial advances in terms of being able to do—

Senator VITTER. Let me go back to my question—three questions. First, in terms of the *New York Times* quote, needing to prop up the largest banks, you would not categorically refute that possibility?

Ms. YELLEN. Well, I would not say at this point that all of them are prepared for resolution under bankruptcy.

Senator VITTER. And, again, if they do not get there for October 1st, would you very soon thereafter consider something more systemic like higher capital requirements or not?

Ms. YELLEN. Yes.

Senator VITTER. OK. And, Madam Chair, my second and last question is about the Puerto Rican crisis. You have said you do not think the Fed should be involved, and I appreciate that and agree with that. However, my concern is the Fed has authority to be involved. Do you think the Fed has authority to issue as a last resort emergency loans to Puerto Rican institutions or not?

Ms. YELLEN. I think our authority is extremely limited, and it would not be appropriate for us to give loans to Puerto Rico. We have very limited authority to buy municipal debt, and the authority we have, if we were to buy eligible debt, I do not think it would be helpful to Puerto Rico. And beyond that, we have no ability to make emergency loans. We could not use 13(3) or emergency powers of that type to extend a loan to Puerto Rico. This is inherently a matter for Congress and is not something that is appropriate for the Federal Reserve.

Senator VITTER. OK. Thank you, Madam Chair.

Chairman SHELBY. Senator Menendez.

Senator MENENDEZ. Thank you, Mr. Chairman. Thank you, Madam Chair, for your service and your insights. I always appreciate it.

Recently, in the national public discourse, there are those who propose reducing the national debt by persuading creditors to take a haircut on their investments. And in my opinion, policies like that would drive our economy off a cliff and endanger working families in our country. And I really do not know of anyone more qualified to answer this question than you. In your opinion, what would be the consequences if the President of the United States were to propose that holders of U.S. Treasury bonds accept less than the face value of their investments?

Ms. YELLEN. So this is a topic that I have spoken on many times when Congress says we have faced debt ceiling-type situations. I feel the consequences for the United States and the global economy of defaulting on Treasury debt would be very severe. U.S. Treasury securities are the safest and most liquid benchmark security in the global financial system. They play a critical role in financial markets, and the consequences of such a default, while they are uncertain, I think there can be no doubt that it would be long-run harmful to U.S. interests and at a minimum result in much higher borrowing costs for American households and businesses.

Senator MENENDEZ. And saying that you should take a haircut, does it actually mean—it means a default because you are not paying the full amount that you are obligated to on the security. And just for clarification purposes, am I right, my understanding that U.S. citizens and American entities, such as State and local governments, pension funds, mutual funds, and the Federal Reserve, own the vast majority of U.S. debt estimated at approximately 67.5 percent?

Ms. YELLEN. U.S. entities and foreign entities.

Senator MENENDEZ. U.S. entities and foreign entities. OK. My understanding is—and I would like to get it for the record. My understanding is that just U.S. citizens and American entities, State and local governments, pension funds, mutual funds, 401(k)s, Federal Reserve, own the majority of U.S. debt, and that would be

about 67.5 percent. But for the record, if you could submit that, I would appreciate it.

Ms. YELLEN. Certainly.

Senator MENENDEZ. Which means the overwhelming majority would be taking a haircut that, as proposed by Mr. Trump, would ultimately mean U.S. citizens, State and local governments, and that is pretty outrageous.

Let me ask you this: In the nearly 8 years since the start of the financial crisis, our economy has indeed shown signs of growth and progress, yet many data points indicate that we are far from a full recovery in the labor market. In the past, you have advocated for the Federal Reserve's use of a metric called the "Labor Market Conditions Index." That index, which pulls data from 19 different labor market sources, including labor force participation, workers that are classified as part-time for economic reasons, hires, quits, and so forth, has fallen nearly 15 points over the last 5 months. In fact, the index has fallen to its lowest level since 2010.

My understanding is that every other time the index has turned negative for 5 months or longer over the last 25 years, the Fed has moved to ease monetary policy, not tighten it. So I am concerned that given the path the Fed has laid out for potential rate increases later this year and next, the Fed will neither have the ability nor the will to temper the impacts of this slowdown in the labor market. Shouldn't the Fed wait to consider additional rate hikes until we see indications of growth in the labor market?

Ms. YELLEN. So the numbers that are released on the Labor Market Conditions Index do not refer to the level of the index but, rather, the change. And the move that you have mentioned in that index suggests not that the labor market is not operating—the labor market is operating at a good level according to the level of that index, which we do not publish, but there is a loss of momentum. That is what those negative numbers show, and we see the same thing in recent job reports that I referred to in my testimony.

So without a doubt, for the last several months, a number of different metrics suggest a loss of momentum, not a deterioration in the labor market but a loss of momentum in terms of the pace of improvement. And that is an important consideration, as I mentioned. We believe that will turn around, expect it to turn around, but we are taking a cautious approach and watching very carefully to make sure that that expectation is borne out before we proceed to raise interest rates further.

Senator MENENDEZ. Madam Chair, one final point, not even a question. I want to echo what Senator Brown has said, and in the letter that I, Senator Warner, Senator Merkley, and 124 Members of Congress sent to you with reference to improving the representation at regional banks, 83 percent of Federal Reserve Board members are white; 92 percent of regional bank Presidents are white. There is not a single President who is either African American or someone like me, Latino. That is fundamentally wrong, and I would hope that you would chair some diversity effort, because leadership on this issue always comes from the top, regardless of the institution. And with your own experiences as a woman—and in that regard, we seem to be doing a lot better in the system, but

we are not doing that much better with people of color. And I hope that you will seriously consider such an effort.

Ms. YELLEN. I agree with you that it is extremely important, and I will do everything I can to see that our performance improves on that dimension.

Chairman SHELBY. Senator Toomey.

Senator TOOMEY. Thank you, Mr. Chairman. And thank you, Chair Yellen.

Chair Yellen, your predecessor, Chairman Bernanke, both before this Committee and in columns that he has written, discussed some of the limits of monetary policy, what monetary policy is capable of and what it is not capable of. And one of the things that he said—I am paraphrasing, but I think he has said this on numerous occasions—that accommodative monetary policy has the limit of being only stimulative in the sense that it brings economic activity forward in time. It does not create new wealth, goods, or services, but it shifts the timing of economic activity.

Do you agree with Chairman Bernanke in that respect?

Ms. YELLEN. Well, it sometimes does shift the timing of economic activity, brings forward a decision that might have been made later. But I think the stance of policy also has repercussions that have a more longer lasting impact on the state of demand. It is not only a matter of shifting purchases early by having more accommodative financial conditions. There are repercussions that can be longer lasting than that.

Senator TOOMEY. You may disagree. My sense of the academic consensus is that the main effect of accommodative monetary policy is to induce economic activity that was going to occur later at an earlier time, and that that is the principal activity, or the principal—but you are acknowledging there is some of that phenomenon.

Ms. YELLEN. There is some of that phenomenon. It is not the only thing.

Senator TOOMEY. So to what extent is this unprecedented accommodative monetary policy for these many years now part of the reason that we have had relatively anemic growth today? Isn't it very likely the case that some of the economic activity that would be occurring today was dragged forward in years gone by and it has already occurred in the past?

Ms. YELLEN. So it is very hard to know how large that effect is, but I continue to think that our accommodative stance of policy—for example, low mortgage rates—is continuing to boost activity in the housing sector. It has not only pulled activity forward to suppress it now. I believe it has—

Senator TOOMEY. The housing sector has still not recovered its previous highs.

Ms. YELLEN. Well, it has undergone very substantial shocks.

Senator TOOMEY. Have you attempted to quantify how much of the economic growth that would be occurring in 2017 and 2018 and 2019 is happening now because of this ongoing activity of having these extremely low, unnaturally low interest rates?

Ms. YELLEN. We have not tried to determine that. We have in the past looked at whether or not low rates have had less impact on spurring economic activity than in the past, namely, whether or

not there might be some attenuation in the impact of policy. But in the past, our analysis suggested that it is not only a matter of shifting the timing of economic activity, but also stimulating investment and spending decisions on a longer lasting basis.

Senator TOOMEY. Even if that is so, my guess is that the principal effect is shifting the timing, and you may disagree with that. I got the impression from your predecessor that his view was that the principal effect was shifting the timing. It is certainly an effect, and I would think it is something that the Fed ought to be looking at, because to the extent that that is a significant effect, what you are doing today is damaging economic growth going forward, to some extent.

Let me touch on another concern. It seems from what you and others have said there has been a great focus on the demand side of the effect of monetary policy and not so much on the supply side. One of the concerns that I have is the danger that, first of all, you have been missing the estimates on the supply side as well as economic growth overall, right? I mean, we are now, I think, 12 consecutive years in which the Fed has systematically overestimated economic growth. It has been overly optimistic about the supply side phenomena, such as workers returning to the workforce, improving productivity level, that have not been happening to the extent that the Fed has hoped.

One of my concerns is that the inducement to expand capacity, the unnatural excess capacity that comes from unnaturally low interest rates, could get the Fed into a kind of vicious cycle where all that excess capacity creates excess commodities, downward pressure on prices, makes it that much harder to hit your 2-percent inflation goal, and creates this dilemma that is hard to get out of. Is there a danger that the ultra-low interest rates are contributing to that?

Ms. YELLEN. Well, I think investment has been running at a very slow pace. We have really not had the creation of a lot of excess capacity. One of the reasons—

Senator TOOMEY. Globally, we have.

Ms. YELLEN. —that productivity growth has been so slow, and it has been disappointingly slow, is that we have had very weak investment in the aftermath of the crisis, and more recently in recent months, it has turned negative and is extremely low even outside of energy where we have a substantial cutback in drilling activity. So I do not think an impact of low interest rates has been to stimulate an investment boom or a boom in capacity—

Senator TOOMEY. No, there is—I think that is largely true in the United States, but globally, where this experiment has been going on since everybody is in this business of ultra-low interest rates, it seems, certainly if you talk to people in the steel industry, they would suggest that there is massive overcapacity in not just steel but in other commodities as well. And I do worry that we have encouraged companies to take on massive amounts of debt to create this overcapacity, and it is just one of the many distortions. But I thank you for your time.

Thank you, Mr. Chairman.

Chairman SHELBY. Senator Tester.

Senator TESTER. Thank you, Mr. Chairman.

Chair Yellen, thank you for being here. I have got a couple questions that I have asked before and, quite frankly, will do it again. Senator Crapo and myself sent a letter on the EGRPRA process and how that is moving forward. I am continually concerned about community banks and the level regulation to match the risk that they pose to the economy and to their depositors and borrowers.

We are seeing consolidation in Montana. We are probably seeing consolidation across the country with small banks. And that is not good for capitalism, and I do not think it is good for rural America as we see small banks combining with bigger banks combining with bigger banks.

So my question is: Do you see any problem with the process right now of regulation on our small banks? And if so, what are we doing about it?

Ms. YELLEN. We are very heavily focused on trying to find ways to relieve community banks of undue burden, and tailoring our regulatory system and supervision system to suit the risks that an entity entails is a core principle for us of proper supervision. So we have made very meaningful efforts to reduce the burdens of our examinations on community banks, to reduce the complexity of the capital requirements that they face. The EGRPRA process we are taking very seriously, and I believe we will come out with meaningful proposals for relief. And we are looking at something that might be a significant simplification of the capital regime for those community banks.

Senator TESTER. I think simplification is important. Are you happy where the Fed is right now as it regards the community banks?

Ms. YELLEN. I think we have made progress, but we will continue to focus on it.

Senator TESTER. OK. Do you believe that consolidation in the banking industry, in particular as it applies to—well, across the board, does not matter—is not a good thing? And do you think that the regulatory issues have contributed to the consolidation?

Ms. YELLEN. I think there have been a number of factors that have contributed to it. This is a challenging environment for banks, a low interest rate environment, and profitability has been important.

Senator TESTER. Right. And in some cases, some of these small banks are putting out literally millions—and these are small banks—millions of dollars to meet the regulatory issues that are brought up. I just want to get your commitment you are going to continue to work—

Ms. YELLEN. Absolutely.

Senator TESTER. The consolidation piece is something that really bothers me big time, especially as it applies to States like Montana, because that forces us to the big buys, and I do not necessarily think that is good for the consumer coming down the line. I think it should be their choice if they want to go that direction.

On international insurance rules, the Fed has proposed rules for two nonbank SIFIs, AIG and Prudential, and I am pleased the Fed is moving forward with the international insurance rules. Could you give me an idea when you think these might be complete?

Ms. YELLEN. Well, I think there are some ways to go in terms of the international work that is ongoing. We put out a few weeks ago an Advance Notice of Proposed Rulemaking for the framework that we intend to take here in the United States. You know, we are in discussions internationally in advancing these ideas, but I think we are ahead of that process here in the United States.

Senator TESTER. OK. So I will take one more run at it because I may not have worded it correctly. Do you have any idea when they will be done?

Ms. YELLEN. No.

Senator TESTER. Will it be done in this Administration?

Ms. YELLEN. I will have to get back to you. I do not know what the timetable is. You are talking about the international efforts?

Senator TESTER. Yes, right, and how those are going to impact, for instance, GE, for example, who is a nonbank SIFI. I am just curious to figure out how that is going to come down the pipe.

Ms. YELLEN. Well, so GE, we already published——

Senator TESTER. It is a SIFI, right?

Ms. YELLEN. ——a rule.

Senator TESTER. Right.

Ms. YELLEN. It is not insurance.

Senator TESTER. It is not an insurance company. What happens to those guys? Does this insurance rule have no impact on them? What happens to those guys moving forward?

Ms. YELLEN. Well, they are not an insurance company.

Senator TESTER. No, I know, but they are SIFI, and they have divested their financial—their banking part of their business. So what happens to them moving forward?

Ms. YELLEN. That will be something that the FSOC——

Senator TESTER. Will take up.

Ms. YELLEN. Will take up.

Senator TESTER. All right. Thank you, Mr. Chairman.

Chairman SHELBY. Senator Kirk.

Senator KIRK. Madam Chair, I want to take you what you were just talking about, the Advance Notice of Proposed Rulemaking for the insurance industry. I am speaking on behalf of large Illinois employers like State Farm and Allstate. I would say that Senator Collins and I have been working very hard to make sure the Fed recognizes the great difference between the business of banking and insurance, and I would say the ANPRM, the Advance Notice of Proposed Rulemaking, heads in the right direction there. I would ask you that, as we look forward to this, as I look at the essence of the ANPRM, it seemed like the key stress test was a 90-day window of liquidity that, if I look at the details, I would say a 90-day—if you look at someone like State Farm that affects 80 million American families, you would say the stress would be given the 2008 drop in various sales of various products, do you have enough money over 90 days to sustain the enterprise? I wanted to explore this with you, a commonsense way of letting people know, because this is the way we should go. I would urge you to follow in the direction of Senator Collins and me, making sure the normal Fed culture of bank regulation does not impinge on the insurance industry.

Ms. YELLEN. Well, we have tried to do that very much in developing this proposal. We have put forward some conceptual frameworks and are going to be looking very carefully at comments before we proceed with more detailed rules, and the Collins fix was very helpful to us in having the flexibility to design something that is appropriate for insurance and not bank centric.

Senator KIRK. Thank you, because I think we have got 60 days to comment now coming up.

Ms. YELLEN. Yes.

Senator KIRK. And I will be approaching Members of this Committee to also provide their comments on that. I want to make sure that we have a robust and strong insurance sector.

Ms. YELLEN. Yes, and we will look at those very carefully. We are trying to proceed in a very thoughtful and careful way based on a great deal of consultation with other regulators, State regulators, the NAIC, the industry. We have taken a lot of comment and look forward to more.

Senator KIRK. From what we have heard, the ANPRM has been pretty well received, reflecting the Collins fix nicely.

Ms. YELLEN. Great.

Senator KIRK. Thank you, Mr. Chairman.

Chairman SHELBY. Senator Warner.

Senator WARNER. Thank you, Mr. Chairman. And, Chair Yellen, it is great to see you. I am going to try to get three questions in and respect the 5-minute rule, which has not been respected this morning, to make sure that all our colleagues get a chance to ask questions.

I want to go back to Senator Reed's point about cyber. Senator Gardner and I have started the Cyber Caucus. I think this is increasingly going to be a challenge for every institution. Senator Reed raised the question about whether under prudential regulations we can make sure that bank boards and others have cyberexpertise. I would hope you would move forward with that.

I want to move slightly on my question to the issue around what happened at the New York Fed with the Bangladeshi incursion that was through the SWIFT system. Obviously, the SWIFT system, as evidenced by this cyberattack, has some challenges, enormously important to international banking regimes. Does the New York Fed or the overall Fed, do you feel like you have enough ability to work with SWIFT to increase their cyberprotections?

Ms. YELLEN. We are part of an oversight group for SWIFT. It is led by the National Bank of Belgium, and many supervisors from different countries participate in that group. And we also participated in that group. SWIFT and the New York Fed are working with the Bank of Bangladesh to try to understand what happened.

Senator WARNER. I would just urge you that this is going to be an area that is going to exponentially grow in importance, both in terms of the Fed's internal expertise and ensuring that we are working more closely with the overall banking industry to up their game, I think is critically important.

Ms. YELLEN. We certainly agree with that.

Senator WARNER. Let me make sure I get to the others. A number of us have talked about how we can generate additional job growth. One of the concerns that I have is that, particularly inside

the public markets, we have seen an enormous rush over the last decade plus starting in the 1990s, but really over the last decade and the last few years even more particularly, toward short-termism in terms of views versus long-term value creation, and that in many ways this is undermining basic tenets of American capitalism as more and more people choose and more and more institutions, financial institutions, choose to invest in financial instruments rather than investing in lending to business institutions. As a matter of fact, I have seen some data that says as low as 15 percent of financial institutions' activities are actually geared toward supporting businesses making investments in communities.

We have clearly seen amongst public companies a shift from 80 percent in the 1980s, where 50 percent of profits were reinvested back into plant and equipment and employees and R&D; now we are seeing 95 percent of corporate profits used for stock buybacks and dividends. We have seen some of America's largest iconic tech firms with huge balance sheets still go into the markets, borrow billions of dollars to use not for R&D but to use share buybacks.

I think there is an increasing consensus among CEOs and I think even some more sophisticated investors that this is long-term destructive to real value creation in business and, consequently, to job growth. Has the Fed and do you individually have any views on this challenge about short-termism? Is it a challenge? And some of this movement, particularly amongst public companies, away from investing back in their businesses, back toward stock buyback and dividends prognosis here?

Ms. YELLEN. Well, we have looked very closely at investment spending and tried to understand why it has been so very depressed in the aftermath of the crisis. You know, I think one reason for it is simply that the economy has been growing slowly. Sales growth has been slow, and many firms have found they actually do not need to invest very much in order to satisfy the demand growth that they are seeing.

The workforce has been expanding less quickly than it had been. When you have a rapidly expanding workforce, firms need—they are hiring those people, and they need to invest to equip new entrants with the tools to be productive that others already in the workforce have. A slowing workforce has also played a role. But beyond that, I would agree with you that there has been——

Senator WARNER. I would simply add that there has been some level of activist investors who come in and say the first thing you shut down are your worker training programs, your investment in infrastructure, and I believe that is a negative long term. I will adhere to my——

Ms. YELLEN. I would agree with——

Senator WARNER. —5-minute request, although I would ask for the public record that you come back—I am concerned on Section 165 and the living wills. We have got to move this process along. I am concerned about the level of disagreement between the Fed and the FDIC, but I will take that for the record so that other members can get their questions in.

Chairman SHELBY. Thank you, Senator Warner.
Senator Heller.

Senator HELLER. Mr. Chairman, thank you. And, Madam Chairwoman, thank you for being here today, and thanks for taking time out. I find this to be very informative.

I want to go back to Brexit for just a minute. The Chairman brought Brexit up, and you also mentioned it in your opening comments. You said that a U.K. vote to exit the European would have significant economic repercussions. Can you go more into detail of what that means and perhaps what the plan of attack by the Fed are if, in fact, it were to pass 2 days from now?

Ms. YELLEN. So I said it could. I do not know that it would, but I think it could have significant economic consequences by launching a period of uncertainty, both for the United Kingdom and possibly the future of European economic integration. Most analyses suggest it would have negative economic consequences for the U.K. and spillovers to Europe more broadly speaking.

I think the financial market reaction to the uncertainties that would be unleashed by that decision could result in a kind of risk/risk off sentiment that we would see impacts on financial markets that we might see flight to safety flows that could push up the dollar or other so-called safe haven currencies. And I do not want to overblow the likely impacts, but we are aware of them. We will watch them and consider those impacts as we make future decisions on monetary policy.

Senator HELLER. Is there any reason to believe that if Brexit were to pass, it would have an effect on the U.S. economy to the point that we would go back into a recession?

Ms. YELLEN. I do not think that is the most likely case, but we just do not really know what will happen, and we will have to watch very carefully.

Senator HELLER. What is the chance of the U.S. economy being in a recession by the end of the year?

Ms. YELLEN. I think it is quite low. I think the U.S. economy is doing well, and although I have indicated that we are watching this recent slowdown in the job market carefully, my expectation is that the U.S. economy will continue to grow. We have seen a pickup, a strong pickup in consumer spending and growth in the economy. If the weakness in the labor market for the last couple of months was a reaction to an earlier slowdown in growth, that looks to be reversing. I remain quite optimistic in the kinds of conditions that have been associated in the past with U.S. recession. Often that occurs when inflation is—when an economy is overheated, inflation has been quite high, the Fed has had to tighten monetary policy. We do not have any such conditions in play now. Households are in much improved shape, and while there are negative influences in the economy, particularly on manufacturing, stemming from slow growth abroad, the strong dollar, lower commodity prices, very seriously depressing hiring, causing job loss in the energy sector, and slowing investment in drilling and mining. Still, overall the U.S. economy has been progressing even with those negatives, and I think the odds of a recession are low. It is certainly not what I expect.

Senator HELLER. Chairman, thanks for your answer.

A week ago Friday, I think the 10-year yield on Japanese bonds and also German bonds were negative. What impact does that have

on our Treasury yields with these investors obviously looking for any kind of return coming in, buying up our Treasury bonds, what kind of impact is that going to have on our yields?

Ms. YELLEN. So it does tend to induce capital inflows into the United States, which pushed down our Treasury yields, so ours are considerably higher. But in absolute terms, they are really quite low. And differentials in the stance of monetary policy also put impacts on the value of the dollar. The dollar has gone up around 20 percent against a broad basket of currencies since mid-2014, and that has had a negative effect on our trade with the rest of the world and put downward pressure on corporate profits and hiring in manufacturing.

Senator HELLER. Are you concerned that if Feds raise rates, bond traders will ignore that, in fact, reversing exactly what you are trying to achieve by raising rates?

Ms. YELLEN. Well, I think one of the factors that does influence bond pricing, if this is what you are referring to, is the anticipated path of rates. And there are some further increases built into market expectations, and often the response of bond markets to what we do depends on how our actual actions compare with those expectations.

Senator HELLER. Chairwoman, thank you.

Chairman SHELBY. Senator Warren.

Senator WARREN. Thank you, Mr. Chairman. It is good to see you again, Chair Yellen.

I want to follow up on questions raised by Senator Corker and Senator Vitter. As you know, Dodd-Frank requires giant financial institutions to submit living wills, documents that describe how these giants could be liquidated in an orderly and rapid way in bankruptcy without either bringing down the economy or requiring a taxpayer bailout.

Now, a few months ago, the Fed and the FDIC jointly determined that the living wills submitted by five of the biggest banks in the country were not credible, and those banks must resolve the problems identified in their living wills by October 1st. That is 14 weeks from now. If the banks fail to do that, the Fed and the FDIC have the power to reduce the risks posed by these giant banks by, for example, raising higher capital standards or stricter leverage ratios.

These changes are critically important to avoiding another 2008 crisis, but the banks are unlikely to make them unless they believe that the Fed and the FDIC are serious about enforcing Dodd-Frank.

Now, I know by law you must consider increasing capital and higher leverage ratios. What I want today is to ask: Can you commit that if any of these giant banks fail to resolve the problems in their living wills by October 1st that the Fed will use the tools that Congress gave you to reduce the risks posed by these too-big-to-fail banks?

Ms. YELLEN. We have been very serious in this review of the living wills, and we have clearly stated a set of well-identified changes that we want to see—

Senator WARREN. I appreciate that.

Ms. YELLEN. —by October 1st.

Now, the decision about what we do if those deadlines are not met, those are decisions that my colleagues and I will need to look at very carefully, what is the appropriate sanction for doing that. But, clearly, we are very serious about wanting to see these deficiencies remedied and well aware that we have at our disposal the tools that you listed.

So I cannot precommit today to tell you precisely what our response will be, and we will work closely with the FDIC, as we have been all along. But we are extremely serious about wanting to see progress and certainly will consider using those tools.

Senator WARREN. Well, like I said, you are required by law to consider them. What I am asking for is a commitment here, and I have to say I do not fully understand why you would not make that commitment. These banks have known this is coming since Dodd-Frank was passed in 2010. That is 6 years ago. And they have been submitting living wills since 2013. There is no provision in the law for all of the extensions that you have given them so far. If any of these banks fail the credibility test on their fifth try, they need to face some real consequences. Otherwise, why would they ever make changes if there are no consequences?

Ms. YELLEN. Well, there will be consequences.

Senator WARREN. Well, I very much hope so.

You know, when you found that these five banks had submitted living wills that were not credible, you were saying quite explicitly that each of these banks remains too big to fail, and that if any one of them crashed, they would risk taking down the whole economy unless they got a Government bailout. The entire goal of the living wills process is to push the biggest banks to fix this fundamental problem, and I am glad that the Fed finally—finally—determined that some of these living wills were not credible. But it is not going to mean anything if you are not willing to use the tools that Congress gave you to force these banks to reduce the risks that they are pushing off onto the taxpayers.

I have a second issue that I just want to cover here if I can briefly, and that is, I want to follow up on Senator Brown's and Senator Menendez's questions about diversity. I think diversity is very important. There is a growing body of research showing, for example, that gender diversity and leadership makes for stronger institutions. Perhaps it is not a coincidence, then, that there is a stunning lack of diversity at our biggest financial institutions. Not a single one is led by a woman. And while the Fed's leadership is somewhat more diverse, it is not a whole lot better. Of the 12 regional Fed Presidents, 10 are men.

Now, as you know, Congressman Conyers and I, along with 120 of our colleagues, sent you a letter a few weeks ago about the lack of diversity among the Fed's leadership, and I appreciate the response that you sent us last week in which you acknowledged that greater diversity can help improve the Fed's decision making and that there is still work to be done to improve diversity among the Fed's leadership.

So let me just start by asking, does the lack of diversity among the regional Fed Presidents concern you?

Ms. YELLEN. Yes. I believe it is important to have a diverse group of policymakers who can bring different perspectives to bear.

I think, as you know, it is the responsibility of the regional banks' Class B and C Directors to conduct a search and to identify candidates. The Board reviews those candidates, and we insist that this search be national and that every attempt be made to identify a diverse pool of candidates. And we monitor those searches while they are ongoing to make sure that has been done. It is unfortunate——

Senator WARREN. But then let me just ask you about the outcome here, because just as you say, under the law, when a new regional Fed President is selected by the regional Fed Board, that person must be approved by you and the others on the Board of Governors before taking office. The Fed Board recently reappointed each and every one of these Presidents without any public debate or any public discussion about it.

So the question I have is: If you are concerned about this diversity issue, why didn't you use either of these opportunities to say, "Enough is enough. Let us go back and see if we can find qualified regional Presidents who also contribute to the overall diversity of the Fed's leadership"?

Ms. YELLEN. Well, we did undertake a thorough review of the reappointments of the performance of the Presidents. The Board of Governors has oversight of the reserve banks. There are annual meetings between the Board's Bank Affairs Committee and the leadership of those banks to review the performance of the Presidents. And there were thorough reviews of the performance——

Senator WARREN. But you are telling me diversity is important, and yet you just signed off on all these folks without any public discussion about it.

You know, I appreciate your commitment to diversity, and I have no doubt about it. I do not question it. It just shows me that the selection process for regional Fed Presidents is broken, because the current process has not allowed you and the rest of the Board to address the persistent lack of diversity among the regional Fed Presidents.

I think that Congress should take a hard look at reforming the regional Fed selection process so that we can all benefit from a Fed leadership that reflects a broader array of both backgrounds and interests.

Thank you, Madam Chair.

Chairman SHELBY. Senator Scott.

Senator SCOTT. Thank you, Mr. Chairman. Chair Yellen, thank you for being here today, and I thank you for your hard work on behalf of all of America.

Ms. YELLEN. Thank you.

Senator SCOTT. Frankly, you have a difficult task and one that will not get any easier before the year is out, from my perspective. I did find it quite interesting, the opening comments of my good friend, the Ranking Member, Senator Brown from Ohio, as he seemed to suggest that perhaps the failure of the economy somehow rests on the shoulders of my party. I thought to myself that the American people are not really looking to assign blame for why the economy is so anemic and the so-called recovery has not truly reached into those folks living paycheck to paycheck. But it would be easy for them to remember that at the beginning of the so-called

recovery, the Democrats, my good friends to the left, controlled the White House, the Senate, and the House until early January 2011. And what did they do with that trifecta? Actually, they created the most onerous regulatory State in the history of our country, and it continued until even last year when the Administration proposed 80,000-plus pages of new regulations, according to the Competitive Enterprise Institute, with an economic impact or cost to the economy of \$1.85 trillion. Said differently, that this anemic recovery perhaps is anemic because of the regulatory burden created during those first couple of years.

And I would suggest to you that people in my home State of South Carolina who are working paycheck to paycheck do not believe that we are actually having a strong recovery, and the numbers seem to bear that out. First-time home buyers, down for the third consecutive year, and that disproportionately impacts African Americans who have homeownership of around 45 percent. So the challenge seems to continue.

Our economy grew the first quarter by 1.1 percent. We saw real incomes since 2007 decline by 6.5 percent. Americans eligible for food stamps is up 40 percent. Americans using food stamps are up over 20 percent.

Last month, we saw 38,000 jobs created, and our labor force participation rate: in 2007, 66.4 percent; 2010—bless you—64.8 percent. I have got to stop and bless a woman for sneezing.

[Laughter.]

Senator SCOTT. Is that OK with you, sir? Thank you, sir. And in 2014—we are having fun up here because this is not a fun topic. In 2014, it was 62.9 percent. In May of this year, 62.6 percent.

I would suggest that the numbers themselves bear out the fact that perhaps the anemic recovery is not a recovery for those folks working paycheck to paycheck. I do not know who is to blame, but I can tell you that the American people want solutions more than blame.

My question to you is: As you look for the rest of this year, do you anticipate more months where the job creation number is 38,000 and in the same months where we see job creation at 38,000, we celebrate a 4.7-percent unemployment rate only because 458,000 people stopped looking for work? So when you take a real unemployment number, based on the 2007 labor force participation rate, would it be at 9 percent?

Ms. YELLEN. So we do expect further improvement in the coming year. The unemployment rate fell substantially over the last year, and there were jobs created in 2015 at about 225,000 or 230,000 a month. Perhaps we will not see job creation now that the economy is getting closer to estimates of normal longer-run rate of unemployment. But I expect continued improvement bringing down broader measures of unemployment, which, as you noted, are much higher. Some include involuntary part-time employment. I expect further improvement if the labor market continues to strengthen.

Now, the last jobs report and the last couple of months of labor market performance were quite disappointing. My hope and expectation is that that is something that is temporary, and we will see that turn around in the coming months. Clearly, it is something we

will be watching very carefully. My expectation is that we will see improvement, but we will watch it very carefully.

Senator SCOTT. My last question, as my time is running out, has to do with full employment and how to reach that wonderful goal of full employment. When I look at the numbers that are coming out of the need for skilled workers as well as STEM workers, it appears that by 2020 we could have a shortfall of 3 million or 4 million folks in the skilled labor force and about 5 million in the STEM labor force. My solution has a lot to do with the German model of apprenticeship programs. I would love to hear if you have any solutions that you are going to be recommending as we look at the labor force participation rate, the number of skilled jobs that will be available, and the need to get our workforce trained in that direction.

Ms. YELLEN. So going back probably to the mid-1980s, we have seen a persistent shift in employment patterns from unskilled and people with middle skills but doing jobs that can be offshored, outsourced, to demand for skilled labor.

Senator SCOTT. Yes, ma'am.

Ms. YELLEN. And the consequence of that has been rising inequality, a high return to education, and downward pressure on the wages of those who are less skilled and middle income. And I completely agree with you that education and training, perhaps apprenticeships of the type that are used in some European and other countries, these are ideas that really have to be considered if we are going to address what comes out of that, which is that even when you have enough jobs, you have downward pressure on the wages and incomes of people in the middle and the bottom of the skill distribution.

Senator SCOTT. Thank you, Chair Yellen.

Mr. Chairman, I would just suggest that at some point we are going to have to have a national conversation about the quality of education in our country and the necessity of a dual track. Back in my days, we had shop, which was an important part of our education apparatus, and perhaps we need to have that conversation again.

Thank you, Chair Yellen.

Ms. YELLEN. I agree with you.

Chairman SHELBY. Senator Donnelly.

Senator DONNELLY. Thank you, Mr. Chairman. And thank you, Chair Yellen.

When you were here in February, we talked about corporate offshoring and the devastating impact it has had on families in my home State of Indiana and the manufacturing towns across the country. The frustration remains.

The decline in manufacturing employment is one of the factors that has led to a shrinking middle class. We have two economies in this country. The overall economy might be doing well enough, and the wealthier are richer than ever. But middle- and working-class families are not feeling the recovery. Wages have been stagnant for years. A recent Pew report said that since 1971, each decade has ended with a smaller share of adults living in middle-income households than at the beginning of the decade.

What is the state of the economy for working families?

Ms. YELLEN. Well, I would agree with you that for decades now, as we were just discussing there has been downward pressure on the incomes of less skilled individuals, and the kinds of jobs that once upon a time were pretty readily available, say, for a high school-educated man in manufacturing have gradually diminished. There has been a long-term trend. Part of it is due to just the technological change that has consistently raised the demands for skilled workers and reduced the demands for less skilled workers. And I think globalization has also played some role.

More recently, slow growth in foreign economies, the strength of the dollar, which really is reflective of the U.S. doing better on balance than other countries, and—

Senator DONNELLY. I understand all these reasons, but, I mean, these are real people, as you well know.

Ms. YELLEN. I know.

Senator DONNELLY. There was an article not too long ago in the paper here about a fellow who was making about \$17 an hour at the plant. He got fired because they shipped his job to Mexico for \$3 an hour. But the ongoing ripple of that was that his daughter, who had applied to Indiana University, IU, got accepted. She found out that her dad was going to lose his job, and she said, "I do not think the family can afford for me to go to college like this."

That is devastating. That is the future of America. That is what the real impact of all of this stuff is, just in the past few months, and these are not because the companies are not doing well. They are doing really well. But, you know, in the town next to my home town, Elkhart, 200 jobs, shipped overseas; 700 jobs, Huntington, Indiana, not the biggest county in the, shipped to Mexico for \$3-an-hour wages; 1,400 out of Indianapolis. Very profitable companies. And these folks are making, you know, \$13, \$14, \$17 an hour.

So as long as we have the mousetrap like this, how do we ever try to get the middle class up if even \$13 an hour is too much in these companies' minds?

Ms. YELLEN. So these are very sad situations for workers—

Senator DONNELLY. They are wrong situations, is what they are.

Ms. YELLEN. The kind of thing you are describing imposes terrible burdens on all too many American families.

Senator DONNELLY. So how do we make America work for them?

Ms. YELLEN. Part of it is trying to make jobs. We cannot stop all shifts occurring across sectors of the economy. I think we have to make sure that there are opportunities—

Senator DONNELLY. But let me ask you this: Do you consider that a shift when a company is doing really well and somebody is making 13 bucks an hour, not much above minimum wage, but lose their job because our laws allow them to ship them to Mexico for \$3 an hour? Is that a shift? That is not really a shift in technology or anything. That is just a cold-blooded decision that Americans do not count as much as their profits.

Ms. YELLEN. Well, those forces have been in play for quite some time, and, for our part at the Fed, we are trying to create a job market where there are enough vacancies and opportunities that people who lose jobs in one sector are able to find them in the sectors of our economy that are expanding. And sometimes to make that transition is difficult and may require retraining or other

forms of help to connect with available job opportunities. And sometimes we know that kind of job loss does cost long-lasting impact on wages.

Senator DONNELLY. I will just leave it with this: It seems like gaming the system to want to make your product somewhere else in the hope that you can sell them back to here, to the United States, because you are hoping that other people will be happy to pay the \$13-an-hour, \$14-an-hour wages so you will have enough customers, you are just going to game it so that you can pay the 3 bucks and then get your products back in here. And it is like you get it on one end, and you get it on the other end. And that just seems incredibly responsible to me.

Thank you, Madam Chair.

Chairman SHELBY. Senator Rounds.

Senator ROUNDS. Thank you, Mr. Chairman.

Madam Chair, welcome. As I listened to your *Monetary Policy Report*, it strikes me that the—as the Ranking Member had indicated earlier, we talk about productivity growth and the need for both public and private investment. That requires that the dollars come from some place. And I would like your thoughts on this just in terms of—on the basis of what the Joint Economic Committee had reported earlier this year. And they laid it out in some pretty stark terms.

They indicated that 99—well, let me put it this way: Ten years from now, in the year 2026—which, by the way, is the 250th birthday of our country—we can look forward to, under current conditions, 99 percent of all the revenue coming into the Federal Government—highway taxes, corporate taxes, personal taxes, personal income taxes—99 percent of it is going to go back out in two categories: interest on the Federal debt and mandatory payments on entitlements. That does not leave a lot for public investment and clearly it does not drive private investment.

You are working on short-term activity right now and you are monitoring very closely—you are actually, on a day-to-day basis, following an economy right now, which, as you have suggested, is doing very well. And yet I think a lot of us would disagree, that three-quarters of 1 percent growth in a quarter hardly seems appropriate. And I know that you are optimistic about the second being better, but even if it is double or even triple, we are not going to grow our way out of this crisis which is coming upon us.

I would like your thoughts, because right now we are looking at areas in which, if we want those jobs to come back and if we want individuals or wages to rise, we are going to have to be in a position to where we actually grow this economy once again—tax policy, regulatory reform, actually managing our entitlements, all of which seem critical and yet today we have not talked about that at all. We do not seem to really have a place where we can.

Can you, as an impartial individual in this process who watches our economy grow or falter on a daily basis, can you talk to us about the need to do something now to avoid the crisis in 10 years?

Ms. YELLEN. Well, I think we all know, and we have known for a long time, that with an aging population and with health care costs that have, by and large, risen more rapidly than inflation, that we faced a situation where we would have an unsustainable

debt path and that this would require reforms. As you say, Medicare, Medicaid, Social Security, those three programs will, under the current rules——

Senator ROUNDS. So you are talking—just to begin with, you are saying the Affordable Care Act needs to be reformed——

Ms. YELLEN. Well, I did not——

Senator ROUNDS. ——as part one.

Ms. YELLEN. Well, I did not say anything about the Affordable Care Act.

Senator ROUNDS. OK.

Ms. YELLEN. I am saying that the entitlement programs need to be considered how to put those on a sustainable basis.

Senator ROUNDS. Would it be fair to say they need to be managed?

Ms. YELLEN. Well, they need to have Congress look at both revenues and the structure of expenditures to ensure that those programs remain sustainable in the overall Federal budget and debt associated with that remain on a sustainable course, because as you go out further with an aging population, as you said, the debt-to-GDP ratio is rising simply unsustainably, and that does require changes.

Senator ROUNDS. Is it fair to say that right now, if—over the long-term basis, every time the interest rate that we have to pay at the Federal level goes up by a quarter point, it is estimated that approximately a \$50 billion a year additional increase in our costs being paid out. It looks to me like simply addressing and beginning the process of slowing down the increasing Federal debt and recognizing that we cannot just simply say, over a 1-day period of time or a 2-day period of time, that we have got all the answers, but most certainly we are going to have to grow our way out of this as well as reducing some of the ongoing expenditures. Fair to say?

Ms. YELLEN. It certainly would be desirable if the U.S. economy were growing at a faster rate. You cited a very depressed number for first-quarter growth. Over the last four quarters the average growth has been about 2 percent, and over eight quarters it has been about 2.5 percent. So sort of smoothing through the ups and downs, we have been experiencing growth of 2 or 2.5 percent.

Senator ROUNDS. And we are not going to grow our way out based upon that number, are we?

Ms. YELLEN. We would certainly have to do better than that, and that is a matter of productivity growth essentially being quite depressed relative, for example, to the levels that we enjoyed in the second half of the '90s.

So it is not certain what is responsible for that but, you know, many factors come into play. We have had depressed levels of investment. We seem to have a depressed rate of business formation. Technological change, as it shows up in output gains, seems to have fallen relative to those better times. And there were a range of policies we could consider to address it, but——

Senator ROUNDS. Madam Chair, my time is up, but it looks to me like what you are giving us is a wake up call about a crisis that is not 10 years from now; it is right now.

Ms. YELLEN. Well, it is a very serious matter that productivity growth is so slow, yes. I want to highlight that.

Senator ROUNDS. Thank you, Madam Chair.

Thank you, Mr. Chairman.

Chairman SHELBY. Senator Merkley.

Senator MERKLEY. Chair Yellen, thank you.

Senator Donnelly was raising concern about manufacturing jobs in America. And indeed, our trade policy has given full access to our market to goods manufactured by companies in countries that do not have to abide by the same labor laws, the same wage rules, the same environmental rules, or the same enforcement.

This is a very unlevel playing field for American manufacturers and has a devastating impact. The loss is extensive. And is that really fair to the American worker to have American companies having to compete against companies that are allowed a completely different set of standards that lower their costs dramatically?

Ms. YELLEN. Well, I guess I would just say that, in the view of most economists, more open trade creates net benefits, but that does not mean benefits for everyone. And there are gainers but there are also losers, and that is certainly part of it—

Senator MERKLEY. The losers are the manufacturing workers. Again, is that fair to the manufacturing workers?

Ms. YELLEN. Well, it is important to have policies that address the losses.

Senator MERKLEY. Since the mid-1970s, 1975 through now, we have had four decades in which virtually zero—well, let me put it different—virtually 100 percent of the new income has gone to the top 10 percent of Americans, leaving basically 9 out of 10 Americans in our economy out in the cold. This is substantially a reflection of the shift to manufacturing overseas.

We have had a series of geostrategic decisions. We wanted to nurture the recovery of Japan. We wanted to pull China out of the Sino-Soviet bloc. Now we want to pull the rest of Asia away from China. Is there an understanding within the Fed how—the costs of these geostrategic decisions upon the welfare of American families and through living-wage jobs—the loss of living-wage jobs?

Ms. YELLEN. Well, we have certainly looked at this question of wage inequality, income inequality. We collect data. Our Survey of Consumer Finances is one of the key datasets that gives us insight into what is happening.

Academic work on this topic, while it has focused to some extent on trade more broadly, also looks at the importance of a phenomenon called skill-biased technical change, that the nature of technological change in recent decades has continually shifted demand away—

Senator MERKLEY. So let's take—

Ms. YELLEN. —from less-skilled workers toward more skilled—

Senator MERKLEY. So let's take that as an additional factor. Technological change has occurred. However, a lot of the shift overseas has been due to lower wages, not to technological change. In fact, they have been rooting up our factory machines and shipping them overseas. So it is the same factories producing the same goods in a place that pays less. That is not technological change. That is an issue of trade policy.

Technological change does have an impact. So in a situation where, as you point out, there is more higher-skilled demand, demand for higher-skilled jobs, education becomes very important.

Ms. YELLEN. That is right.

Senator MERKLEY. But as compared to other developed economies, higher education—be it higher skill training or college—is far more expensive. It is the single factor, more than health care, that has gone up faster than inflation in our economy, and such that not only is it daunting to our students who, in blue-collar communities like the one I live in, are getting the message that there is not an affordable path to fulfill their goals in life—and statistically we see our students who do pursue that education burdened with debt that is having a profound impact both on delaying marriage and on delaying home ownership, which is the major—has been a major engine of wealth for the middle class.

So we see this high cost of college, and that seems to me like the type of structural concern in our economy that the Fed should be using its economic expertise to highlight the long-term devastating impacts of failing to provide the opportunity for the skills needed for the economy of the future, but I do not hear the Fed talking about that.

Ms. YELLEN. Well, we are looking at trends in student debt, and I believe we will be hosting a conference this fall on student debt and looking particularly at what it means for low- and moderate-income households.

Senator MERKLEY. You know, I cannot—over these last few years I have asked so many questions in which the response is always: That is something we are looking at. It would be nice to have a muscular representation of the big challenges to our economy because the Fed has the expertise to put its hands around that and be able to project that into the policy debate.

And I will just close, since my time is expiring, by saying one of those issues that I have raised multiple times is the Fed's power of the conflict of interest in commodities, the ability of large financial institutions to own pipelines, to own ships full of oil, to own energy-generation stations, to own warehouses of aluminum. And each time I hear “we are looking at that,” are we still looking at that or are we actually going to do something about that?

Ms. YELLEN. We will come out with a proposal on that, but some of it reflects decisions that Congress made and not Fed policy.

Senator MERKLEY. That is true, there are some restrictions, but there is still considerable power resting with the Fed.

Thank you.

Chairman SHELBY. Senator Moran.

Senator MORAN. Mr. Chairman, thank you very much.

Madam Chairwoman, thank you for joining us this morning. I would tell you that, in my conversations with Kansans, very few—I do not know if I have had a conversation with a Kansan who sees their economic future brighter. They see it—they are more disillusioned.

No one feels more secure in their job. No one feels like their children are going to have a brighter future. Parents are concerned about their children's opportunities when they graduate from school—the ability to pay back student loans—worried about sav-

ing for their own retirement. People are worried about having enough income and savings to pay for health care emergencies. So the sense of an economic recovery is far from being felt universally with Kansans that I visit with across our State.

I wanted to just raise two questions. One, in part that circumstance is related to significantly lower agricultural commodity prices, significantly lower prices in oil production, natural gas production. And part of that is a consequence of, I assume, the value of our dollar in comparison to other currencies and our ability to promote exports, both of those—certainly of agriculture commodities, although the law now allows for the export of oil as well.

But where are we in the value of our dollar? What is the intermediate expectations for us to be able to jumpstart the sale of wheat, cattle, corn and other products, airplanes that are manufactured in our State that seemingly are not able to access those markets, in part because of the value of our currency?

Ms. YELLEN. So the value of the dollar has increased significantly since, say, mid-2014. Partly that reflects the fact that the U.S. has enjoyed a stronger recovery than many other advanced Nations. And that has created an expectation that in the U.S., interest rates will rise at a more rapid pace than in other parts of the world, and that has induced inflows into our assets that have pushed up the dollar.

But more broadly, the trends you have seen in commodity prices I think reflect a larger set of global forces. In some cases we have seen significant increases in the supply of commodities. In the case of oil, the rapid growth of U.S. ability to supply oil markets has been a factor. And then there has been a slowdown in global growth, and particularly in China, which has been an important consumer of so many commodities. China is on a path—and it is understood this will continue—a path of slowing growth. And—you have seen for many commodity prices plummet just because of basic supply-and-demand considerations. The dollar makes some difference to that as well.

Senator MORAN. We often talk about, when we talk about exports, trade agreements. Has the Fed weighed in, or have you expressed an opinion previously about other countries and their ability to manipulate currencies to our disadvantage of exports?

Ms. YELLEN. The responsibility for currency policy rests with—

Senator MORAN. With the Treasury Department.

Ms. YELLEN. —the Secretary of the Treasury, and we do not weigh in on that.

Senator MORAN. Madam Chairwoman, let me ask you about something in your testimony. You indicate that business investment outside the energy sector was surprisingly weak. Would you indicate to me—elaborate on the factors that lead you to that statement? And when you exclude the energy sector, is that just because of definition or is something happening in the energy sector that indicates investment?

Ms. YELLEN. Well, drilling activity has been very important and it is counted as part of investment activities. So with the huge plunge in oil prices, even though there has been some recovery, we have seen the number of rigs in operation just plummet. And that is part of why aggregate investment spending has been so weak.

And we understand that and expect it because it reflects the decline in oil prices.

But even when we go outside the energy sector or other sectors that are directly related to energy and supplying inputs to it, investment spending recently—and this is just a report on the data; I do not have a story to offer you on why this has happened—it has been surprisingly weak over the last several months.

It has not been very strong investment spending generally—we talked about this earlier—during the recovery, but it has been—and we think we understand some reasons why it has generally been weak, namely slow growth and less rapid increase in the labor force. But it has been surprisingly weak in recent months and it is something we are watching, and I cannot tell you just what that is due to.

Senator MORAN. I would not expect you to say this but, in my view, in part that lack of investment or that reduction in investment is related to a wide array of circumstances. One of them would be the debt and deficit, the uncertainty of our economy, lack of economic growth generally. The economic indicators are down-trending, not up-trending a sufficient number of times to instill a sense of confidence. The next regulation that may come their way as a businessperson, just decisions to make investments, people are deciding it is more risky to invest than to not.

Ms. YELLEN. Well, those things are certainly mentioned by businesspeople. In recent quarters, corporate earnings have also been under downward pressure for a variety of reasons.

Senator MORAN. Well, I would conclude my remarks by indicating that one of the places we ought to focus our attention is on innovation, startup businesses, new entrepreneurs, and the uncertainty that they face is even more of a dramatic—has more dramatic consequence than a larger business that can better internalize and handle that uncertainty.

Mr. Chairman, thank you very much. Thank you, Chairwoman. Chairman SHELBY. Senator Cotton.

Senator COTTON. Thank you.

And thank you, Chair, for being a force again. I know these are always two highlights of every year for you.

I want to return to some of the earlier discussion of the so-called Brexit, the referendum that will occur in the United Kingdom on Thursday, on whether Great Britain should remain or leave the EU. Your testimony on page 4 says, “One development that could shift investor sentiment is the upcoming referendum in the United Kingdom. A U.K. vote to exit the European Union could have significant economic repercussions”—“could,” which you stressed to Senator Heller in his comments. That sounds to me like the usual prudence and caution you use in all of your public statements.

You also stated to Senator Heller, “I don’t want to overblow the likely impacts.” That reminds me of Yogi Berra’s old sage advice that predictions are hard, especially about the future.

Ms. YELLEN. That is absolutely true. I could not agree with that more.

[Laughter.]

Senator COTTON. Yet, in the last few minutes, here is how the Guardian of London reports your testimony to the Committee: “Yellen warns on Brexit.” Not exactly what you said, is it?

Ms. YELLEN. I said that we were monitoring it and that it could have consequences with the United States.

Senator COTTON. You would not characterize your testimony as a warning on the Brexit?

Ms. YELLEN. If that means that I am warning U.K. residents, I am not attempting to take a stand. They are going to go to the polls. They have had an active debate on the issues and I am not providing advice in that sense.

Senator COTTON. Good. Thank you. I sympathize when headlines do not exactly capture the exact meaning of what one says. And to be fair to the Guardian, they are not the only outlet that has reported your testimony along those lines. The BBC, Reuters, CNBC, and Fortune have, as well.

So to be crystal clear, you take no position on whether U.K. citizens should vote to remain or leave the EU, and the Federal Reserve takes no position.

Ms. YELLEN. That is correct. It is for them to decide. I am simply saying the decision could have economic consequences that would be relevant to the U.S. economic outlook that we need to monitor carefully.

Senator COTTON. Thank you for that, because I certainly think that we all in America, and particularly in positions of leadership in our Government, should respect the British people’s sovereign right to govern their own affairs.

One point you made in your earlier comments about Brexit, about the potential source of these economic repercussions, is “a period of uncertainty.” That is something I hear frequently in commentary about the Brexit. Is there any time when the global economy or the U.S. economy does not operate in a condition of uncertainty?

Ms. YELLEN. Well, there is uncertainty, but this is a unique event that has no close parallel. It is hard to know what the consequences would be. Of course there is always uncertainty domestically and globally. We operate in an uncertain environment.

Senator COTTON. Many of your counterparts in the Continent, many of my elected counterparts in the Continent, have not treated the matter so even-handedly. They have opined on what British citizens should do. They have also been responsible for other things that have caused uncertainties in recent years, like the Greek debt crisis or other debt crises in Europe, or the suspension of the Schengen zone privileges because of the flow of migrants into Europe, and terrorists now infiltrating that flow and launching attacks in Paris and just a few blocks away from the heart of the European Union.

Those would also potentially cause periods of uncertainty in the European and the global economy, wouldn’t they?

Ms. YELLEN. Absolutely.

Senator COTTON. Is there a risk that some of the dire predictions about Brexit could become—or the reaction to the Brexit could become a self-fulfilling prophecy in the economy? Some British politicians have promised—or perhaps I should say threatened—imme-

diated tax increases or budget cuts if the U.K. citizens vote to leave. Some continental leaders have threatened punitive and retaliatory action if the U.K. votes to leave. Our own President has said that the United Kingdom would have to go to “the back of the queue” for any new trade agreement.

Do these statements have the potential to create a self-fulfilling prophecy that would lead to increased uncertainty, whatever the outcome on Thursday?

Ms. YELLEN. You know, I do not want to comment on what various participants in this debate have said or the advice they have given the British people. There is an active debate. It is not inappropriate, with a decision of this sort, for many parties to weigh in about the consequences. As I said, I am not trying to offer advice myself to the U.K. residents about to go to the polls.

Senator COTTON. Thank you; nor am I.

One final point. Your counterpart at the ECB has said that the ECB is “ready for all contingencies following the U.K.’s EU referendum.” Can you say the same thing about the Federal Reserve? You are ready for all contingencies following the vote on Thursday?

Ms. YELLEN. Well, in the sense that we will closely monitor what the economic consequences would be and are prepared to act in light of that assessment.

Senator COTTON. And should the U.K. vote to leave the EU, the United States Government as a whole, and the Federal Reserve in particular, will handle that contingency in the spirit of magnanimity, generosity, and friendship among Nations?

Ms. YELLEN. Well, it would certainly be my inclination to do so.

Senator COTTON. Thank you for that.

Chairman SHELBY. Thank you.

Madam Chair, I want to shift the conversation a little bit to custody banks, which are very important. I think that would be banks like State Street and New York Mellon and, I am sure, others.

It has been reported that custody banks have turned away deposits or are charging fees on deposits because of the Enhanced Supplementary Leverage Ratio. You received public comments stating that the rule could limit the ability of custody banks to accept deposits, particularly during periods of stress.

Is the Fed currently examining how this rule is impacting custody banks’ ability to accept deposits, one? Two, could this rule increase systemic risk during times of stress? And three, just for the audience—they probably know—what is a custody bank as opposed to the ordinary retail bank, for example?

Ms. YELLEN. So a custody bank is one that handles transactions for other customers, like asset managers.

Chairman SHELBY. Very important, isn’t it? A custody bank is important to the banking system, is it not?

Ms. YELLEN. Yes, they are.

Chairman SHELBY. OK.

Ms. YELLEN. And we certainly are aware that they are concerned about the Supplementary Leverage Ratio impacting their profitability. Leverage ratios are normally intended to be a backup form of capital regulation. They are not oriented toward the risk of particular assets in the balance sheet but impose a minimum amount of capital that applies to the entire balance sheet, all assets. And

so, for safe assets in banks that hold large quantities of safe assets, it can be a burden. And it is something that we will monitor, but this is the way leverage ratios have always been imposed against all of the assets of the overall size of the organization.

Chairman SHELBY. Thank you.

Senator Brown, do you have anything else?

Senator BROWN. Nope, that is it. Thank you.

Chairman SHELBY. Madam Chair, thank you for your participation. I know it has been long, but I thank you for appearing before the Committee again.

Ms. YELLEN. Thank you.

Chairman SHELBY. The Committee is adjourned.

[Whereupon, at 12:27 p.m., the hearing was adjourned.]

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

PREPARED STATEMENT OF JANET L. YELLEN
 CHAIR, BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

JUNE 21, 2016

Chairman Shelby, Ranking Member Brown, and other Members of the Committee, I am pleased to present the Federal Reserve's semiannual *Monetary Policy Report* to the Congress. In my remarks today, I will briefly discuss the current economic situation and outlook before turning to monetary policy.

Current Economic Situation and Outlook

Since my last appearance before this Committee in February, the economy has made further progress toward the Federal Reserve's objective of maximum employment. And while inflation has continued to run below our 2-percent objective, the Federal Open Market Committee (FOMC) expects inflation to rise to that level over the medium term. However, the pace of improvement in the labor market appears to have slowed more recently, suggesting that our cautious approach to adjusting monetary policy remains appropriate.

In the labor market, the cumulative increase in jobs since its trough in early 2010 has now topped 14 million, while the unemployment rate has fallen more than 5 percentage points from its peak. In addition, as we detail in the *Monetary Policy Report*, jobless rates have declined for all major demographic groups, including for African Americans and Hispanics. Despite these declines, however, it is troubling that unemployment rates for these minority groups remain higher than for the Nation overall, and that the annual income of the median African American household is still well below the median income of other U.S. households.

During the first quarter of this year, job gains averaged 200,000 per month, just a bit slower than last year's pace. And while the unemployment rate held steady at 5 percent over this period, the labor force participation rate moved up noticeably. In April and May, however, the average pace of job gains slowed to only 80,000 per month or about 100,000 per month after adjustment for the effects of a strike. The unemployment rate fell to 4.7 percent in May, but that decline mainly occurred because fewer people reported that they were actively seeking work. A broader measure of labor market slack that includes workers marginally attached to the workforce and those working part-time who would prefer full-time work was unchanged in May and remains above its level prior to the recession. Of course, it is important not to overreact to one or two reports, and several other timely indicators of labor market conditions still look favorable. One notable development is that there are some tentative signs that wage growth may finally be picking up. That said, we will be watching the job market carefully to see whether the recent slowing in employment growth is transitory, as we believe it is.

Economic growth has been uneven over recent quarters. U.S. inflation-adjusted gross domestic product (GDP) is currently estimated to have increased at an annual rate of only $\frac{3}{4}$ percent in the first quarter of this year. Subdued foreign growth and the appreciation of the dollar weighed on exports, while the energy sector was hard hit by the steep drop in oil prices since mid-2014; in addition, business investment outside of the energy sector was surprisingly weak. However, the available indicators point to a noticeable step-up in GDP growth in the second quarter. In particular, consumer spending has picked up smartly in recent months, supported by solid growth in real disposable income and the ongoing effects of the increases in household wealth. And housing has continued to recover gradually, aided by income gains and the very low level of mortgage rates.

The recent pickup in household spending, together with underlying conditions that are favorable for growth, lead me to be optimistic that we will see further improvements in the labor market and the economy more broadly over the next few years. Monetary policy remains accommodative; low oil prices and ongoing job gains should continue to support the growth of incomes and therefore consumer spending; fiscal policy is now a small positive for growth; and global economic growth should pick up over time, supported by accommodative monetary policies abroad. As a result, the FOMC expects that with gradual increases in the Federal funds rate, economic activity will continue to expand at a moderate pace and labor market indicators will strengthen further.

Turning to inflation, overall consumer prices, as measured by the price index for personal consumption expenditures, increased just 1 percent over the 12 months ending in April, up noticeably from its pace through much of last year but still well short of the Committee's 2-percent objective. Much of this shortfall continues to reflect earlier declines in energy prices and lower prices for imports. Core inflation, which excludes energy and food prices, has been running close to $1\frac{1}{2}$ percent. As the transitory influences holding down inflation fade and the labor market strength-

ens further, the Committee expects inflation to rise to 2 percent over the medium term. Nonetheless, in considering future policy decisions, we will continue to carefully monitor actual and expected progress toward our inflation goal.

Of course, considerable uncertainty about the economic outlook remains. The latest readings on the labor market and the weak pace of investment illustrate one downside risk—that domestic demand might falter. In addition, although I am optimistic about the longer-run prospects for the U.S. economy, we cannot rule out the possibility expressed by some prominent economists that the slow productivity growth seen in recent years will continue into the future. Vulnerabilities in the global economy also remain. Although concerns about slowing growth in China and falling commodity prices appear to have eased from earlier this year, China continues to face considerable challenges as it rebalances its economy toward domestic demand and consumption and away from export-led growth. More generally, in the current environment of sluggish growth, low inflation, and already very accommodative monetary policy in many advanced economies, investor perceptions of and appetite for risk can change abruptly. One development that could shift investor sentiment is the upcoming referendum in the United Kingdom. A U.K. vote to exit the European Union could have significant economic repercussions. For all of these reasons, the Committee is closely monitoring global economic and financial developments and their implications for domestic economic activity, labor markets, and inflation.

Monetary Policy

I will turn next to monetary policy. The FOMC seeks to promote maximum employment and price stability, as mandated by the Congress. Given the economic situation I just described, monetary policy has remained accommodative over the first half of this year to support further improvement in the labor market and a return of inflation to our 2-percent objective. Specifically, the FOMC has maintained the target range for the Federal funds rate at $\frac{1}{4}$ to $\frac{1}{2}$ percent and has kept the Federal Reserve's holdings of longer-term securities at an elevated level.

The Committee's actions reflect a careful assessment of the appropriate setting for monetary policy, taking into account continuing below-target inflation and the mixed readings on the labor market and economic growth seen this year. Proceeding cautiously in raising the Federal funds rate will allow us to keep the monetary support to economic growth in place while we assess whether growth is returning to a moderate pace, whether the labor market will strengthen further, and whether inflation will continue to make progress toward our 2-percent objective. Another factor that supports taking a cautious approach in raising the Federal funds rate is that the Federal funds rate is still near its effective lower bound. If inflation were to remain persistently low or the labor market were to weaken, the Committee would have only limited room to reduce the target range for the Federal funds rate. However, if the economy were to overheat and inflation seemed likely to move significantly or persistently above 2 percent, the FOMC could readily increase the target range for the Federal funds rate.

The FOMC continues to anticipate that economic conditions will improve further and that the economy will evolve in a manner that will warrant only gradual increases in the Federal funds rate. In addition, the Committee expects that the Federal funds rate is likely to remain, for some time, below the levels that are expected to prevail in the longer run because headwinds—which include restraint on U.S. economic activity from economic and financial developments abroad, subdued household formation, and meager productivity growth—mean that the interest rate needed to keep the economy operating near its potential is low by historical standards. If these headwinds slowly fade over time, as the Committee expects, then gradual increases in the Federal funds rate are likely to be needed. In line with that view, most FOMC participants, based on their projections prepared for the June meeting, anticipate that values for the Federal funds rate of less than 1 percent at the end of this year and less than 2 percent at the end of next year will be consistent with their assessment of appropriate monetary policy.

Of course, the economic outlook is uncertain, so monetary policy is by no means on a preset course and FOMC participants' projections for the Federal funds rate are not a predetermined plan for future policy. The actual path of the Federal funds rate will depend on economic and financial developments and their implications for the outlook and associated risks. Stronger growth or a more rapid increase in inflation than the Committee currently anticipates would likely make it appropriate to raise the Federal funds rate more quickly. Conversely, if the economy were to disappoint, a lower path of the Federal funds rate would be appropriate. We are committed to our dual objectives, and we will adjust policy as appropriate to foster financial conditions consistent with their attainment over time.

The Committee is continuing its policy of reinvesting proceeds from maturing Treasury securities and principal payments from agency debt and mortgage-backed securities. As highlighted in the statement released after the June FOMC meeting, we anticipate continuing this policy until normalization of the level of the Federal funds rate is well under way. Maintaining our sizable holdings of longer-term securities should help maintain accommodative financial conditions and should reduce the risk that we might have to lower the Federal funds rate to the effective lower bound in the event of a future large adverse shock.

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

**RESPONSES TO WRITTEN QUESTIONS OF CHAIRMAN SHELBY
FROM JANET L. YELLEN**

Q.1. In connection with the release of the proposed rule on single-counterparty credit limits, the Board released a white paper with a quantitative credit risk model and calibrated that model to determine the appropriate credit limits. Will you commit to using similar quantitative analyses on all future capital and liquidity rulemakings, and will you make such analyses public?

A.1. The Federal Reserve Board (Board) carefully considers the cost and benefits of all regulations that it proposes. The nature and scope of the analysis depends in large part on the nature of the rule, the underlying statutory framework for the rule, and the extent to which the potential costs and benefits of the rule lend themselves to rigorous quantification.

The Board typically publishes its assessment of the costs, benefits, and impact of a rule as part of the rule itself, but has occasionally issued such an assessment in a separate white paper. In each case, the Board chooses a publication format for its assessment that is best suited for the public communication of the particular analysis and results. The Board has chosen to publish white papers on occasions where the level of detail needed to communicate its assessment has been greater than what would typically appear in the preamble to a proposed or final rule.

It is important to point out that the calibration of a rule can rarely be fully reduced to the output of a single mathematical formula with a set of parameters that are known with certainty. Therefore, the Board is careful not to ascribe a false level of precision to its analyses. Typically, the Board's goal in publishing an analysis such as the Calibrating the Single-Counterparty Credit Limit between Systemically Important Financial Institutions white paper is not to derive an exact calibration for a regulatory threshold, but rather to demonstrate that under a range of plausible assumptions and parameter values, the calibration of the regulatory threshold in question is defensible. In the case of proposed rulemakings, the publication of the analysis may also point out where further data from the industry could be helpful, and may encourage the industry to provide such data during the comment period.

In the future, the Board will continue to perform appropriate quantitative analyses for proposed and final rules, and will strive to publish such analyses in the most suitable form to solicit public input on, and enhance public understanding of, our rules.

Q.2. Is it possible that the [Enhanced Supplementary Leverage Ratio] rule could increase systemic risk due to its impact on the ability of custody banks to accept deposits during times of stress? What type of analysis has the Board performed to examine this issue?

A.2. The Federal Reserve Board (Board) and the other Federal banking agencies (the Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation) adopted enhanced supplementary leverage ratio (SLR) standards for the largest, global systemically important bank holding companies and their insured depository subsidiaries, effective January 1, 2018 (5 percent

and 6 percent SLR, respectively).¹ The enhanced SLR is one part of the enhanced prudential standards adopted by the Board that, taken together, improve the resiliency of individual companies and strengthen financial stability. For example, companies subject to the enhanced SLR standards are also subject to risk-based capital surcharges that are scaled to their systemic risk profiles, liquidity risk management and risk measurement requirements, supervisory- and company-run stress testing and capital planning requirements, and resolution planning standards.

Depending on a banking organization's business structure and mix of assets, banking organizations will be affected by the SLR differently. Custody banks, which engage in a variety of activities may experience increases in assets based on economic events, particularly during periods of financial market stress. The SLR does not impose any specific restrictions on any particular asset profile, including the asset profile of custody banks. Rather, the SLR requires that banking organizations hold a certain amount of capital to support their total assets. In this regard, the SLR final rule requires banks to use daily average balance-sheet assets to calculate the amount of their assets each quarter. This approach helps to mitigate the impact of spikes in deposits that banking organizations, such as custody banks, may experience. The agencies also have reserved authority under their respective capital rules to require a banking organization to use a different asset amount for an exposure included in the SLR to address extraordinary situations.²

As part of several rulemakings that are applicable to global systemically important banking organizations, which includes the largest U.S. custodial banking organizations, the Board estimated the impact that such rulemakings would have on these firms' regulatory capital ratios, including on the leverage ratio. Prior to finalizing the enhanced SLR standards, the staff of the Federal banking agencies, including Board, analyzed regulatory and confidential supervisory data to determine the quantitative impact of these rules on subject firms. According to their public disclosures, global systemically important bank holding companies and their insured depository institutions have made significant progress in complying with the enhanced SLR standards that take effect January 1, 2018. Board staff continuously evaluates the capital planning processes and capital adequacy of the largest U.S.-based bank holding companies through its Comprehensive Capital Analysis and Review (CCAR), which will incorporate the SLR requirements under stressed conditions beginning with the 2017 exercise.

Q.3. One of the stated goals of the Federal Reserve's Quantitative Easing (QE) programs was to put downward pressure on long-term interest rates and thereby "reduce the cost and increase the availability of credit for the purchase of houses, which in turn should support housing markets and foster improved conditions in financial markets more generally."³ Nonetheless, studies by Soebel and

¹ See 79 *FR* 24528 (May 1, 2014).

² See 12 *CFR* 3.1(d)(4) (OCC); 12 *CFR* 217.1(d)(4) (Federal Reserve); 12 *CFR* 324.1(d)(4) (FDIC).

³ See: <http://www.federalreserve.gov/newsevents/press/monetary/20081125b.htm>.

Taylor (2012)⁴ and Belke, Gros, and Osowski (2016),⁵ among others, have found that QE was not effective at reducing long-term rates. To what degree can currently low long-term interest rates be attributed to a decades-long trend of decline versus the effects of QE?

A.3. The Federal Reserve and many other central banks have used purchases of longer-term assets as a tool to provide additional policy accommodation once the level of short-term interest rates reached the effective lower bound. The effectiveness of large-scale asset purchases (LSAPs) as a tool for providing additional policy accommodation—at both conceptual and empirical levels—has been a topic of active discussion and research among economists and others. On balance, the results of recent research support the view that LSAPs are an important and effective tool that central banks can use to put downward pressure on longer-term rates and make overall financial conditions more accommodative. These changes in financial conditions, in turn, help to support the level of economic activity and guard against disinflationary pressures.

Regarding the conceptual framework for the effects of LSAPs, many authors have pointed to a range of channels through which large scale asset purchases may affect financial markets and the economy. A particularly important channel for the influence of LSAPs operates through basic supply and demand factors. By purchasing large volumes of longer-term Treasury and agency securities in its large scale asset purchase programs, the Federal Reserve reduced the quantity of those assets held by private investors. Given strong private sector demand for those longer-term Treasury and agency securities, the reduction in the available private supply of those assets tended to push up their prices and push down their yields. Investors holding lower-yielding Treasury and agency securities then tend to bid up the prices and push down the yields on other assets that are reasonably close substitutes such as corporate bonds and many other fixed-income investments. Lower levels of private yields generally boost the prices for a range of assets including equities, home values, and many other types of investments. These changes in financial conditions, on net, contribute to lower borrowing costs for households and businesses and generally more accommodative financial conditions.

Regarding the empirical basis for the effectiveness of LSAPs, while the studies that you cite conclude that LSAPs have not been effective, many other studies to date find that these programs have been successful in providing additional policy accommodation. Indeed, some studies suggest that yields on longer-term Treasury securities could be 50 to 100 basis points lower at present than would otherwise be the case in the absence of the Federal Reserve's asset purchases. Moreover, these estimates typically focus on only the direct effects of LSAPs on yields operating through basic supply effects and thus may understate the effects of asset purchases that

⁴Stroebel, Johannes, and John B. Taylor (2012), "Estimated Impact of the Federal Reserve's Mortgage-Backed Securities Purchase Program", *International Journal of Central Banking* 8(2):1–42.

⁵Belke, Ansgar, Daniel Gros, and Thomas Osowski (2016), "Did Quantitative Easing Affect Interest Rates Outside the U.S.? New Evidence Based on Interest Rate Differentials", CEPS Working Paper No. 416.

can stem from other channels. For example, large scale asset purchase programs may help to reinforce central bank communications about the future path of the Federal funds rate—the so-called signaling channel. In addition, large scale asset purchases may have significant effects in financial markets at times when markets are under severe stress by enhancing market liquidity and bolstering market confidence. By boosting asset prices and lowering borrowing costs, these changes in asset prices provide support for spending and guard against downward pressures on inflation.

See Vayanos and Vila (2009)⁶ and Li and Wei (2013)⁷ for a discussion of the effects of LSAPs on interest rates in a modern models of the term structure of interest rates. See Li and Wei (2013), Hamilton and Wu (2011)⁸, and D’Amico, English, Lopez-Salido, and Nelson (2012)⁹ for a discussion of empirical estimates of the effects of LSAPs; see Chung, Laforge, Reifschneider, and Williams (2012)¹⁰ and Engen, Laubach, and Reifschneider (2015)¹¹ for a discussion of the effects of LSAPs in providing macroeconomic stimulus.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR CRAPO FROM JANET L. YELLEN

Q.1. In previous hearings I have encouraged our banking regulators to make the 10-year regulatory review meaningful and provide specific ways to reduce the regulatory burden on financial institutions while at the same time ensuring the safety and soundness of the financial system. Last week Senator Tester and I sent you a letter highlighting feedback from the EGRPRA outreach meetings questioning the need for four capital minimum requirements, a capital conservation buffer, and the complexity in the definition of tier 1 capital for community banks.

Do you agree that our banking regulators should simplify and tailor the capital framework for community banks?

A.1. Federal Reserve Board (Board) staff are currently exploring ways to simplify and tailor the regulatory capital requirements for community banking organizations in a manner that will be consistent with the safety and soundness aims of prudential regulation and with statutory requirements. As part of these efforts, Board staff are considering simplifications to certain aspects of the current capital framework, including those suggested in your letter, and associated reporting forms and instructions.

⁶Vayanos, Dmitri, and Jean-Luc Vila (2009), “A Preferred Habitat Model of the Term Structure of Interest Rates”, NBER Working Paper, 15487.

⁷Li, Canlin, and Min Wei (2013), “Term Structure Modelling With Supply Factors and the Federal Reserve’s Large Scale Asset Purchase Programs”, *International Journal of Central Banking*, 9(1), pp.3–39.

⁸Hamilton, James, and Cynthia Wu (2011), “The Effectiveness of Alternative Monetary Policy Tools in a Zero Lower Bound Environment”, NBER Working Paper 16956.

⁹D’Amico, Stefania, William English, David Lopez-Salido, and Edward Nelson (2012), “The Federal Reserve’s Large-Scale Asset Purchase Programs: Rationale and Effects”, FEDS Working Paper series, 2012-85.

¹⁰Chung, Hess, Jean-Philippe Laforge, David Reifschneider, and John Williams (2012), “Have We Underestimated the Likelihood and Severity of Zero Lower Bound Events?” *Journal of Money, Credit and Banking*, vol. 44(S1), 47–82.

¹¹Engen, Eric M., Thomas Laubach, and David Reifschneider (2015), “The Macroeconomic Effects of the Federal Reserve’s Unconventional Policies”, FEDS Working Paper, 2015-005.

Q.2. On June 9th, the European Commission announced that it would delay its start date from September 1 to mid-2017 on the implementation of the margin requirements. I assume this announcement surprised you and your fellow regulators since for the last 3 years all the international regulators have been working to ensure global consistency in application of margin requirements in various jurisdictions around the world and established a phased-in schedule.

What steps can the U.S. regulators take to address this timing issue and avoid fragmentation and competitive disadvantages and achieve global consistency?

A.2. On June 9, 2016, U.S. regulators were informed by staff of the European Commission that the Basel Committee on Banking Supervision–International Organization of Securities Commissions’ (BCBS–IOSCO) margin framework for over-the-counter derivatives would not be enacted in the European Union in time for the upcoming September 2016 implementation deadline.

Under the BCBS–IOSCO framework, large swap market participants with over \$3 trillion in noncleared swaps exposures are to begin complying with margin requirements on September 1, 2016, for their noncleared swaps with other large market participants. This agreed-upon implementation schedule is reflected in the final swap margin rules adopted in October 2015 and November 2015 by the U.S. prudential regulators and the Commodity Futures Trading Commission (CFTC), respectively.

Minimum margin requirements for noncleared swaps are among the most important postfinancial crisis reforms to reduce uncertainty around possible exposures arising from noncleared swaps by requiring firms to have financial resources commensurate with the risks of the swaps into which they have entered. Sections 731 and 764 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) mandate that the U.S. regulators write rules for initial margin and variation margin for noncleared swaps.

We intend to move forward with implementation of the prudential regulator final swap margin rule on September 1, 2016, as agreed to under the BCBS–IOSCO framework and as required by the Dodd-Frank Act. We have consulted with colleagues at the CFTC, and we understand they also plan to move forward with implementation on September 1, 2016.

We are in close communication with our European Union counterparts and are urging them to move forward with implementation as soon as possible to avoid fragmentation and competitive disadvantages and achieve global consistency.

Q.3. I have heard concerns from clearinghouses and end users of the derivatives markets related to the treatment of customer margin under the Basel leverage ratio. The posting of margin is required for end user customers who use the futures market to manage their business risks. As was widely espoused during development of the Dodd-Frank Act, margin posted to a clearing member bank both protects the customer from counterparty risk and offsets the clearing member bank’s exposure to the clearinghouse.

Why then does the leverage ratio not recognize this offset rather than penalize bank affiliated clearing members who accept customer margin?

A.3. The Board and the other Federal banking agencies (the Office of the Comptroller of the Currency and the Federal Deposit Insurance Corporation) adopted a supplementary leverage ratio (SLR) rule that applies to internationally active banking organizations.¹ As designed, the SLR rule requires a banking organization to hold a minimum amount of capital against on-balance sheet assets and off-balance exposures, regardless of the riskiness of the individual exposure. This leverage ratio requirement is designed to recognize that the risk a banking organization poses to the financial system is a factor of its size as well as the composition of its assets. The denominator of the SLR, total leverage exposure, generally includes all on-balance sheet assets as determined by United States generally accepted accounting principles, as well as certain off balance sheet items. If a banking organization records clients' cash initial margin on its balance sheet, such margin is included in the banking organization's total leverage exposure. Whether cash initial margin is recorded on the balance sheet depends on the details of each specific margin agreement.

**RESPONSES TO WRITTEN QUESTIONS OF SENATOR TOOMEY
FROM JANET L. YELLEN**

Q.1. The Financial Stability Board (FSB), of which the Federal Reserve is a member, has designated several American companies as global systemically important insurers (G-SIIs). The U.S., however, has its own designation process for nonbank systemically important financial institution (SIFI) managed by the Financial Stability Oversight Council (FSOC). Though the FSB and FSOC share some members, not all American G-SIIs are currently SIFIs. This disparity in designations appears to undermine the credibility of both regulatory bodies. Should the U.S. representatives to the FSB support the rescission of the G-SII designation for American companies that are not U.S. designated SIFIs?

A.1. Since the financial crisis, U.S. authorities and foreign regulators have been working to identify institutions whose failure or distress may pose a threat to financial stability, including nonbank financial companies like insurance firms. The leaders of the Group of 20 Nations, including the United States, charged the Financial Stability Board (FSB) with identifying firms whose distress would threaten the global economy. The Financial Stability Oversight Council (FSOC) undertakes a process for designating nonbank firms as systemically important that assesses the potential harm that a firm's distress or failure could cause to the economy of the United States. The fact that both groups have examined the same firms, at times in close proximity, is to be expected given the limited number of firms that would reasonably be large and interconnected enough to be considered systemically important.

However, the specific designation frameworks and standards at the FSB and FSOC are distinctive. The FSB's process for identi-

¹ 79 FR 57725, 57728, and 57735, September 26, 2014.

ifying global systemically important insurers (G-SIIs) is completely independent from the FSOC's designation process. Indeed, a designation by the FSB that an insurer is systemically important would not logically require a similar finding by the FSOC, even if the FSB and the FSOC agreed on the underlying facts. The methodology for identifying G-SIIs is developed by the International Association of Insurance Supervisors (IAIS) and has been updated this year. The FSOC's analysis is based on a broad range of quantitative and qualitative information available to the FSOC through existing public and regulatory sources and as submitted to the FSOC by the firms under consideration. The analysis is tailored, as appropriate, to address company-specific risk factors, including, but not limited to, the nature, scope, size, scale, concentration, interconnectedness, and mix of the activities of the firms. In addition, any standards adopted by the FSB, including any designation of an entity as a G-SII, are not binding on the Federal Reserve, the FSOC, or any other agency of the U.S. Government, or any U.S. companies. Thus, FSB designation of an entity as a G-SII does not result in the Federal Reserve becoming the entity's prudential regulator. Under the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), the FSOC is responsible for deciding whether a nonbank financial company should be regulated and supervised by the Federal Reserve Board, based on the FSOC's assessment of the extent to which the failure, material distress, or ongoing activities of that entity could pose a risk to the U.S. financial system.

As a member of the FSB, the Federal Reserve, together with other U.S. agencies, participates in the FSB's work, including G-SII designations, and provides input that considers implications for U.S. domiciled firms that the Federal Reserve supervises as well as global financial stability. A decision to rescind the designation of any G-SII requires a careful evaluation of the firm and its global systemic footprint in accordance with the methodology developed by the IAIS. The Federal Reserve, the U.S. Securities and Exchange Commission, and the U.S. Department of Treasury are all members of the FSB and engage in the FSB's global financial stability work. Moreover, the Federal Reserve is participating as a member of the IAIS alongside the Federal Insurance Office (FIO), the National Association of Insurance Commissioners (NAIC), and State insurance regulators in the development of international insurance standards that best meet the needs of the U.S. insurance market and consumers. The Federal Reserve, along with other members of the U.S. delegation at the FIO and NAIC, actively engage U.S. interested parties on issues being considered by the IAIS.

Q.2. Will the FSB review its list of G-SIIs in 2016, and will that review include the possibility for the rescission of current G-SII designations? What analysis will the Fed review or develop to support its positions on 2016 G-SII designations?

A.2. As noted by the FSB in its 2015 update of the list of G-SIIs, "the group of G-SIIs would be updated annually based on new data published by the FSB each November," where changes to the list may "reflect changes in the level and/or type of activity undertaken by the relevant institutions, combined with supervisory judg-

ment.”¹ The 2016 review will cover the presently identified G-SIIs, which may result in changes to the institutions included in the list, and will use the G-SII assessment methodology as updated by the IAIS on June 16, 2016, among other things. Federal Reserve staff will review documents associated with the development of the methodology and will continue to confer with other U.S. members of the FSB and IAIS.

Q.3. The systemically important designation, by both international and American regulators, has proven to have a profound impact on designated American companies, their employees, and their customers. Nevertheless, transparency in these designation processes remains lacking. As a participant at the FSB, what steps will you take to increase transparency into activities at the FSB?

A.3. The Federal Reserve strongly supports transparency in the methods and processes that the IAIS and FSB use to identify G-SIIs. On November 25, 2015, the IAIS issued a public consultation document on the methodology used to identify and analyze potential G-SIIs. The Federal Reserve participated in the review of comments received from stakeholders in the U.S. and around the world. The revised methodology was released as a public paper on June 16, 2016, and has been implemented. The revisions to the G-SII identification process increased the involvement of the insurance companies and their relevant supervisors in the process through its five phases: (1) the collection of data, (2) quality control on the data, initial scoring of the company, and grouping relative to a quantitative threshold for the score, (3) additional information collection and methodical assessment of companies that cross the quantitative threshold, (4) information exchange between the company, relevant authorities, and the IAIS, and (5) recommendation by the IAIS to the FSB, which then deliberates on a confidential basis to protect the confidentiality of company data. The updated assessment methodology contemplates transparency that was not part of the prior assessment methodology, including transparency with companies that are subject to phases 1 through 4 and other transparent engagement with companies subject to only phases 1 and 2, as well as certain public disclosure of aggregate and methodology information after the G-SII identification process is complete. Moreover, the JAIS has committed to further developing public disclosure.

It is important to note that neither the FSB, nor the IAIS, has the ability to impose requirements in any national jurisdiction. The FSOC makes its own independent decisions on designating nonbank financial companies, using the statutory standards set forth in the Dodd-Frank Act.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR KIRK FROM JANET L. YELLEN

Q.1. As you know, the financial regulators, including the Federal Reserve Board, recently put forward a joint proposed rule on execu-

¹ FSB, 2015 Update of List of Global Systemically Important Insurers (G-SIIs) dated Nov. 3, 2015, available at <http://www.fsb.org/wp-content/uploads/FSB-communication-G-SIIs-Final-version.pdf>.

tive compensation pursuant to section 956 of the Dodd-Frank Act. The rules, which are intended to reduce systemic risk, would represent a sweeping change to executive compensation arrangements for many financial institutions, and would apply to a subset of insurance companies—those that own thrifts. There is concern that the rules are very bank-centric and not in any way tailored to insurance companies subject to the rule. As the Fed noted in its release of proposed capital rules for insurers, thrift insurers do not pose systemic risk, and generally have a very distinct business model from the banks that are the central target of the Fed's proposed executive compensation rule. The one-size-fits-all approach by the Fed in the executive compensation rule is counter to the agency's own statements on thrift insurers, and counter to the Fed's insurance-specific approach for capital rules for thrift insurers. Furthermore, the Federal Reserve's analysis underlying the rule, including the horizontal review, was focused solely on banks.

Are you willing to conduct an analysis of insurance executive compensation practices and insurance risks before finalizing the rule for thrift insurers, and will you treat insurers distinctly from banks in the final rule, consistent with the treatment of thrift insurers for capital purposes?

A.1. Pursuant to section 956 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), the Agencies¹ joint notice of proposed rulemaking² covers all depository institution holding companies, including all savings and loan holding companies.³ As described in the preamble, the proposed rule does not establish a rigid, one-size-fits-all approach. Rather, the Agencies have tailored the requirements of the proposed rule to the size and complexity of covered institutions. In addition, the proposed rule would allow firms to tailor the incentive based compensation arrangements to the nature of a particular institution's business and the risks, as long as those incentive-based compensation arrangements appropriately balance risk and reward. The methods by which such balance is achieved would be permitted to differ by institution and across business lines and operating units. The preamble invited comment on the impact of the proposed rule on all covered institutions. The Agencies have included numerous questions, touching all aspects of the proposed rule, including the tailoring of institutions by asset size and the definitions of significant risk takers. We will consider your comments and all comments we receive in the final rulemaking process.

¹ Office of the Comptroller of the Currency (OCC), Board of Governors of the Federal Reserve System (Board); Federal Deposit Insurance Corporation (FDIC); Federal Housing Finance Agency (FHFA); National Credit Union Administration (NCUA); and U.S. Securities and Exchange Commission (SEC).

² 81 FR 37670 (July 10, 2016).

³ Section 956 of the Dodd-Frank Act defines "covered financial institution" to include any of the following types of institutions that have \$1 billion or more in assets: (A) a depository institution or depository institution holding company, as such terms are defined in section 3 of the Federal Deposit Insurance Act (FDIA) (12 U.S.C. 1813); (B) a broker-dealer registered under section 15 of the Securities Exchange Act of 1934 (15 U.S.C. 780); (C) a credit union, as described in section 19(b)(1)(A)(iv) of the Federal Reserve Act; (D) an investment adviser, as such term is defined in section 202(a)(11) of the Investment Advisers Act of 1940 (15 U.S.C. 80b-2(a)(11)); (E) the Federal National Mortgage Association (Fannie Mae); (F) the Federal Home Loan Mortgage Corporation (Freddie Mac); and (G) any other financial institution that the appropriate Federal regulators, jointly, by rule, determine should be treated as a covered financial institution for these purposes.

**RESPONSES TO WRITTEN QUESTIONS OF SENATOR HELLER
FROM JANET L. YELLEN**

Q.1. What are the precise criteria and metrics that Financial Stability Oversight Council (FSOC) uses to determine whether to designate an institution as a Systemically Important Financial Institution?

A.1. The Financial Stability Oversight Council (Council) may determine that a nonbank financial company should be supervised by the Federal Reserve Board (Board) and be subject to prudential standards “if the Council determines that material financial distress at the U.S. nonbank financial company, or the nature, scope, size, scale, concentration, interconnectedness, or mix of the activities of the U.S. nonbank financial company, could pose a threat to the financial stability of the United States.”¹

In considering whether a nonbank financial company should be supervised by the Board and subject to prudential standards, the Council considers the following statutory factors:²

1. The extent of the leverage of the company;
2. the extent and nature of the off-balance-sheet exposures of the company;
3. the extent and nature of the transactions and relationships of the company with other significant nonbank financial companies and significant bank holding companies;
4. the importance of the company as a source of credit for households, businesses, and State and local governments and as a source of liquidity for the United States financial system;
5. the importance of the company as a source of credit for low-income, minority, or underserved communities, and the impact that the failure of such company would have on the availability of credit in such communities;
6. the extent to which assets are managed rather than owned by the company, and the extent to which ownership of assets under management is diffuse;
7. the nature, scope, size, scale, concentration, interconnectedness, and mix of the activities of the company;
8. the degree to which the company is already regulated by one or more primary financial regulatory agencies;
9. the amount and nature of the financial assets of the company; and
10. the amount and types of the liabilities of the company, including the degree of reliance on short-term funding.

In 2012, the Council adopted a rule and interpretive guidance that describe the manner in which the Council applies the statutory standards and considerations, and the processes and procedures that the Council follows, in making determinations under section 113 of the Dodd-Frank Wall Street Reform and Consumer

¹Dodd-Frank Act section 113(a)(1), 12 U.S.C. § 5323(a)(1).

²The Council may also consider any other risk-related factors that it deems appropriate. Dodd-Frank Act section 113(a)(2), 12 U.S.C. § 5323(a)(2).

Protection Act (Dodd-Frank Act).³ In 2015, the Council revised certain of its practices related to evaluation of nonbank financial companies and adopted supplemental procedures to bolster engagement with companies during evaluations for potential determinations and annual reevaluations, as well as transparency to the public.⁴

The Council's assessment of whether a nonbank financial company meets the statutory standard is based on an evaluation of each of the statutory factors, taking into account facts and circumstances relevant to the company. Quantitative metrics, together with qualitative analysis, informs the judgment of the Council when it is evaluating whether a nonbank financial company should be supervised by the Board and be subject to prudential standards. Because the impact of a firm's material distress or activities on financial stability is firm-specific, the Council conducts its analysis on a company-by-company basis in order to take into account the potential risks and mitigating factors that are unique to each company.

Q.2. Do you think there is room for improvement in the FSOC's annual review and derisking process, and what would you suggest?

A.2. At the time the Council determines that a nonbank financial company should be supervised by the Board and subject to prudential standards, the nonbank financial company is given a detailed basis for the determination. A company can use that information, as well as the factors the Council is required to consider under the Dodd-Frank Act, to guide its effort to reduce its systemic footprint. The Dodd-Frank Act requires the Council to reevaluate the determinations at least annually. The Council's reevaluation process considers whether the nonbank financial company continues to meet the standards under the Dodd-Frank Act. As explained in its final rule and interpretive guidance, the Council may also consider a request from a nonbank financial company for a reevaluation before the next required annual reevaluation in the case of an extraordinary change that materially decreases the threat a nonbank financial company could pose to U.S. financial stability.

As part of the annual reevaluation process, each company is provided an opportunity to meet with Council staff to discuss the scope and process for the review and to present information regarding any change that may be relevant to the threat the company could pose to U.S. financial stability, including a company restructuring, regulatory developments, market changes, or other factors. If a company requests that the Council rescind the determination, the Council has noted that it intends to vote on whether to rescind the determination and provide the company, its primary financial regulatory agency, and the primary financial regulatory agency of its significant subsidiaries with a notice explaining the primary basis for any decision not to rescind the designation. The notice will address the material factors raised by the company during the annual reevaluation. In addition, the FSOC will provide each designated nonbank financial company an opportunity for an oral hearing before the Council once every 5 years.

³12 CFR part 1310, app. A.

⁴See "Supplemental Procedures Relating to Nonbank Financial Company Determinations", Feb. 4, 2015.

As discussed below, using the foregoing process, the Council has recently voted to rescind its determination concerning GE Capital.

Q.3. Would you consider making a clear exit or off-ramp for designated firms?

A.3. Because the impact of a firm's material distress or activities on financial stability is firm specific, the Council conducts its analysis on a company-by-company basis in order to take into account the potential risks and mitigating factors that are unique to each company. At the time the Council determines that a nonbank financial company should be supervised by the Board and subject to prudential standards, the nonbank financial company is given a detailed basis for the determination. A company can use that information, as well as other information relating to the factors the Council is required to consider under the Dodd-Frank Act, to guide its efforts to reduce its systemic footprint.

As you may be aware, on June 28, 2016, the Council voted to rescind the determination that GE Capital should be subject to supervision by the Board and prudential standards. The Council determined that GE Capital had fundamentally changed its business and become a much less significant participant in financial markets and the U.S. economy through a series of divestitures, a transformation of its funding model, and a corporate reorganization. GE Capital had decreased its total assets by over 50 percent, shifted away from short-term funding, and reduced its interconnectedness with large financial institutions. The Council's decision to rescind its final determination was based on extensive quantitative and qualitative analyses regarding GE Capital. Upon review of the statutory factors and all the facts of record, the Council determined that GE Capital no longer met the standards for determination under section 113 of the Dodd-Frank Act and rescinded its determination that GE Capital should be supervised by the Board and subject to prudential standards.

Q.4. The Federal Reserve plays a major role on the Financial Stability Board and chairs the supervisory and regulatory cooperation committee. The Federal Reserve is uniquely involved in setting international regulatory and supervisory policies that ultimately must be implemented by U.S. regulators.

Would you support having transcripts made at international groups the Federal Reserve is a member of so the American public knows what is being advocated for and discussed?

A.4. The Federal Reserve is committed to transparency in the international groups of which it is a part. The Financial Stability Board (FSB) monitors and assesses vulnerabilities affecting the global financial system and recommends actions needed to address them. In addition, it monitors and advises on market and systemic developments, and their implications for regulatory policy. Before the FSB recommends a particular policy action, the FSB typically goes through a public notice-and-comment process similar to that which would accompany rulemaking in the United States. In addition, it is important to note that none of the policy actions recommended by the FSB would take effect in the U.S. without being adopted by U.S. authorities through a notice and comment process.

With respect to the possibility of public transcripts of meetings of international groups, there are competing factors that must be considered. The benefits of increased transparency must be weighed against concerns about exposing confidential or sensitive information about firms and markets and concerns about the impact on discussion within the international group, which could make the group less effective at achieving its stated goals.

Q.5. Would you be willing to brief Members of the Senate Banking, Housing, and Urban Affairs Committee on what is happening in international discussions prior to any new international rules being proposed?

A.5. My staff and I are always available to brief Members of the Committee on the status of international regulatory policy discussions.

Q.6. Does the Financial Stability Board influence the decisions that the Federal Stability Oversight Council makes regarding Systemically Important Financial Institution designations?

A.6. The U.S. Financial Stability Oversight Council (FSOC) determines whether to designate nonbank financial firms as systemically important based on the factors identified in the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), as interpreted by the FSOC through rulemaking. Whether an entity has been designated by the FSB is not a consideration.

Q.7. Recently the living wills submitted by several banks were rejected by the Federal Reserve and the Federal Deposit Insurance Corporation (FDIC). The Federal Reserve and the FDIC came to different conclusions regarding two firms.

How is the criteria used by the Federal Reserve when evaluating living wills different than the FDIC's criteria which is creating these split decisions?

Do you believe providing more clear criteria of what you expect to see or fix in living wills would help prevent split decisions between the Federal Reserve and FDIC?

A.7. In April 2016, the Federal Reserve and the Federal Deposit Insurance Corporation (together, the Agencies) published a joint assessment framework and an explanation of the determinations they had made on the firms' 2015 resolution plans.⁵ Specifically, the Agencies evaluated the preferred strategy presented by each firm, the executability of the firm's resolution plan, and whether the firm had made demonstrable progress to improve its resolvability. In assessing each of the 2015 resolution plans, the Agencies focused on seven key elements: capital, liquidity, governance mechanisms, operational capabilities, legal entity rationalization, derivatives and trading activities, and responsiveness. The Agencies also issued joint guidance for the next full resolution plans that are due in July 2017.⁶

Under Section 165(d) of the Dodd-Frank Act, the Agencies are required to make independent findings. Nonetheless, the Agencies closely coordinate to ensure consistency of treatment in the review process and reconcile factual findings and identified issues. The

⁵ See <http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20160413a2.pdf>.

⁶ See <http://www.federalreserve.gov/newsevents/press/bcreg/bcreg20160413a1.pdf>.

Agencies reached consensus and agreement repeatedly throughout the process, including on the weaknesses identified at particular firms and guidance being issued for the next resolution plans. In the instances where the agencies differed, they have found agreement on facts and remediations.

Q.8. Do you believe that the Federal Reserve should study the costs and benefits of existing and recent financial regulations before layering on new regulations?

Do you have concerns about the cumulative impact that all these regulations are having on average Americans access to credit or main street businesses?

A.8. The Federal Reserve conducts a variety of economic analyses and assessments to support the rulemaking process, and regularly publishes these analyses either as part of the proposed or final rule itself or as a separate white paper accompanying the rule. In such cases, the impact analyses naturally focus on the impact of the specific regulation in question, but the Federal Reserve also gives careful consideration to the potential positive and negative interactions among rules.

More broadly, the Federal Reserve engages in a regular quantitative impact assessment and monitoring program that is coordinated with other global regulators through the Basel Committee on Banking Supervision (BCBS). This program, the results of which are made public, is designed to assess the overall impact of the new postcrisis bank capital and liquidity requirements on the global banking system. The Federal Reserve has been participating in this impact assessment program since 2012, and it continues to inform the Federal Reserve's understanding of the cost and benefits of bank capital and liquidity regulation.

The Federal Reserve has also participated in several other global efforts to assess the costs and benefits of postcrisis financial regulatory reforms through its participation in the FSB and the BCBS. The BCBS published a study in 2010 that demonstrated the substantial net economic benefits of stronger bank capital and liquidity requirements. The FSB published an updated study in 2015 that demonstrated the substantial additional net economic benefits of imposing total loss absorbing capacity requirements on the most systemic global banks.

The Federal Reserve carefully considers the overall costs and benefits of all of the regulations it promulgates. The overarching goal of the Federal Reserve's regulatory program is to enhance bank safety and soundness and financial stability at the least cost to economic growth and credit availability. The Federal Reserve is committed to conducting an ongoing review to understand how postcrisis reform is influencing financial stability and the economy.

**RESPONSES TO WRITTEN QUESTIONS OF SENATOR SASSE
FROM JANET L. YELLEN**

Q.1. I'd like to continue our discussion of the concentration of job creation and economic growth in higher-skilled fields. You said in recent correspondence that unemployment rates for "lower skilled workers and workers in goods producing industries" are around

twice as high as those for highly skilled workers such as managers and professions.

As I said in our correspondence, this disparity is important because our economy faces a crisis in the nature of work. If we think about the history of economics, we had the “old economy,” which evolved from hunter gatherers, to settled farmers and big tool manufacturing economies. Now we’re entering into a “new economy,” which exists within a global economy and a fast, technology-based, information age.

Could you elaborate on the causes of this uneven growth? In our correspondence, you briefly mentioned the “business cycle and transitory-specific factors,” including the housing market collapse and the decline in oil prices.

A.1. In addition to the cyclical and transitory factors, it is the case that these disparities in unemployment rates and the shift in employment shares that I cited in my letter of May 25, 2016, are related to longer term developments transforming our economy such as globalization and technical change, which I mentioned in my February 11, 2016, testimony and which you describe as being related to our economy’s transition from an “old economy” based on manufacturing to a new economy.

Q.2. As I understand it, we have moved from having the average duration at a firm for a worker being 26 years in the late 70s, to being around 3.8 years now, and dropping. How is this turnover affecting our economy? For example, how many workers must now change fields altogether in order to find a new job?

A.2. Based on data from U.S. Census Bureau and work by Farber, it appears that firm tenure has actually not changed much because an increase in the age of the population (older people have longer tenure) and greater attachment to the labor market among women has offset a decline in tenure among men. But tenure has gone down for men, especially those over 50.¹ I have not seen statistics on how many workers must change fields in order to find a new job and whether that has changed over time. The U.S. labor market is very fluid, and a regular feature is that individuals change occupations and industries fairly frequently—some studies have estimated that about 20 percent of workers change industry or occupation each year.² However, it seems likely that many of these transitions are voluntary.

Q.3. Is this increasing job turnover behind some of the disparity in job creation between highly skilled workers and lower skilled workers?

A.3. It is the case that lower skilled workers experience higher turnover and have higher unemployment rates than highly skilled workers. In part this may reflect the fact that lower skilled workers gain fewer firm-specific skills on the job, or the skills they gain are easily taught, and thus it is less costly for firms to replace them.

¹ Farber, Henry S. “Employment Security: The Decline in Worker-Firm Attachment in the United States”, CEPS Working Paper No. 172, January 2008.

² Whether this share has been rising is not clear. See, for example, Moscarini, Giuseppe, and Kaj Thomsson, “Occupational and Job Mobility in the U.S.”, *Scandinavian Journal of Economics* 109(4), 807–836, 2007; and Kambourov, Gueorgui, and Iouri Manovskii, “Rising Occupational and Industry Mobility in the United States: 1968–1997”, *International Economic Review* 49(1), 41–79, 2008.

Q.4. What portion of currently unemployed, underemployed, and discouraged workers will have to retool their skillset to enter a new sector of the economy to become fully employed?

A.4. It is very difficult to say what proportion of the unemployed are structurally unemployed, in the sense that they lack the skills to perform the available jobs, and I have not seen the specific estimates you are asking for. One could estimate an upper bound limit of about 8 million workers who are either unemployed or discouraged.³ If we assume that all discouraged workers and all long-term unemployed workers (unemployed more than 27 weeks) are structurally unemployed, then the portion of unemployed and discouraged workers who are structurally unemployed and therefore at risk of having to retool would be closer to 30 percent. However, this latter number is certainly an overstatement. Some discouraged workers stop searching due to what they perceive as overall weak demand or other factors, not lack of skills, and not all workers who are unemployed more than 27 weeks must retool to find jobs. Of course this number does not include workers who choose to reskill after only a short period of unemployment or who improve or change their skillset while working, because they see more opportunity in another field.

Q.5. Will this percentage of unemployed, underemployed, and discouraged workers that must enter a new sector increase in the future?

A.5. It is difficult to say with certainty. The answer to this question depends on many factors including whether future technical change and globalization are more or less disruptive to labor markets as have been the changes we have undergone in recent decades.

Q.6. What is the average age of an unemployed or underemployed worker that decides to leave the workforce altogether instead of seeking to retool their skillset and enter a new sector?

A.6. Consider again the data on discouraged workers. In 2015, about half of discouraged workers were in the 25 to 54 age group, although as noted previously, not all discouraged workers leave the labor force because they think they do not have the right skills.⁴ Another way to answer this question is to look at data from the Bureau of Labor Statistics on displaced workers.⁵ Of all workers who were displaced from a job in 2014, those who were 65 and older were the most likely to leave the labor force—over half did. About one-fifth of workers ages 55 to 64 left the labor force as did 12 percent of workers ages 25 to 54. However, because most displaced workers fall into this latter age category, about half of the workers who left the labor force after a displacement were between the ages of 24 and 54.

³ Discouraged workers, as defined by the Bureau of Labor Statistics, are workers who separated from a job in the past year and did some job search but stopped searching because they think there is no work available for them.

⁴ Bureau of Labor Statistics, Household Data, Annual Averages, Table 35. <http://www.bls.gov/cps/cpsaat35.pdf>.

⁵ Displaced workers are defined as “persons 20 years of age and older who lost or left jobs because their plant or company closed or moved, there was insufficient work for them to do, or their position or shift was abolished.” “Worker Displacement: 2011–2013”, News Release, USDL-14-1605, Bureau of Labor Statistics, Department of Labor, August 26, 2014.

Q.7. What risk, if any, does the increasing automation of routine work tasks pose to the economy over the long-term?

A.7. Typically automation has boosted productivity growth. Moreover, history suggests that while automation does reduce employment in the affected occupations, demand and workers shift to new occupations, some of which may not even exist today. However, such processes can take a long time to play out, and there is some debate today among economists and others who think about the role of automation in the workplace as to whether the technical change underway now may upend this historical pattern, resulting in greater displacement of workers from the labor market than has historically been the case. Beyond that, automation could affect the distribution of income and wealth in the economy, which could have spillovers to other parts of the economy.

Q.8. How long will it take for these risks to come to significant fruition?

A.8. It is unclear how automation will evolve and its impact on the economy going forward is highly unclear. As such, we cannot speculate as to the timing of any particular outcomes.

Q.9. What sectors of the economy will benefit the most from automation?

A.9. The jobs that are most susceptible to automation are those that involve routine tasks, either physical or cognitive. The sectors where automation has proceeded the furthest include manufacturing, and where automation substitutes for routine physical labor and some services, where automation can substitute for routine cognitive skills (such as banking—for example, ATMs). To the extent that automation makes it less expensive to perform these tasks, end users of those products (whether they be businesses that use them as inputs or consumers) will benefit.

Q.10. What sectors of the economy will benefit the least from automation?

A.10. With our current technology, tasks that require nonroutine skills, either physical or cognitive, are the least susceptible to automation. This includes a wide range of occupations that include both lower skilled work, such as laborers and personal care providers, to higher skilled work such as software developers and managers. Sectors of the economy and consumers that rely on these types of work are less likely to see cost savings. However, as technology changes, it may be that more and more occupations are susceptible in part to automation. Already we have seen that technology has improved productivity in these occupations even if the jobs themselves are not automated (for instance, improved information technology does not completely substitute for doctors, but it can provide them access to better information, which improves outcomes).

Q.11. I'd like to ask about the recent Brexit.

What economic and political factors are the Federal Reserve consulting in evaluating the national and international economic risk associated with the Brexit?

How would the economically worst-case Brexit scenario unfold?

How would the economically best-case Brexit scenario unfold?

Will the value of the dollar will significantly appreciate over the long-term, including as compared to the pound sterling, due to the Brexit?

If so, what will the impact of such appreciation be on U.S. exports?

What are the most economically significant legal questions that the U.K. and the EU must resolve, in order to fully evaluate the practical economic consequences of the Brexit?

A.11. The United Kingdom (U.K.) vote to leave the European Union (EU) has increased uncertainty about the future trading relationship between the U.K. and the EU. That increased uncertainty appears to be weighing on U.K. investment and hiring decisions, and early indicators following the June 23 referendum point to a slowdown in U.K. economic growth. The broader effect on the global economy, however, is likely to be limited, as many postvote declines in global asset prices have since been reversed. For instance, U.S. stock price indexes are now higher than before the referendum.

The economic impact of the referendum result on the U.K., the rest of Europe, and the global economy is likely to depend on how uncertainty is resolved over time, which in turn will depend on the progress of negotiations between U.K. and EU authorities over their future trading relationship. Given the importance of London as a global financial center, some of the most important legal questions involve the trading of financial services between the U.K. and the EU.

Since the June 23 referendum, the dollar has appreciated significantly against the British pound, but the dollar is only modestly stronger on net against a broad basket of foreign currencies, and thus the impact on the demand for U.S. exports is likely to be modest.

Q.12. I'd like to ask about the Federal Reserve Board's joint proposed rule on executive compensation under section 956 of Dodd-Frank.

As you know, these rules would apply to those insurance companies that own thrifts. Does the Federal Reserve plan on treating insurance companies different than banks in the application of this rule, as it has with capital standards?

What has the Federal Reserve done or will do to ensure that these rules are not bankcentric and are instead tailored to the insurance industry?

A.12. Pursuant to section 956 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), the Agencies' ⁶ joint notice of proposed rulemaking ⁷ covers all depository institution holding companies, including all savings and loan holding companies. ⁸ As described in the preamble, the proposed rule does

⁶ Office of the Comptroller of the Currency (OCC); Board of Governors of the Federal Reserve System; Federal Deposit Insurance Corporation (FDIC); Federal Housing Finance Agency (FHFA); National Credit Union Administration (NCUA); and U.S. Securities and Exchange Commission (SEC).

⁷ 81 *FR* 37670 (July 10, 2016).

⁸ Section 956 of the Dodd-Frank Act defines "covered financial institution" to include any of the following types of institutions that have \$1 billion or more in assets: (A) a depository institution or depository institution holding company, as such terms are defined in section 3 of the

not establish a rigid, one-size-fits-all approach. Rather, the Agencies have tailored the requirements of the proposed rule to the size and complexity of covered institutions. In addition, the proposed rule would allow firms to tailor the incentive based compensation arrangements to the nature of a particular institution's business and the risks, as long as those incentive-based compensation arrangements appropriately balance risk and reward. The methods by which such balance is achieved would be permitted to differ by institution and across business lines and operating units. The preamble invited comment on the impact of the proposed rule on all covered institutions. The Agencies have included numerous questions, touching all aspects of the proposed rule, including the tailoring of institutions by asset size and the definitions of significant risk-takers. We will consider your comments and all comments we receive in the final rulemaking process.

Q.13. Has or will the Federal Reserve conduct specific analysis of insurance executive compensation practices and risks and how the rule will impact insurance companies? If so, please provide a copy of the analysis.

A.13. The Federal Reserve Board has not conducted specific analysis of insurance executive compensation practice. However, the Agencies have encouraged institutions to provide feedback on the potential impact of the proposed rule on covered institutions throughout the comment period process, and through this notice and comment process help us analyze specifically insurance compensation practice.⁹ In addition, the preamble solicits input on the impact of the rule on all covered financial institutions through a number of questions posed in this area. For instance, question 2.8 seeks commenters' views on situations where it might be appropriate and why to modify the requirements of the proposed rule where there are multiple covered institution subsidiaries within a single parent organization based upon the relative size, complexity, risk profile, or business model, and use of incentive-based compensation of the covered institution subsidiaries within the consolidated organization. In a similar vein, question 2.12 asks whether the determination of average total consolidated assets should be further tailored for certain types of investment advisers, such as charitable advisers, non-U.S.-domiciled advisers, or insurance companies and, if so, why and in what manner.

Q.14. As you know, the rule provides that a firm's "significant risk-takers" are subject to the compensation rule. Some have expressed concern that determining whether an employee is a "significant risk-taker"—specifically calculating whether an employee is among the top 5 percent of compensated employees—could be costly to implement, given technical difficulties in accurately discerning salary

Federal Deposit Insurance Act (FDIA) (12 U.S.C. 1813); (B) a broker-dealer registered under section 15 of the Securities Exchange Act of 1934 (15 U.S.C. 780); (C) a credit union, as described in section 19(b)(1)(A)(iv) of the Federal Reserve Act; (D) an investment adviser, as such term is defined in section 202(a)(11) of the Investment Advisers Act of 1940 (15 U.S.C. 80b-2(a)(11)); (E) the Federal National Mortgage Association (Fannie Mae); (F) the Federal Home Loan Mortgage Corporation (Freddie Mac); and (G) any other financial institution that the appropriate Federal regulators, jointly, by rule, determine should be treated as a covered financial institution for these purposes.

⁹ See http://www.federalreserve.gov/apps/foia/ViewComments.aspx?doc_id=R-1536&doc_ver1.

levels across a firm. Could there be merit in implementing a salary threshold test instead, which would instead define (in part) “significant risk-takers” as any employee earning more than a particular salary threshold?

A.14. While drafting the proposal, the Agencies were conscious of potential burden on covered institutions and have attempted to appropriately reduce burden throughout the proposal. We are evaluating the merit of a proposal such as salary thresholds. To that end, the Agencies have posed specific questions¹⁰ on the alternative of using a dollar threshold test under which the designation of significant risk-takers would be based in part on whether a covered person receives annual base salary and incentive-based compensation in excess of a specific dollar threshold.

**RESPONSES TO WRITTEN QUESTIONS OF SENATOR ROUNDS
FROM JANET L. YELLEN**

Q.1. The Federal Reserve (along with the Department of the Treasury and the Security and Exchange Commission) participates at the Financial Stability Board (FSB), but there is little to no transparency into the Fed’s actions at the FSB. What steps can the Fed take to increase transparency into its activities at the FSB?

A.1. Like the U.S. Treasury Department and the Securities and Exchange Commission, the Federal Reserve is a member of the Financial Stability Board (FSB). The FSB monitors and assesses vulnerabilities affecting the global financial system and recommends actions needed to address them. In addition, it monitors and advises on market and systemic developments, and their implications for regulatory policy. Before the FSB recommends a particular policy action, the FSB typically goes through a public notice and comment process similar to that which would accompany rulemaking in the United States. In addition, it is important to note that none of the policy actions recommended by the FSB would take effect in the U.S. without being adopted by U.S. authorities through a public notice and comment process. Thus, the Federal Reserve would not implement any FSB standards in the U.S. without going through the same process as we do for our other rulemakings.

Q.2. As you know, the FSB is an international body charged with designating global systemically important nonbank financial companies. To date, the three American insurers that the FSB designated have all been designated by the Financial Stability Oversight Council (FSOC).

Given that the FSB is not subject to the requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and several members of FSOC serve on the FSB and have been involved in the separate designation process for global systemically important financial institutions (SIFI), how much does FSOC rely on or consider the FSB’s designations in conducting its own assessment of SIFI prospects?

¹⁰ See questions 2.30, 2.31, and 2.32. 81 *FR* 37670 at 37699.

A.2. The U.S. Financial Stability Oversight Council (FSOC) determines whether to designate nonbank financial firms as systemically important based on the factors identified in the Dodd-Frank Wall Street Reform and Consumer Protection Act, as interpreted by the FSOC through rulemaking. Whether an entity has been designated by the FSB is not a consideration.

**RESPONSES TO WRITTEN QUESTIONS OF
SENATOR MENENDEZ FROM JANET L. YELLEN**

Q.1. After years of rapid and consistent economic growth due to large-scale market reforms beginning in the late 1970s, the Chinese economy has slowed significantly in recent years. The slowdown has led the Chinese government to fall back on fiscal and monetary stimulus measures to buoy its faltering economy. And while these efforts have had varying levels of success, further intervention has served to raise core concerns about the Chinese government's ability and willingness to open up its economy to greater competition and its financial system to cross-border capital flows—elements most economists agree are necessary to facilitate sustained economic health in China.

Taking into account China's surging debt levels resulting from an aggressive lending campaign by financial institutions and banks, imbalanced and slowing economic growth, and an unpredictable regime, can you speak to what impact China's continuing economic decline will have on the U.S. economy?

A.1. Chinese economic growth has been on a general downward trend over the past several years, but we would not characterize the Chinese economy as being in decline. It is still growing at a sizable pace and, to some degree, the slowing that has occurred is a result of several structural factors—slower labor force growth, reduced investment as the economy rebalances toward consumption, and a moderation in growth typical of maturing economies. Even with growth declining it should be noted that China's contribution to global growth remains strong. This contribution depends on both China's growth rate and its weight in the world economy—since China still grows faster than many other economies, its share in the global economy has been rising. Also, if China manages to rebalance its economy successfully, its economic growth will be more sustainable even if it is lower, and it will increasingly import more consumption-type goods, thus becoming more of an independent engine of global growth as it draws more imports from the rest of the world, including from the United States (U.S.).

But you are right to note that there is a risk that Chinese growth could slow more sharply given the run-up in corporate debt, adjustments going on in industries with excess capacity, and some uncertainty about the economic policies being followed. We do not view this to be the most likely scenario, as the authorities still have room to provide more policy stimulus were the economy to slow sharply and also have ample resources to stave off a crisis if necessary. But unexpected developments can occur, and, should the Chinese economy slow much more abruptly and severely, there would clearly be an adverse impact on the global economy, including in the U.S. The U.S. economy would be hit from its direct trade

links to China (China accounted for nearly 8 percent of U.S. goods exports in 2015), its indirect links to China through trade with other countries affected by China's slowing, and possibly by reverberations to global financial markets.

Q.2. To what extent has this been a factor in monetary policy decisions?

A.2. Our monetary policy is motivated by the dual mandate set for us by the U.S. Congress, which calls for achieving stable prices and maximum sustainable employment. In this globally interconnected world, economic and financial developments in the U.S. have a significant impact on the rest of the world and, by the same token, developments in the rest of the world have significant effects on our own economy. We, therefore, closely monitor developments abroad, including importantly those in China, for their implications for the outlook and risks to the U.S. economy and adjust our policies accordingly in order to achieve our dual mandate.

Q.3. From 2010 to 2015, labor productivity rose just 0.6 percent per year on average, in comparison to an average of nearly 2 percent growth in the previous 6 years. And perhaps just as concerning, productivity fell at a 0.6 percent annual rate in the first quarter of this year. However you slice it, all signs point to the fact that U.S. worker productivity is no longer on the same trajectory that it had been on in the past.

In your speech on June 6, you said that productivity growth has been "unusually weak in recent years." This has undoubtedly hampered wage growth and limited economic expansion. As many have acknowledged, business investment, research and development, and business creation have all been slow to recover from the recession.

In your opinion, what are the major factors accounting for this slowdown?

A.3. Part of the weakness in labor productivity growth seen in recent years likely reflects the enduring effects of the Great Recession. For example, there is some evidence that the recession led to a long-lasting reduction in business investment, research, and development spending, and new business formation, and that these factors have lowered productivity growth.¹ That said, productivity growth began to slow even before the Great Recession, and some research has suggested that the earlier deceleration was the result of the economic effects of the 1990s IT revolution having largely run their course by the mid-2000s.^{2 3}

Q.4. Earlier this month, you also said that you are cautiously optimistic about productivity growth. What indications do you have that we will begin to see an upswing in productivity?

¹Reifschneider, Dave, William Wascher, and David Wilcox (2015), "Aggregate Supply in the United States: Recent Developments and Implications for the Conduct of Monetary Policy", *IMF Economic Review*, vol. 63, no. 1, pp.71–109.

²Fernald, John G. (2014), "Productivity and Potential Output Before, During, and After the Great Recession", *NBER Macroeconomics Annual* 29(1), pp.1–51.

³It has also been argued that mismeasurement of real output could have contributed to the weakness in measured productivity growth. However, recent research by Byrne, Fernald, and Reinsdorf (2016) casts doubt on the ability of this hypothesis to explain the recent slowdown. Byrne, David M., J. Fernald, and Marshall Reinsdorf (2016), "Does the United States Have a Productivity Slowdown or a Measurement Problem?" *Brookings Papers on Economic Activity*, Spring.

A.4. Up to this point, we have not yet seen clear indications of a pickup in productivity growth in the economic data. However, some of the factors that have dragged down productivity growth in recent years—especially factors related to the last recession—are likely to diminish going forward. For example, we expect that continued gains in economic activity will lead to a faster pace of investment growth and more spending on research and development, contributing to a stronger pace of productivity growth in coming years. Moreover, we see no obvious slowdown in the pace, or the potential benefits, of innovation in America—for example, stunning gains continue to be made in computing power, data storage, robotics, 3D printing, and cloud computing, to name just a few areas of technological progress. Such innovations may bear fruit more readily in a stronger economy.

Q.5. There is widespread agreement that we face a considerable shortfall of public investment in transportation, education, broadband, and research and development. With interest rates still low, and gains to be made in the labor market, isn't now the time to make sustained public investments that would lead to job creation, productivity gains, and broad-based economic growth?

A.5. I agree with the view that the American people would be well served by investments—both public and private—that support longer-run growth in productivity. Well-designed investments in the areas you mention—transportation, education, broadband, and research and development—have the potential to lead to stronger productivity gains in the future. Furthermore, I would add that any such investments are more likely to be effective if they are accompanied by Government policies that encourage entrepreneurship and innovation, and that foster the flexible allocation of labor and capital to their most productive uses.

Q.6. Chair Yellen, in your recent speech on June 6, you laid out the grim reality that many African Americans and Latinos face in our job market. Although conditions have improved, we still see that compared to the overall unemployment rate, minorities still face a much tougher job market.

In January, the unemployment rate for African American's with Associate's Degrees finally fell equal to the unemployment rate for white adults who did not complete high school.

If we're nearing full employment, shouldn't we expect the unemployment rates of African Americans with Associate's Degrees to be much closer to the unemployment rate of whites with Associate's Degrees and not those who've dropped out of high school?

A.6. Unemployment rates have long been persistently higher for both African Americans and Hispanics, on average, than for whites. And, those differentials are not purely the result of whites having more education. Unemployment rates are lower for those with more education, but for any given level of educational attainment, African Americans in particular tend to experience higher unemployment than whites. One illustration of this fact, as you note, is that the unemployment rate for African Americans who have an associate degree is comparable to the unemployment rate for whites who have not completed high school. These patterns have been evident since at least the early 1990s.

Despite overall improvements in the U.S. economy in recent years, there are still significant disparities in labor market outcomes and a continuation in the trend toward widening wealth and income inequality. These trends are troubling. In carrying out its mandate, the Federal Reserve pays close attention to issues of economic inclusion. We follow unemployment rates by race and ethnicity and examine whether particular groups are discouraged from participating in the labor force. More broadly, through our data collection efforts, such as the *Survey of Consumer Finances* and the *Survey of Household Economics and Decision Making*, the Federal Reserve has gathered and disseminated information that is critical for understanding the economic situation of disadvantaged groups.

Q.7. Former Minneapolis Fed President Narayana Kocherlakota said earlier this year, “there is one key source of economic difference in American life that is likely underemphasized in FOMC deliberations: race.” After a search of transcripts of FOMC meetings from 2010, when African American unemployment stood at 15.5 percent or higher, to the most recent meetings, Kocherlakota found that there was not a single reference in the meetings to labor market conditions among African Americans.

It is absolutely critical that the leadership of the Federal Reserve reflect the composition of our diverse Nation. Monetary policy is inextricably linked with the experiences of hardworking families, white, African American, Latino, and Asian, across the Nation, and leadership positions at the Federal Reserve should be held by those that reflect the interests of all of our communities.

Recently, I along with Sens. Warren and Merkley, and many other members of Congress sent letter urging you to improve representation at the regional Banks’ boards of directors. The Federal Reserve Act requires that the presidents and Boards of Directors at the 12 regional Federal Reserve Banks “represent the public.” Yet 83 percent of Federal Reserve Board members are white, and 92 percent of regional Bank presidents are white, and not a single president is either African American or Latino. When you were here in February, you testified that the Board of Governors was constantly attentive to the issue of diversity on the boards, and that 45 percent of directors are either women or minorities. Do you believe that this is sufficient? Does the Board of Governors have a plan for increasing the representation of diverse candidates?

A.7. As I have stated previously, I am personally committed and the Federal Reserve as an organization is committed to achieving diversity within our workforce and within our leadership at all levels. We have made progress, but there is more work to be done. Diversity is an extremely important goal and I will do everything I can to further it.

It is important to have a diversified group of policy makers who can bring different perspectives. The Federal Reserve recognizes the value of sustaining a diverse workforce at all levels of the organization. An interdisciplinary effort that I discussed at my June 21 hearing before the Senate Banking, Housing, and Urban Affairs Committee is focusing on all of our diversity initiatives, both in terms of our own hiring at the Federal Reserve Board (Board) and

throughout the Federal Reserve System, as well as our efforts to promote diversity in economic inclusion.

Our efforts to achieve our objectives for more diversified leadership include both shorter-term and longer-term goals. In the short-term, we are committed to broad, open, transparent, and proactive search processes. We are actively soliciting and then considering input from a wide range of sources in our efforts to identify qualified candidates who expand on one or more dimensions of the diversity of our senior leadership. We have, for example, benefited from input with respect to Reserve Bank directors from several community groups. We have also incorporated into our search process for our most senior executives outreach via social media, intended to both better explain the nature of the positions to a broader audience and invite suggestions regarding suitable candidates.

Building on those efforts, we have also initiated a longer-term program of seeking to identify and foster promising candidates from a variety of backgrounds and with a variety of experiences for a range of roles while at a stage in their careers when they may not yet fully be prepared to assume the responsibilities of our most senior leadership. We intend to leverage the full range of the System's existing outreach programs, including in the areas of economic education, community outreach, and academic partnership.

Q.8. Along with other financial agencies, the Federal Reserve is mandated to assess and increase its contracting and procurement with minority-owned and women-owned businesses. This practice, known as supplier diversity, is a powerful form of economic development. Contracts create economic ripples throughout communities and create quality jobs, something desperately needed in communities of color. In 2015, the Board of Governors spent \$214 million on goods and services, but less than 9 percent of that money went to minority-owned businesses. That's less than half of what the average financial agency spends.

What are the Fed's plan to rectify this disparity?

A.8. As reported in the Board's Report to the Congress on the Office of Minority and Women Inclusion for calendar-year 2015, the Board awarded contracts for goods and services (including contracts for the Board's Office of Inspector General as well as the Board's currency program) in the amount of \$214,867,580, of which 11.23 percent went to minority-owned businesses. This represents the total obligated amount of the contracts rather than the "spend" or actual amounts paid to contractors. The amount of funds that the Board paid out to contractors for goods and services during 2015 was \$154,264,257, of which 8.32 percent went to minority-owned businesses. Both the amounts contracted and the amounts paid represented a significant increase from the prior year.

The Board has an active supplier diversity program that combines outreach and training for vendors with internal programs aimed at educating our staff about the importance of diversity and how to increase diverse vendor participation in the Board's procurement activities.

To enhance its supplier diversity program, Board Procurement staff plans to review its Acquisition Policies and Procedures to identify any unintentional barriers to minority participation and to

build additional strategies to increase contracts awarded to minority vendors. To help these companies compete, the Board will consider changes in the design of its solicitations that may facilitate or encourage participation by these companies. For example, lengthening delivery schedules or the time period for the submission of offers or bids or dividing proposed acquisitions to permit offers in quantities less than the total requirement could create greater opportunities for minority-owned business to compete.

In looking for opportunities to further increase its spend with small and disadvantaged businesses, the Procurement staff is reviewing its approach to setting aside an acquisition or a class of acquisitions for covered companies. A “set-aside” is a preference where the procurement is limited to participation by small and disadvantaged businesses only. An award will be made only if the proposal is fair and reasonable. We will continue to look for additional opportunities to use this program.

In 2017, the Board plans to host a “vendor outreach fair.” The event is an opportunity for us to share upcoming procurement opportunities with a wide range of potential suppliers, including minority-owned firms. Because staff from across the organization participate, vendors have an opportunity to get to know the individuals overseeing contractual work, and staff have an opportunity to learn about vendors’ products and capabilities. The outreach fair will also include training sessions designed to better position prospective vendors to compete for procurement opportunities. Our previous outreach event held in June 2015 attracted over 400 individuals representing 300 companies.

The Board will continue to utilize national and local organizations advocating for minority companies as a method to connect directly with qualified minority-owned companies. Memberships in these types of organizations will provide direct access to these suppliers who demonstrate the ability to provide high-quality goods and services. Among these organizations are the National Minority Supplier Development Council, U.S. Hispanic Chamber of Commerce, Greater Washington Hispanic Chamber of Commerce, and the National Black Chamber of Commerce. The outreach events hosted by these organizations provide a platform for the Board’s staff to discuss the procurement process with potential vendors while also providing information on future procurement opportunities to potential vendors. The Board is aware of the many challenges facing minority firms, and continued collaboration with advocacy groups representing these firms will help the Board better understand the challenges these businesses face and help the firms better navigate the Board’s acquisition process.

Lastly, to increase Board staffs awareness and understanding of the requirements of section 342 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Board’s Procurement office will continue to host a series of training sessions and forums to educate staff—agency wide—on the importance of supplier diversity. The Procurement office has also established a reporting tool to monitor the success of the supplier diversity program. The tool, which is available to all Board divisions, provides dashboards, product data, and supplier classification information, allowing divi-

sions to track and monitor their diversity spend and to make improvements to help achieve desired results.

Q.9. Over the years, the Federal Reserve has struggled to increase the diversity of its senior leadership. Multiple entities, including the Government Accountability Office, have repeatedly cited leadership commitment as a driver to change. Agency heads and top officials at the CFPB, FDIC, SEC, and NCUA actively participate in Diversity Councils.

With your unique insights as a woman, how are you specifically working to drive diversity at the Fed? Will the Federal Reserve commit to forming a Diversity Council led by a Governor?

A.9. I am personally committed and the Federal Reserve as an organization is committed to achieving diversity within our workforce and within our leadership. The Federal Reserve recognizes the value of sustaining a diverse workforce at all levels of the organization. When I joined the Board staff, I was one of relatively few women economists. Since then, there have been significant gains in diversity at the Board and throughout the Federal Reserve System (System). Currently, minorities represent 18 percent and women 37 percent of senior leadership at the Board. Throughout the System, minorities make up 18 percent of officer-level staff, which is an increase of 22 percent over the past 4 years. Furthermore, among directors on Reserve Bank and Branch boards, minority representation stands at about 24 percent, and representation of women is approximately 30 percent. I recognize there is still work to be done and workforce diversity remains a strategic priority for the Federal Reserve.

The selection and reappointment of Federal Reserve Bank presidents is a process set forth by the Federal Reserve Act, including the specific responsibilities of the Reserve Bank's board of directors and the Board of Governors. Within this statutory framework, the System has operationalized the process to be expansive and proactive in the identification of candidates, including persons who may not routinely have contact with the Federal Reserve, the economics profession, or the financial services sector.

I am committed to seeing us make further progress and to making sure that we are taking all of the steps that we possibly can to promote diversity and economic inclusion. To further support this commitment, as mentioned previously, I recently launched and lead an interdisciplinary effort within the Federal Reserve that is focused on all of our diversity initiatives, both in terms of hiring at the Board and throughout the Federal Reserve System, and our efforts to promote diversity and economic inclusion. My colleagues and I meet quarterly with this group to discuss initiatives and progress.

The Federal Reserve is committed to achieving further progress, and to better understanding the challenges to improving diversity, as well as promoting diversity of ideas and backgrounds. I believe that diversity makes the Federal Reserve more effective in carrying out its mission.

Q.10. I appreciate the Federal Reserve's willingness to engage and recognize that this issue doesn't exist at the agency alone—it's pervasive throughout the entire financial sector. The Federal Reserve

should use its leadership to promote this same transparency among its regulated entities. Your Office of Minority and Women Inclusion made the submission of diversity data voluntary.

How will you use your position to increase diversity in the private sector?

A.10. The Federal Reserve, in conjunction with the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency, issued a joint press release on August 2, 2016, providing information on how regulated institutions may begin to submit self-assessments of their diversity policies and practices to their primary Federal financial regulator per the approval granted by the Office of Management and Budget on July 13, 2016, to collect voluntary self-assessment information. The notice also strongly encouraged the regulated entities to post their diversity policies and practices, as well as information related to their self-assessments on their public Web sites.

The Office of Minority and Women Inclusion Directors of the banking agencies worked to establish uniform standards applicable to all regulated entities and in view of the particular statutory language of section 342 of the Dodd-Frank Act, the banking agencies determined to make compliance with the standards voluntary.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR MERKLEY FROM JANET L. YELLEN

Q.1. It's been 3 years since the Volcker Rule was finalized and a little over a year since it went into effect. As of last year, banks can no longer engage in some of the risky trading behavior that nearly wrecked on our economy.

Both the public and Congress need to understand and deserve to know how the Volcker Rule is being enforced by regulators and if banks are complying with it. If we learned anything from 2008, it's that Congress must shine a spotlight on how regulators are implementing the Nation's laws.

The final version of the Volcker Rule included a standard for regulators to measure whether banks went beyond market-making and into the now prohibited proprietary trading. But, this standard did not include specific metrics for how the Volcker Rule should be enforced or how to measure its success.

There's a lack of clear guidance on what metrics regulators are using, the thresholds determining if proprietary trading is happening, or even what regulators are supposed to do if a financial institution is found to be in violation.

In the absence of clearer guidance, how can the American people and Congress be sure that the regulators are doing their job and ensuring that the Volcker Rule is being properly implemented by regulators?

Does the Federal Reserve have a plan to ensure that Congress and the public is more informed and understand how the Fed is working with other regulators on enforcement and compliance of the Volcker Rule?

A.1. I appreciate your desire to understand how the Federal Reserve, Office of the Comptroller of the Currency, Federal Deposit Insurance Corporation, U.S. Securities and Exchange Commission,

and U.S. Commodity Futures Trading Commission (the Agencies) are implementing and enforcing compliance with section 619 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the statutory provision known as the Volcker rule).¹ As you know, the Agencies have jointly issued public rules that detail and implement the statutory requirements mandated by the Volcker rule. The implementing rules also require each firm engaged in activities covered by the Volcker rule to have in place a compliance program that is consistent in detail and breadth with the size, type, and complexity of the banking entity and the activities the entity conducts that are subject to the Volcker rule. The implementing rules establish minimum requirements for those compliance programs with increased requirements and detail for the largest banking entities engaged in activities covered by the Volcker rule. Among these requirements is a provision requiring the chief executive officer of each banking entity engaged in activities covered by the Volcker rule, on an annual basis, to attest that the entity has in place processes to establish, maintain, enforce, review, test, and modify the compliance program in a manner reasonably designed to achieve compliance with the Volcker rule.

In addition, the Federal Reserve conducts examinations of the compliance programs and activities subject to the Volcker rule of banking entities for which the Federal Reserve is the appropriate supervisor under the Volcker rule. To aid designing and conducting these supervisory efforts, the implementing rules of the Agencies require banking entities with significant trading activities subject to the Volcker rule to report a variety of metrics regarding these activities. These metrics include risk and position limits and usage, risk factor sensitivities, value-at-risk (VaR) and stress VaR, comprehensive profit and loss attribution, inventory turnover, inventory aging, and customer facing trade ratio.

As described in the preamble to the final rule, the Federal Reserve uses these metrics as a tool to help identify instances that may warrant further investigation to determine whether a violation has occurred or whether the activity is within a permitted exception, such as market making or hedging. This additional review typically includes review of other metrics and information collected from the firm and information about events that have occurred in the market. As indicated in the preamble to the final rule, the Federal Reserve and the other Agencies are evaluating the data collected through September 30, 2015, and may revise the metric definitions and collection requirement, as appropriate, based on their review of the data.

Implementation of the Volcker rule is coordinated among the Agencies as part of an ongoing effort to facilitate consistent application of its requirements. Staffs of the Agencies regularly meet to address key implementation and supervisory issues as they arise. The Agencies collaborate, for example, to jointly issue to the public responses to frequently asked questions and other forms of external guidance as appropriate. Public responses to frequently asked questions published to date have clarified particular provisions of the final rule, including the submission of metrics, expectations during

¹ 12 U.S.C. §1851.

the conformance period, the application of certain covered funds restrictions and clarification regarding the annual chief executive officer attestation.² Staffs of the Agencies expect to continue to coordinate responding to matters that are of common interest in public statements, including through public responses to frequently asked questions and in public guidance.

Q.2. Currently, some type of marijuana use is legal in 27 jurisdictions in the United States, or more than half the country. But a conflict between State and Federal law remains.

This conflict is making it very difficult for marijuana-related businesses in these States to access to the banking system forcing them to operate in all cash. Financial institutions that provide banking services to legitimate marijuana-related businesses are currently vulnerable to criminal prosecution under Federal law.

As you're probably aware, few banks and credit unions are willing to risk providing services to marijuana-related businesses, leaving many of these legal businesses cut off by financial institutions. That means even marijuana-related businesses like landlords and security companies have lost their accounts at banks and credit unions. These businesses can no longer accept credit cards, or deposit revenues, or write checks to meet their payroll or pay their taxes.

In Oregon alone, it is estimated that the marijuana market could bring in close to half a billion dollars during its first 14 months of legal sales. Just last month, I accompanied an Oregon businessman who runs a marijuana dispensary to Salem to pay his taxes. He had to stuff \$70,000 dollars in cash into a backpack in order to pay the State what he owed in taxes and drive it over an hour away in his car.

Businessmen and women, who are operating legally under Oregon State law and elsewhere, are forced to shuttle around gym bags full of cash and it is just an invitation to crime and malfeasance. The Federal Government is effectively forcing legal marijuana businesses to carry gym bags full of cash to pay their taxes, employees and bills.

This is an invitation to robberies, money laundering, and organized crime. Earlier this month, a 24-year-old U.S. Marine who was working as a security guard at a Colorado dispensary was shot and killed in an attempted robbery. The death of a husband and father of a three children under 4 is tragic. Sadly, it is not surprising given the dangers faced by businesses operating all-cash.

What is the Federal Reserve's position on ensuring that marijuana-related businesses operating legally at the State level have access to banking and other financial services?

A.2. The decision to open, close, or decline a particular account or customer relationship is made by a depository institution without involvement by its Federal banking regulator. This decision may be based on the bank's particular business objectives, its evaluation of the risks associated with particular products, services, or customers as well as the institution's capacity and systems to effectively manage those risks. Among the factors a banking firm will typically consider in establishing a business relationship with a customer is

² See <http://www.federalreserve.gov/bankinforeg/volcker-rule/faq.htm>.

whether the activity of the customer is being conducted in accordance with Federal and State law. Federal law and State law are in conflict concerning certain types of use and distribution of marijuana. Federal law makes it a Federal crime to possess, grow, or distribute marijuana and prohibits knowingly engaging in monetary transactions with proceeds from an unlawful activity. Because of this conflict, marijuana-related businesses in those States that have legalized certain types of marijuana use and distribution under State law have had difficulty obtaining financial services.

The Department of Justice and the Financial Crimes Enforcement Network (FinCEN) have both issued guidance that recognize that the use and distribution of marijuana in general continues to be illegal under Federal law and describe the resources and priority those agencies expect to place on enforcement of those Federal laws governing marijuana. As a Federal agency, the Federal Reserve incorporates guidance issued by FinCEN concerning the Bank Secrecy Act into our supervisory process, including references to FinCEN's marijuana guidance. Nonetheless, the conflict between Federal law and State law creates risk and uncertainty for banking institutions. Only Congress can determine whether it is appropriate to amend Federal law in this area.

Q.3. Do you believe the Federal Reserve has the authority to act and give banks the certainty they need to offer services to legal marijuana related businesses or does Congress need to act?

A.3. The Federal Reserve does not have the authority to change laws and regulations regarding the legality of possession, sale, or distribution of marijuana. Only Congress has the authority to act to determine whether it is appropriate to amend Federal law governing marijuana possession, sales, and distribution.

RESPONSES TO WRITTEN QUESTIONS OF SENATOR HEITKAMP FROM JANET L. YELLEN

Q.1. Many American workers face significant economic uncertainty as they approach retirement. According to a 2015 Government Accountability Office (GAO) report, about half of households age 55 and older have no retirement savings (such as in a 401(k) plan or an IRA). After reviewing several independent studies, the GAO also concluded that generally about one-third to two-thirds of workers are at risk of falling short of maintaining their preretirement standard of living in retirement.

How is the Federal Reserve monitoring this issue?

What metrics does the Federal Reserve use to quantify retirement needs?

Does it view the lack of retirement savings in the U.S. as a systemic risk?

Are there any steps the Fed has considered taking that would help address the retirement savings gap?

A.1. Through its *Survey of Consumer Finances*, the Federal Reserve Board collects some of the key data that provide the foundation on which researchers form judgments about retirement income adequacy. However, important as it is, retirement income adequacy does not directly implicate the stability of the financial system. If

households enter retirement without adequate financial preparation, their spending power will suffer, with potentially serious implications for their own well being over their remaining lifetime, but the stability of the financial system is not likely to be threatened.

As part of our effort to calibrate the stance of monetary policy so as to promote the dual mandate given to us by the Congress—price stability and maximum sustainable employment—we attempt to gauge the strength of aggregate demand over the next few years. The issue of retirement income security is of greater relevance over a considerably longer time horizon: Are today’s working generations adequately preparing themselves for retirement a decade or more into the future? That question is surely important, even it extends well beyond the reach of monetary policy.

The one main contribution that the Federal Reserve can and does make to the attainment of a financially secure retirement is to pursue our core monetary policy and financial stability responsibilities. By pursuing the dual mandate, we aim to establish the best possible backdrop for individuals seeking to provide for their retirement security by having a better chance at steady employment, and knowing that their retirement savings will not be eroded by a bout of unanticipated inflation. By helping to build a financial system that is robust, households will have a greater assurance that their retirement-oriented savings will be there, as planned.

Thus, the Federal Reserve agrees that retirement income adequacy is an important issue; we provide key information that can be used to form judgments about it; and we recognize that the actions we take under our monetary policy and financial stability responsibilities have indirect implications for the ability of households to attain financial security in retirement.

Q.2. In the past, you have remarked that regulators should work to help ease unnecessary regulatory burdens on our community banks. In North Dakota, and rural America more generally, community banks are many times the only access to capital families and businesses have. Yet more than ever they are faced with layers of regulatory and accounting rules that I worry are stifling new bank charters, banking innovation, and customer access to important credit and deposit relationships and products.

Given your concerns about the regulatory pressures on community banks, what is the Fed actively doing to address this issue?

A.2. A major goal of the Federal Reserve is to eliminate unnecessary regulatory burden on all banks, especially community banks. In that vein, the Federal Reserve has been carefully considering the comments received as part of the 2014 review conducted pursuant to the Economic Growth and Regulatory Paperwork Reduction Act of 1996 (EGRPRA). This decennial review, which is a joint effort between the Federal Reserve, the Office of the Comptroller of the Currency (OCC), and the Federal Deposit Insurance Corporation (FDIC) (collectively, the Agencies), generated nearly 270 public comments submitted in response to four issued *Federal Register* notices. Additional comments were also received from bankers as well as consumer and community groups through the six outreach meet-

ings held in 2014 and 2015 with over 1,030 participants in Los Angeles, Dallas, Boston, Kansas City, Chicago, and Washington, DC.

Although the Federal Reserve is still evaluating these comments, we have already taken action on certain issues. For example, the Federal Reserve immediately raised the threshold from \$500 million to \$1 billion for banks that qualified for an 18 month versus a 12 month examination cycle when the Fixing America's Surface Transportation Act became effective on December 4, 2015. An interim final rule later followed in February 2016.¹ In April 2016, the Federal Reserve published a final rule to expand the applicability of its Small Bank Holding Company Policy Statement by raising the asset threshold of the policy statement from \$500 million to \$1 billion in total consolidated assets. The policy statement was also expanded to apply to certain savings and loan holding companies. As a result of this action, 89 percent of all bank holding companies and 81 percent of all savings and loan holding companies are excluded from certain consolidated regulatory capital requirements. In addition to reducing capital burden, the action significantly reduced the reporting burden associated with capital requirements. In addition, raising the asset threshold allowed more bank holding companies to take advantage of expedited applications processing procedures.²

Under the auspices of the Federal Financial Institutions Examination Council (FFIEC), the Agencies issued a public notice on September 8, 2015, to establish a multistep process for streamlining Call Report requirements.³ The notice announced an accelerated start of a required review of the Call Report and included proposals to eliminate or revise several Call Report data items. It also included a proposed assessment of the feasibility of creating a streamlined community bank Call Report. The Agencies also reached out to the banking industry to better understand significant sources of Call Report burden. On March 4, 2016, the Agencies also issued an "Interagency Advisory on Use of Evaluations in Real Estate-Related Financial Transactions."⁴ This advisory describes existing supervisory expectations, guidance, and industry practice for using evaluations instead of appraisals when estimating the market value of real property securing real estate-related financial transactions, and directly responds to issues raised by EGRPRA commenters regarding the use of evaluations.⁵ In June of 2016, the Agencies also issued supervisory views on the new accounting standard for credit losses issued by the Financial Accounting Standards Board indicating that the new standard will be scaled to the size of the institution, that allowances for credit losses may be determined using various methods and that smaller and less complex institutions are not expected to implement complex modeling techniques.⁶

Outside of the EGRPRA review, the Federal Reserve has also taken a number of steps to ease the burden associated with com-

¹ 81 FR 10063 (February 29, 2016).

² See: <http://www.gpo.gov/fdsys/pkg/FR-2015-04-15/pdf/2015-08513.pdf>.

³ 80 FR 56539 (September 18, 2015).

⁴ See: <http://www.federalreserve.gov/newsevents/press/bcreg/20160304a.htm>.

⁵ OCC Bulletin 2016-8; FRB SR letter 16-5; FDIC FIL-16-2016.

⁶ SR Letter 16-12.

munity bank examinations, including improving examination efficiency by:

- Using existing bank financial data to identify high-risk activities, which would allow us to focus our supervisory efforts and reduce regulatory burden on banking organizations with less risk;
- leveraging technology to conduct more examination work off-site;⁷
- simplifying and tailoring preexamination requests for documentation;
- helping community bankers easily identify new regulations or proposals that are applicable to their organizations; and
- conducting extensive training for examiners and performing internal reviews and studies to ensure that rules and guidance are properly interpreted and applied appropriately to community banks.

Further, in order to reduce the burden of on-site examinations the Federal Reserve continues to coordinate with other regulators on the majority of on-site examination work. For example, since 1981, the Federal Reserve and the State regulators have examined community banks that are free of problems on an alternative schedule, with the Federal Reserve examining one year and the State the next. The Federal Reserve and the State regulators also conduct joint examinations or participate in each other's examinations.

Q.3. How has the Fed coordinated with other regulatory agencies to appropriately tailor rules for community banks? Do you see areas for improvement in this regard?

A.3. The Federal Reserve collaborates with the other regulatory agencies in most major aspects of bank supervision such as the development of supervisory rules and guidance and on-site examinations. For example, a large portion of the guidance issued that impacts community banks are developed on an interagency basis through the FFIEC. Through the FFIEC, the Federal Reserve has and continues to work with other regulators to help ensure that our rules are properly tailored so that smaller institutions are not subject to the same set of requirements as larger institutions.

When permitted by law, the Federal Reserve and the other regulatory agencies work together to tailor supervisory rules and guidance based on the bank's risk, size, and complexity so that the most stringent requirements are applicable to the largest, most complex banking organizations that pose the greatest risk to the U.S. financial system. For example, the enhanced prudential standards and expectations implemented through the Dodd-Frank Wall Street Reform and Consumer Protection Act set forth a number of requirements that do not apply to community banks such as capital plans, stress testing, and liquidity and risk management requirements. Many of the requirements of the capital rule that were issued in 2013 such as the countercyclical capital buffer, supplementary leverage ratio, and capital requirements for credit valu-

⁷ SR Letter 16-8.

ation also do not apply to community banks. Also, to assist community banks in understanding how new complex rules could possibly affect their business operations, the Federal banking agencies have issued supplemental guides that focus on rule requirements that are most applicable to community banks. For example, the Federal banking agencies issued supplemental guides for the 2013 capital rule, as well as the Volcker rule issued in December 2013.

As to the identification of areas for improvement, the Federal Reserve and the other Federal banking agencies are currently in the midst of completing the EGRPRA review. The Federal Reserve views this review as a timely opportunity to step back and look for ways to reduce regulatory burden, particularly for smaller or less complex banks that pose less risk to the U.S. financial system. By the end of this year, the Federal banking agencies will submit a report to Congress summarizing any significant issues raised by the commenters and the relative merits of such issues, as well as recommendations and actions taken by the Federal banking agencies to reduce regulatory burden.

ADDITIONAL MATERIAL SUPPLIED FOR THE RECORD

For use at 10:00 a.m., EDT
June 21, 2016

MONETARY POLICY REPORT

June 21, 2016



Board of Governors of the Federal Reserve System

LETTER OF TRANSMITTAL



BOARD OF GOVERNORS OF THE
FEDERAL RESERVE SYSTEM

Washington, D.C., June 21, 2016

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 cursive script, reading "Janet L. Yellen", is positioned below the word "Sincerely,".

Janet L. Yellen, Chair

STATEMENT ON LONGER-RUN GOALS AND MONETARY POLICY STRATEGY

Adopted effective January 24, 2012; as amended effective January 26, 2016

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 reaffirms its judgment 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. The Committee would be concerned if inflation were running persistently above or below this objective. Communicating this symmetric 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, the median of FOMC participants' estimates of the longer-run normal rate of unemployment was 4.9 percent.

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.

CONTENTS

Summary	1
Part 1: Recent Economic and Financial Developments	3
Domestic Developments	3
Financial Developments	18
International Developments	24
Part 2: Monetary Policy	29
Part 3: Summary of Economic Projections	33
Abbreviations	37
List of Boxes	
Have the Gains of the Economic Expansion Been Widely Shared?	6
Developments Related to Financial Stability	20

Note: Unless stated otherwise, the time series in the figures extend through, for daily data, June 16, 2016; for monthly data, May 2016; and, for quarterly data, 2016: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.

For figures 14, 32, and 35, note that the S&P Case-Shiller Index is a product of S&P Dow Jones Indices LLC and its affiliates and has been licensed for use by the Board. Copyright © 2016 S&P Dow Jones Indices LLC, a subsidiary of the McGraw Hill Financial Inc., and/or its affiliates. All rights reserved. Redistribution, reproduction and/or photocopying in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. For more information on any of S&P Dow Jones Indices LLC's indices please visit www.spdji.com. S&P® is a registered trademark of Standard & Poor's Financial Services LLC and Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC. Neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates nor their third party licensors make any representation or warranty, express or implied, as to the ability of any index to accurately represent the asset class or market sector that it purports to represent and neither S&P Dow Jones Indices LLC, Dow Jones Trademark Holdings LLC, their affiliates nor their third party licensors shall have any liability for any errors, omissions, or interruptions of any index or the data included therein.

SUMMARY

Labor market conditions clearly continued to strengthen during the early months of this year: Payrolls expanded at a solid pace of almost 200,000 per month in the first quarter, and while the unemployment rate flattened out at close to 5 percent, the labor force participation rate moved up strongly. More recently, the signals regarding labor market improvement have become more mixed: Payroll gains are reported to have slowed to an average of 80,000 per month in April and May (or about 100,000 after adjustment for the effects of a strike). The unemployment rate dropped in May to 4.7 percent, its lowest level since late 2007; however, the labor force participation rate fell back again and was little changed from its year-ago level. All told, the latest readings suggest that labor markets are tighter than they were at the end of last year but that the pace of improvement has slowed. Whether those signs of slowing will be confirmed by subsequent data, and how persistent any such slowing will be, remains to be seen.

Consumer price inflation has continued to be held down by lower prices for energy and imports, and the price index for personal consumption expenditures (PCE) increased only about 1 percent over the 12 months ending in April. Changes in the PCE price index excluding food and energy items, which provide a better indication than the headline figure of where overall inflation will be in the future, also remained modest; this index, which rose $1\frac{1}{2}$ percent over the 12 months ending in April, was partly restrained by lower prices for non-oil imported goods. However, both the headline and core inflation measures have picked up somewhat from a year earlier. Meanwhile, some survey-based measures of longer-run inflation expectations have remained relatively stable, while others have moved down; market-based measures of inflation compensation also are at low levels.

Although real gross domestic product is reported to have increased at a sluggish rate in the first quarter of 2016, the available data for the second quarter point to a noticeable step-up in the pace of growth. On average, consumer spending so far this year appears to be expanding at a moderate pace, supported by solid income gains and the ongoing effects of the increases in wealth and the declines in oil prices of the past two years. The housing market continues its gradual recovery, and fiscal policy at all levels of government is now modestly boosting economic activity after exerting a considerable drag in recent years. One area of concern, however, is the softening in business fixed investment in recent quarters even beyond those sectors most directly affected by the plunge in energy prices. In addition, the weakness of exports—following the significant appreciation of the dollar over the past two years and the subdued pace of foreign economic growth—continues to hold back overall output growth.

On balance, household and business credit conditions in the United States have remained accommodative so far this year. Following a period of heightened global financial market volatility earlier this year in which risk spreads for U.S. corporate bonds rose, financial conditions have eased somewhat in recent months, and corporate bond yields have returned to historically low levels. Mortgage rates once again have approached their all-time lows, and mortgage credit appears widely available to borrowers with solid credit profiles, though less so to would-be borrowers with imperfect credit histories. Student and auto loans are broadly available, including to borrowers with nonprime credit scores, and the availability of credit card loans for such borrowers appears to have expanded somewhat over the past several quarters. Broad measures of U.S. equity prices have increased slightly, on net, since the beginning of the year. Meanwhile, foreign financial markets

2 SUMMARY

appear to have stabilized following the period of volatility earlier this year, with foreign equity prices higher and risk spreads lower. That said, the potential remains for spillovers to the U.S. economy from shocks to foreign economic activity and financial markets, including possible reverberations from the U.K. referendum this week on membership in the European Union.

Turning to the stability of the U.S. financial system, financial vulnerabilities have remained at a moderate level this year. Domestic financial institutions and markets functioned well during the period of heightened volatility early in the year. Large banking firms have kept their capital and liquidity ratios at high levels relative to historical standards, capital at other financial firms also appears to be elevated, and financial firms' use of short-term wholesale funding remains subdued. Debt growth in the household sector has been modest. However, leverage of nonfinancial corporations is elevated by historical standards, and lower-rated firms are potentially vulnerable to adverse developments. In particular, the performance of firms in the energy sector has been especially weak due to the prolonged period of low oil prices. In equity markets, valuation pressures have increased somewhat as expectations for corporate earnings have been revised downward; valuation pressures have remained notable in the commercial real estate sector, to which some small banks have substantial exposures.

After having raised the target range for the federal funds rate to between $\frac{1}{4}$ and $\frac{1}{2}$ percent last December, the Committee maintained that target range over the first half of the year. The Committee's decisions to leave the stance of policy unchanged were supported by its assessments earlier in the year that global economic and financial developments posed risks to the economic outlook and that growth in economic activity appeared to have slowed. In June, the Committee noted that recent information indicated that the pace of

improvement in the labor market had slowed, while growth in economic activity appeared to have picked up. In addition, the Committee's policy stance so far this year reflected its expectation that inflation would remain low in the near term, in part due to earlier declines in energy prices and in the prices of non-energy imports. The Committee stated that its accommodative stance of policy is intended to support further improvements in labor market conditions and a return to 2 percent inflation.

The Committee continued to emphasize that, in determining the timing and size of future adjustments to the target range for the federal funds rate, it will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. These judgments will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee expects that economic conditions will evolve in a manner that will warrant only gradual future increases in the federal funds rate, and that the federal funds rate will likely remain, for some time, below levels that are expected to prevail in the longer run. Consistent with this outlook, in the most recent Summary of Economic Projections (SEP), which was compiled at the time of the June meeting of the Federal Open Market Committee (FOMC), FOMC participants projected that the appropriate level of the federal funds rate would be below its longer-run level through 2018. (The June SEP is discussed in more detail in Part 3 of this report.)

The Federal Reserve continued to use interest paid on reserve balances and employ an overnight reverse repurchase agreement facility to manage the federal funds rate, and these tools were effective in keeping the federal funds rate within its target range. The Federal Reserve also continued to test the operational readiness of other policy implementation tools.

PART 1

RECENT ECONOMIC AND FINANCIAL DEVELOPMENTS

Labor market conditions have improved this year, though recent data suggest there has been a loss of momentum. Payroll gains averaged about 200,000 per month in the first quarter but then only 80,000 per month in April and May. The unemployment rate has edged down to 4½ percent, a level that is near the midpoint of the Federal Open Market Committee (FOMC) participants' estimates of its longer-run rate. That said, a few indicators suggest that some slack in the labor market remains. Despite persistently weak productivity growth, measures of labor compensation show some tentative signs of acceleration. Overall consumer price inflation has continued to be held down by lower prices for energy and imports, but both overall inflation and inflation excluding food and energy items, a useful gauge of where overall inflation will be in the future, have picked up a bit over the past year. Some survey-based measures of longer-run inflation expectations have moved down; market-based measures of inflation compensation have declined noticeably since last summer.

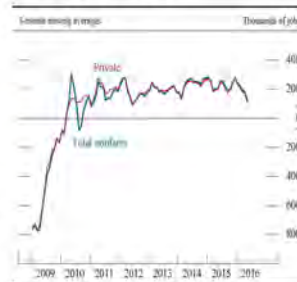
Real gross domestic product (GDP) is estimated to have increased at a sluggish rate in the first quarter, but more recent data point to a noticeable step-up in the pace of growth in the second quarter. Consumer spending appears to be expanding at a moderate pace so far this year, while the housing market continues its gradual recovery, and fiscal policy at all levels of government is now modestly boosting economic activity after exerting a considerable drag in recent years. An area of concern, however, is the softening in business fixed investment in recent quarters, even beyond those sectors most directly affected by the plunge in energy prices. In addition, weak exports are providing little boost to overall output growth. Heightened global financial market volatility early this year damped confidence both domestically and abroad, but financial conditions have generally eased somewhat in recent months; in the United States, credit conditions for both households and businesses have remained generally accommodative.

Domestic Developments

Early this year, the labor market continued to improve . . .

The labor market continued to improve in the first few months of this year. Payrolls expanded at an average rate of around 200,000 per month from January through March, modestly below the average of 230,000 jobs per month last year but still well above the number needed to absorb the trend number of new entrants into the workforce (figure 1). The unemployment rate held at about 5 percent, where it had been since the fall, but both labor force participation and the employment-to-

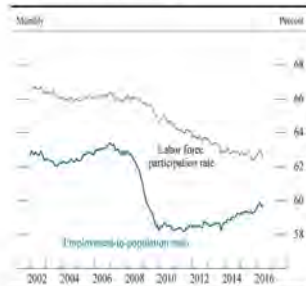
1. Net change in payroll employment



Source: Department of Labor, Bureau of Labor Statistics.

4 PART 4: RECENT ECONOMIC AND FINANCIAL DEVELOPMENTS

2. Labor force participation rate and employment-to-population ratio



NOTE: Both series are a percent of the population aged 16 and over.
SOURCE: Department of Labor, Bureau of Labor Statistics.

population ratio rose noticeably (figure 2). The rise in the labor force participation rate was encouraging because it seemed to suggest that labor supply was responding significantly to the strengthening labor market.

... but recently there may have been a loss of momentum ...

The data for April and May, however, suggest that the pace of labor market improvement has slowed. Payroll growth is reported to have averaged a pace of only 80,000 per month (about 100,000 after adjustment for the effects of a strike).¹ And although the unemployment rate fell to 4.7 percent in May, that decline occurred as both labor force participation and the employment-to-population ratio fell back somewhat from their levels in March. On net, the participation rate in May was little changed from a year earlier (a position that should nonetheless be viewed as a strengthening relative to a trend that is probably declining because of demographic changes, especially the aging of the baby-boom generation).

Despite these disappointing data, other labor market indicators are consistent with a job market that has continued to strengthen. In particular, initial claims for unemployment insurance, now available through early June, remain very low—and therefore at odds with the weaker tenor of the recent payroll figures. In addition, according to the Job Openings and Labor Turnover Survey, the rate of job openings as a share of private employment remains at a very high level; the quits rate has continued to trend up and is now fairly high, the latter measure indicating that workers feel increasingly confident about their employment opportunities.

1. According to the Labor Department, payroll employment in May was reduced by about 35,000 because of workers on strike at Verizon. These employees have returned to work and are expected to be included in payroll figures for June.

3. Measures of labor underutilization



NOTE: U-4 measures total unemployed plus discouraged workers, as a percent of the labor force plus discouraged workers. Discouraged workers are a subset of marginally attached workers who 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. The shaded bar indicates a period of business recession as defined by the National Bureau of Economic Research.

SOURCE: Department of Labor, Bureau of Labor Statistics.

... and a few signs of labor underutilization remain

Although the May level of the unemployment rate is near the midpoint of the FOMC participants' estimates of its longer-run rate, a few indicators suggest that some slack in labor resource utilization remains. Most notably, the share of workers who are employed part time but would like to work full time is still elevated; accordingly, the more comprehensive U-6 measure of labor underutilization, which includes these underemployed individuals, has remained well above its pre-recession level (figure 3). Meanwhile, jobless rates for African Americans and Hispanics are high relative to the aggregate, though these rates have also improved during the economic recovery (figure 4). (For additional discussion, see the box "Have the Gains of the Economic Expansion Been Widely Shared?")

Have the Gains of the Economic Expansion Been Widely Shared?

The financial crisis resulted in massive job losses and falling income for American households. However, not all households suffered to the same extent during the downturn, nor have they benefited to the same extent during the subsequent recovery. This discussion reviews the labor market situation and household incomes for Americans of different races and ethnicities during the Great Recession and the ensuing economic expansion.¹

A figure in the main text shows that unemployment rates for blacks and Hispanics rose more during the recession, and have declined more during the expansion, than for the nation as a whole (text figure 4).² Rates for these groups remain higher than for whites; the differentials among these rates are now roughly the same as prior to the recession. A similar result is true for employment-to-population ratios of prime-age individuals (ages 25 to 54).³ Prime-age employment rates are lower for blacks and fell more sharply during the financial crisis, dropping nearly 8 percentage points between mid-2008 and the end of 2011, compared with declines of between 4 and 5 percentage points for whites, Asians, and Hispanics (figure A). Since 2011, however, blacks

have experienced the largest rebound in employment. Thus far in 2016, blacks continue to have the lowest prime-age employment rates among these four groups, and the racial differences in employment-to-population ratios are very similar to pre-recession levels.

Among the working population, blacks and Hispanics suffered the greatest losses in full-time employment share during the recession, and, even as overall employment has recovered, the full-time share remains significantly depressed for these workers (figure B). By early 2016, white and Asian prime-age workers had nearly returned to their pre-recession rates of full-time work, but the share of full-time employment among black and Hispanic workers remains several percentage points lower than their previous high levels. Prior to the Great Recession, black workers were the most likely to report usually working 35 hours per week or more, closely followed by Hispanics. By 2016, Hispanic workers had slightly lower rates of full-time employment than whites, and the full-time share of black workers was slightly lower than that of Asians.

In the period of sustained high unemployment following the financial crisis, household incomes for all groups of Americans fell sharply and did not begin to recover until 2012. The decline in median household income was particularly large for black households—16 percent, compared with approximately

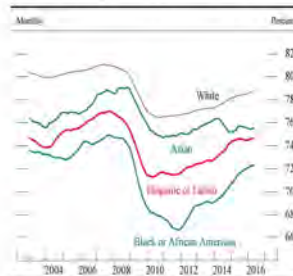
1. The employment-to-population ratio and full-time share of employed individuals are calculated using data from the monthly Current Population Survey (CPS). Median household income and the income composition are calculated using data from the March CPS Annual Social and Economic Supplement (ASEC). Monthly data are available through April 2016, while the most recent ASEC data (March 2015 CPS) are for 2014.

2. The Hispanic ethnicity and race categories are not mutually exclusive. Some individuals are, for example, both Hispanic and white, and they are represented in both lines in the figures in the box.

3. The unemployment rate shows the number of unemployed individuals actively looking for work as a share

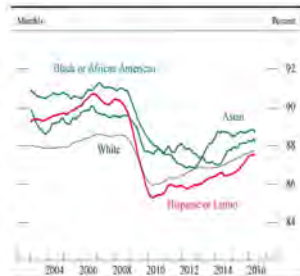
of the total labor force. The employment-to-population ratio ignores the distinction between those actively seeking work or not and simply measures the number of employed individuals as a share of the total population. We use the prime-age population because we want to focus on the labor market recovery and do not want income to include Social Security and other sources of retirement income that are largely independent of economic conditions.

A. Prime-age employment-to-population ratio, by race



NOTE: The data are 12-month moving averages. Prime age is defined as those aged 25 to 54.
SOURCE: Department of Labor, Bureau of Labor Statistics.

B. Full-time share of all prime-age employed persons, by race



NOTE: The data are 12-month moving averages. Prime age is defined as those aged 25 to 54.
SOURCE: Department of Labor, Bureau of Labor Statistics.

6 percent for white, Hispanic, and Asian households (figure C).⁴

By 2014 (latest data available), median household incomes of Asian, white, and Hispanic households had improved and were at least 94 percent of pre-recession levels, but median income for black households remained only 88 percent of the 2007 level. Racial and ethnic differences in income were sizable before the financial crisis and have only grown larger since then, with the median black household income at \$40,000 in 2014, compared with \$67,000 for white and \$85,000 for Asian households (figure D).

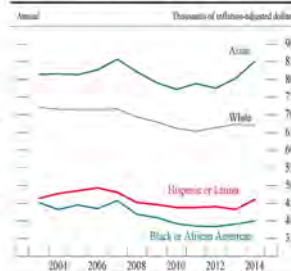
Losses in wage income account for the bulk of the decline in income for households during the downturn. Between 2007 and 2011, mean wage income for households in the middle quintile of the income distribution fell just over \$5,000 for white households, \$4,000 for Hispanic households, \$8,000 for black households, and \$7,000 for Asian households (figure E).⁵ Wages and salaries are the single largest source of income and have provided most of the increase in total income since 2011. Mean wage income for 2014 had returned to pre-recession levels for Asian households and had made up some of the lost ground among white and Hispanic households. Wage income for black households, however, remained

substantially below levels experienced prior to the financial crisis.

Transfer income rose substantially during the recession because of federal economic stimulus programs and automatic stabilizers, but the increases only offset a modest portion of the overall decline in income.⁶ Transfer income has receded very slowly since 2011, with mean transfers in 2014 remaining above pre-recession levels for all racial and ethnic groups.

6. Transfer income includes Social Security income, welfare, Supplemental Security Income, unemployment benefits, and educational assistance. Other income includes business income; farm income; income from interest, dividends, rent, alimony, and contributions; retirement income; trusts; workers' compensation; veterans', survivors', and disability benefits; educational assistance from nongovernment sources; assistance from friends and family; and other sources.

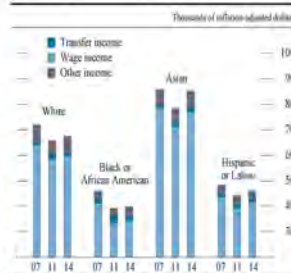
D. Median prime-age household income, by race



NOTE: Prime-age households are defined as households led by those aged 25 to 54. Race refers to the race of the head of household. The data extend through 2014.

SOURCE: U.S. Census Bureau, Current Population Survey, March 2016.

E. Changing composition of income for middle quintile of prime-age households, by race group and key year



NOTE: Prime-age households are defined as households led by those aged 25 to 54. Race refers to the race of the head of household. The data are grouped according to key years 2007, 2011, and 2014.

SOURCE: U.S. Census Bureau, Current Population Survey, March 2016.

4. Percentages are based on an analysis of income data from the March CPS ASEC. Household race was determined by answers to the Hispanic ethnicity question and the first racial category selected by household heads between the ages of 25 and 54. Income of all household members is included. Any household head identifying as Hispanic is coded as Hispanic, regardless of race. Incomes for a very small group of households (less than 2 percent in 2014) that are identified as some other race group are not shown here, as the estimates are somewhat volatile and not very precise.

5. To show changes in the composition of income for "typical" households, we switch here to using mean income of households in the middle quintile of the distribution.

C. Indexed median prime-age household income, by race



NOTE: Prime-age households are defined as households led by those aged 25 to 54. Race refers to the race of the head of household. The data extend through 2014.

SOURCE: U.S. Census Bureau, Current Population Survey, March 2016.

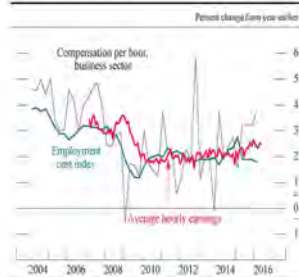
8 PART 1: RECENT ECONOMIC AND FINANCIAL DEVELOPMENTS

4. Unemployment by race and ethnicity



NOTE: Persons whose ethnicity is identified as Hispanic or Latino may be of any race. The shaded bar indicates a period of business recession as defined by the National Bureau of Economic Research.
SOURCE: Department of Labor, Bureau of Labor Statistics.

5. Measures of change in hourly compensation



NOTE: The average hourly earnings data series begins in March 2007 and extends through May 2016. The compensation per hour and employment cost index data extend through 2016:Q1. For business-sector compensation, change is over four quarters; for the employment cost index, change is over the 12 months ending in the last month of each quarter; for average hourly earnings, change is from 12 months earlier.

SOURCE: Department of Labor, Bureau of Labor Statistics.

Compensation growth has shown tentative signs of a pickup . . .

By most measures, the growth of labor compensation has remained modest, though recently there have been some signs of faster increases. The employment cost index (ECI) for private-industry workers, which includes the cost of employer-provided benefits as well as wages, registered a rise of only 1¼ percent over the 12 months ending in March (figure 5). However, two other prominent measures of labor compensation—average hourly earnings for all private-sector employees and business-sector compensation per hour—recorded larger increases than the ECI over the past year, and the increases in both series were above their corresponding averages over the preceding several years. In addition, according to the Federal Reserve Bank of Atlanta's Wage Growth Tracker, the median of 12-month changes in individuals' hourly wages (from the monthly survey of households) has been gradually trending higher, reaching 3½ percent in May.

... amid persistently weak productivity growth

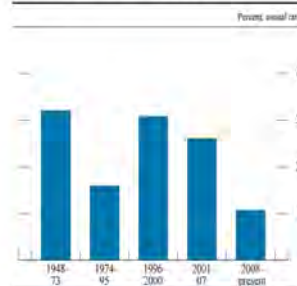
The relatively slow gains in labor compensation in recent years have occurred against a backdrop of persistently weak productivity growth. Since 2008, labor productivity gains have averaged around 1 percent per year, far below the pace that prevailed before the recession (figure 6). Indeed, in the past five years, productivity growth has averaged only $\frac{1}{2}$ percent per year. The relatively slow pace of productivity growth is at least in part a consequence of the sustained weakness in capital investment over the recession and early recovery period. Productivity gains may improve in the future as investment in productivity-enhancing capital equipment and in research and development strengthens.

Falling energy prices have held down consumer price inflation

Overall consumer price inflation has moved up from the lows recorded last year, but it remains well below the FOMC's longer-run objective of 2 percent. In April, the 12-month change in the price index for personal consumption expenditures (PCE) was around 1 percent, higher than the $\frac{1}{4}$ percent rate recorded in April 2015 (figure 7). The pickup over this period was largely due to a slower rate of decline in both energy prices and non-energy import prices.

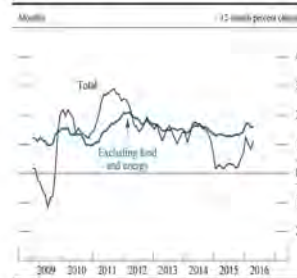
Low oil prices have reduced global investment in the oil sector and have led to some cutbacks in production, particularly in the United States. These declines, firming global demand, and some temporary supply disruptions—including in Canada due to wildfires—have recently pushed crude oil prices higher after they reached a 12-year low in mid-January (figure 8). Nonetheless, at a bit below \$50 per barrel, the spot price of Brent crude oil remains less than half its mid-2014 peak. Moreover, the continued low level of oil futures prices suggests that market participants expect only a modest increase in oil prices over

6. Change in business sector output per hour



NOTE: Changes are measured from Q4 of the year immediately preceding the period through Q4 of the final year of the period. The final period is measured from 2007:Q4 through 2016:Q1.
SOURCE: Department of Labor, Bureau of Labor Statistics.

7. Change in the price index for personal consumption expenditures



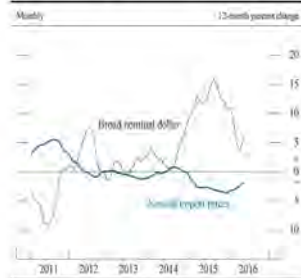
NOTE: The data extend through April 2016; changes are from one year earlier.
SOURCE: Department of Commerce, Bureau of Economic Analysis.

8. Brent spot and futures prices



NOTE: The data are weekly averages of daily data and extend through June 18, 2016.
SOURCE: NYMEX via Bloomberg.

9. Non-oil import prices and U.S. dollar exchange rate



Source: Department of Labor, Bureau of Labor Statistics; Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

the next couple of years, given the historically high global inventories of crude oil. The large cumulative drop in crude oil prices had mostly passed through to lower retail prices for gasoline and other energy products by early this year; despite some increases thereafter, prices at the pump remain at levels substantially below those of last summer.

Similar to the price of crude oil, prices of metals and agricultural goods have moved higher since early this year. The rise in the prices of agricultural goods followed several quarters of declines that have held down retail food prices for consumers so far this year. The rise in many nonfuel commodities prices, together with a weaker dollar, helped push non-oil import prices higher in May—the first increase since 2014 (figure 9).

Outside of the energy and food categories, inflation has picked up a little bit

Inflation for items other than food and energy (so-called core inflation) has picked up a little. Core PCE prices rose about $1\frac{1}{2}$ percent over the 12 months ending in April, up about $\frac{1}{4}$ percentage point from its year-earlier pace.² The increase in the trimmed mean PCE price index, an alternative indicator of underlying inflation, has also picked up a bit over the past year; as is typically the case, this measure has run somewhat above core inflation over this period. Because the slack in labor and product markets appears to have been mostly taken up, and given the recent upward movements in oil prices and non-oil import prices—after months of declines—the downward pressure on inflation from these factors is likely waning.

2. Data from the consumer price index and the producer price index point to a similar reading for the 12-month change in core PCE prices in May.

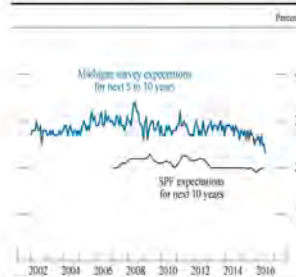
Some survey-based measures of expected inflation have drifted downward . . .

The FOMC devotes careful attention to indicators of long-run inflation expectations, as these expectations are believed to be an important factor underlying many wage- and price-setting decisions. The latest readings from surveys of longer-term inflation expectations have sent mixed signals (figure 10). In the Survey of Professional Forecasters, conducted by the Federal Reserve Bank of Philadelphia, the median second-quarter reading on expected annual PCE price inflation over the next 10 years was again 2 percent. The distribution of inflation expectations 5 to 10 years ahead derived from surveys of primary dealers has remained similarly stable. But in the University of Michigan Surveys of Consumers, the median reading on inflation expectations over the next 5 to 10 years has drifted down over the past two years and recorded a new low in early June. To the extent that this downward drift is a reaction to energy-driven declines in overall inflation, it could reverse over time as energy prices stop declining.

. . . and market-based measures of inflation compensation have remained low

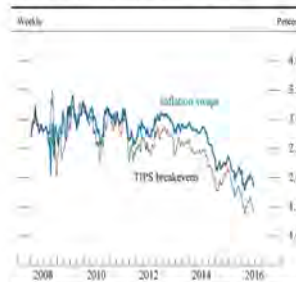
Market-based measures of longer-term inflation compensation—derived either from differences between yields on nominal Treasury securities and Treasury Inflation-Protected Securities or from inflation swaps—have continued to decline and now stand at very low levels (figure 11). Deducing the sources of changes in inflation compensation is challenging because such movements reflect not only expected inflation, but also an inflation risk premium—the compensation that holders of nominal securities demand for bearing inflation risk—and other factors. Nevertheless, one cannot rule out a decline in inflation expectations among market participants since last summer.

10. Median inflation expectations



NOTE: The Michigan survey data are monthly and extend through June 2016. The SPF data for inflation expectations for personal consumption expenditures are quarterly and extend from 2007:Q1 through 2016:Q2. Michigan survey data for June are preliminary.
SOURCE: University of Michigan Surveys of Consumers; Federal Reserve Bank of Philadelphia, Survey of Professional Forecasters (SPF).

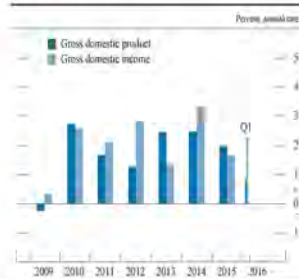
11. 5-to-10-year-forward inflation compensation



NOTE: The data are weekly averages of daily data and extend through June 17, 2016. TIPS is Treasury Inflation-Protected Securities.
SOURCE: Federal Reserve Bank of New York; Barclays, Federal Reserve Board staff estimates.

12. PART 1: RECENT ECONOMIC AND FINANCIAL DEVELOPMENTS

12. Change in real gross domestic product and gross domestic income



Source: Department of Commerce, Bureau of Economic Analysis

Economic activity has been expanding at a moderate pace

Real GDP is currently reported to have increased at an annual rate of just $\frac{3}{4}$ percent in the first quarter, but with several signs of faster growth in the current quarter, real GDP appears on track to record a moderate overall gain in the first half of this year (figure 12).³ Consumer spending is advancing further, and housing activity continues to strengthen gradually. Meanwhile, government expenditures have maintained momentum. Although inventory investment exerted a sizable drag on GDP growth in the latter half of last year, it has been less of an influence in the first half of this year.

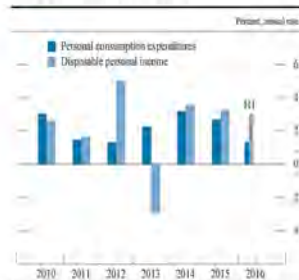
Nevertheless, several of the headwinds that were apparent last year have continued to restrain growth in activity this year. In particular, a substantial appreciation of the dollar over the past couple of years, along with continued sluggish foreign growth, is weighing on the demand for U.S. exports. In addition, the sizable drop in oil prices since 2014—withstanding the substantial benefit to households—has led to marked cutbacks in production and investment in the energy sector of our economy. These negative factors have had particularly pronounced effects on activity in the industrial sector.

Gains in income and wealth continue to support consumer spending

Consumption growth was lackluster early in 2016, but data on retail sales and motor vehicle sales suggest that spending has picked up appreciably so far this quarter. Smoothing through the monthly fluctuations, consumer spending is reported to have increased at an annual rate of nearly 3 percent over the first four months of this year, only a little slower than the pace in 2015 (figure 13).

3. While it appears likely that residual seasonality—a predictable seasonal pattern remaining in data that have already been seasonally adjusted—in some components of GDP held down measured GDP growth in the first quarter, this factor would imply an offsetting boost in measured GDP growth over the remainder of the year.

13. Change in real personal consumption expenditures and disposable personal income



Note: The reading for 2016:1:1 is the annualized April/Q4 change.
Source: Department of Commerce, Bureau of Economic Analysis

The improvement in the labor market has continued to support income growth, and low energy prices are boosting households' purchasing power. As a result, real disposable personal income—that is, income after taxes and adjusted for inflation—was reported to have advanced at an annual rate of about 3¼ percent over the first four months of this year, just a touch below the pace in 2015.

Ongoing gains in household net worth likely have also supported growth in consumer spending. House prices, which are of particular importance for the balance sheet positions of a broad set of households, have continued to move higher, with the CoreLogic national index showing a rise of about 6 percent over the 12 months ending in April (figure 14). Elsewhere, although equity prices have only increased slightly, on net, so far this year, the prior gains of the past few years have helped improve households' financial positions. In the first quarter of this year, the ratio of aggregate household net worth to disposable income, which had previously returned to its pre-recession highs, ticked down slightly but remained far above its long-run historical average (figure 15).

Consumers are upbeat about their economic prospects . . .

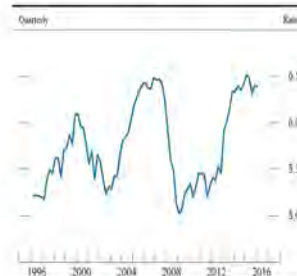
The solid pace of income growth over the past year has helped households retain fairly upbeat perceptions about their economic prospects. The Michigan survey's composite index of consumer sentiment—which incorporates households' views about their own financial situations as well as economic conditions more broadly—has improved again recently following a moderate deterioration earlier in the year, and the latest readings were near the upper end of the range of values recorded during the previous economic expansion (figure 16). After having lagged behind improvements in headline sentiment earlier in the recovery, the survey measures of households' expectations for real income changes over the next year or two have also improved noticeably and now stand close to their pre-recession levels.

14. Prices of existing single-family houses



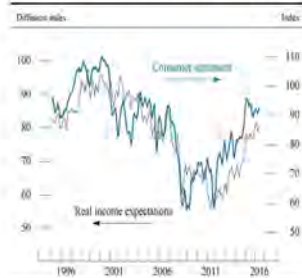
NOTE: The data for the S&P/Case-Shiller index extend through March 2016. The data for the Zillow and CoreLogic indexes extend through April 2016. For Dow Jones Indices licensing information, see the note on the Contents page.
SOURCES: CoreLogic Home Price Index, Zillow, S&P/Case-Shiller (U.S. National Home Price Index, "Index"). The S&P/Case-Shiller Index is a product of S&P Dow Jones Indices LLC and/or its affiliates.

15. Wealth-to-income ratio



NOTE: The series is the ratio of household net worth to disposable personal income.
SOURCES: For net worth, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States"; for income, Department of Commerce, Bureau of Economic Analysis.

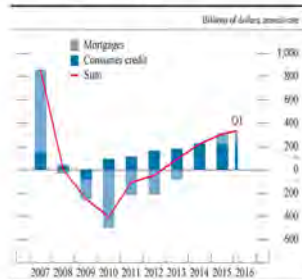
16. Indexes of consumer sentiment and income expectations



NOTE: The data are three-month moving averages and extend through June 2016. Late data are preliminary. Consumer sentiment is indexed to 100 in 1966. Real income expectations are calculated as the net percent of survey respondents expecting family income to go up more than prices during the next year or two, plus 100.

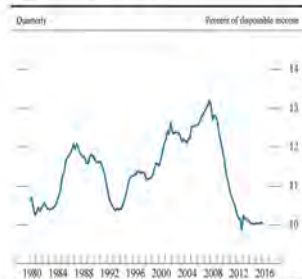
SOURCE: University of Michigan Surveys of Consumers.

17. Changes in household debt



SOURCE: Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

18. Household debt service



NOTE: Debt service payments consist of estimated required payments on outstanding mortgage and consumer debt.

SOURCE: Federal Reserve Board, Statistical Release, "Household Debt Service and Financial Obligations Ratios."

... and household credit availability is generally favorable

Consumer credit has continued to expand this year amid stable credit performance (figure 17). Auto and student loans remain widely available, even to borrowers with lower credit scores, and outstanding balances of these types of loans expanded at a robust pace. Credit card borrowing has also accelerated a bit, on balance, and the outstanding balance in April was 5½ percent above its level a year earlier. Although there have been some tentative signs of easing overall, credit card standards have remained tight for nonprime borrowers.

Low interest rates and rising incomes have enabled many households to lower their debt payment burdens. The household debt service ratio—that is, the ratio of required principal and interest payments on outstanding household debt to disposable personal income—has remained at a very low level by historical standards (figure 18). Interest rates on 30-year fixed-rate mortgages are down about ½ percentage point from the level at the December liftoff date, and rates on auto loans, on net, have been little changed since then. Going forward, the effect of any policy rate tightening on mortgage rates and, in turn, on households' debt burdens will likely show through only gradually, as the current stock of household debt is disproportionately held in loan products with fixed interest rates.

Residential construction activity has improved at a gradual pace

The recovery in residential construction activity has maintained a moderate pace. Single-family starts continued to edge up slowly over the past year, while multifamily starts receded a little from their elevated levels in the middle of 2015 (figure 19). Looking further back, the rise in multifamily starts over the past five years has been substantial and has far exceeded the percent gain in single-family housing starts. The relative strength in multifamily construction partly reflects a shift

in demand away from owner-occupied housing toward rental housing since the recession. Elsewhere, outlays for improvements to existing homes increased more than 10 percent over the past year, and commissions and fees paid on the sale of residential real estate rose moderately, in line with the uptrend in sales of existing homes and contracts for new homes (figure 20). In all, residential investment rose almost 10 percent in 2015 and appears on track to maintain a similar pace in the first half of this year.

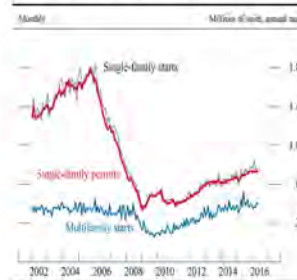
Low interest rates and an ongoing easing in mortgage credit standards have continued to support the expansions in housing demand and construction activity. In the April Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), banks reported having eased lending standards and experienced stronger demand for most types of residential real estate loans in the first quarter.⁴ Even so, for individuals with relatively low credit scores, mortgages remain difficult to obtain. With mortgage interest rates having again moved down close to their all-time lows, housing affordability has remained favorable despite the moderate growth in house prices over the past year (figure 21).

Business fixed investment has declined . . .

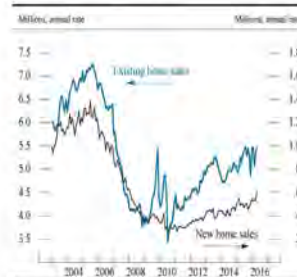
A worrisome development in recent quarters has been the weakening in business fixed investment (private nonresidential fixed investment). Over the past year, real outlays in the nonresidential structures category—which constitutes roughly one-fourth of total business fixed investment—have fallen sharply, as investment in oil wells and other drilling and mining structures has followed the steep drop in oil prices (figure 22). The decline in the number of drilling rigs in operation has been so pronounced that investment in drilling and mining structures has shrunk to

4. The SLOOS is available on the Board's website at www.federalreserve.gov/boarddocs/sloos/survey.

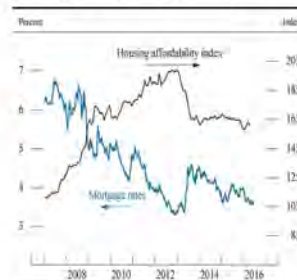
19. Private housing starts and permits



20. New and existing home sales

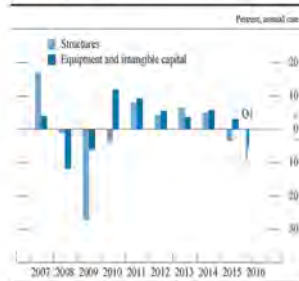


21. Mortgage rates and housing affordability



16 PART 1: RECENT ECONOMIC AND FINANCIAL DEVELOPMENTS

22. Change in real private nonresidential fixed investment



SOURCE: Department of Commerce, Bureau of Economic Analysis

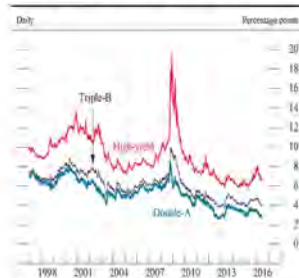
less than one-third its peak in 2014, and the ongoing contraction has subtracted nearly $\frac{1}{2}$ percentage point from real GDP growth over the past four quarters. Outside of the energy sector, business outlays for structures recorded relatively modest increases following the sizable gains observed in the first half of 2015. Meanwhile, business spending on equipment and intellectual property products moved down in the fourth quarter of last year and the first quarter of 2016, and the available indicators, such as orders and shipments of capital goods and surveys of business conditions, point to continued softness in the current quarter.

Although investment spending continues to be supported by low interest rates and generally accommodative financial conditions, spending is likely being restrained by a slowing in actual and expected business output growth. Weak foreign demand and the stronger dollar are already having an adverse effect on domestic businesses, and analysts' forecasts for year-ahead corporate earnings have been revised down considerably, even outside of the energy sector. Meanwhile, as reported by the Bureau of Economic Analysis, corporate profits recorded only a slight increase in the first quarter after falling sharply at the end of last year, although here, too, the weakness was heavily concentrated in the energy sector.

... while corporate financing conditions have remained generally accommodative

Corporate financing conditions remained generally accommodative in the first half of this year, although ongoing oil market developments and episodes of global financial stress led to sporadic periods of heightened perceptions of risk. In particular, corporate bond markets showed strains early in the year, especially for those firms most affected by the low energy prices. In recent months, however, pressures in bond markets have eased somewhat, and corporate bond yields overall have returned to historically low levels (figure 23). In the April SLOOS, banks indicated that they had tightened their

23. Corporate bond yields, by securities rating



NOTE: The yields shown are yields on 10-year bonds.

SOURCE: BofA Merrill Lynch Global Research, used with permission

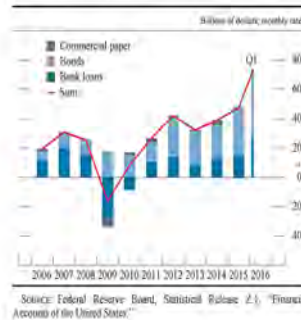
standards on commercial and industrial (C&I) loans to large and middle-market firms in the first quarter, but even so, such financing remained broadly available. For the first quarter as a whole, corporate bond issuance and the growth of C&I loans on banks' balance sheets were quite strong (figure 24). Firms' equity issuance was also generally solid, though initial public offerings have been weak. Meanwhile, the growth of small business loans was subdued.

Financing conditions in the commercial real estate (CRE) sector have remained accommodative overall, but here, too, there have been some signs of tightening. Growth of CRE loans at banks remained strong during the first half of the year. However, banks indicated that they had further tightened their lending standards on CRE loans in the first quarter of 2016, according to the April SLOOS. In addition, spreads on interest rates for CRE loans relative to 10-year swap rates and to yields on commercial mortgage-backed securities rose sharply further early this year, and although they have retreated significantly since then, these measures remain well above their historical average levels.

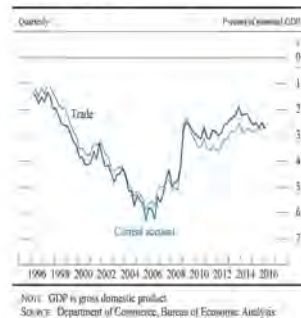
Exports and imports have both been weak this year

Based on recently released trade prices and the nominal census trade data, it appears that real exports were roughly flat in the first quarter of 2016, held back by slow foreign growth and the considerable appreciation of the dollar over the past two years. Despite the appreciation of the dollar, real imports looked to have declined in the first quarter, with weakness in both capital- and consumer-goods categories. Overall, the net export contribution to GDP growth was about neutral. While the nominal trade deficit narrowed a little in the first quarter, the current account deficit widened a touch to 2.7 percent of nominal GDP (figure 25). The April trade data suggest that net exports will be a small drag on GDP growth in the current quarter, as the trade deficit increased, with imports rebounding from a very weak March level.

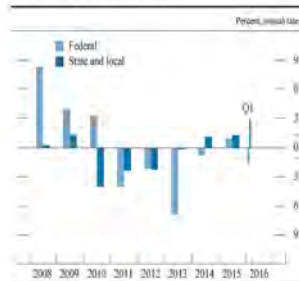
24. Selected components of net debt financing for nonfinancial businesses



25. U.S. trade and current account balances



26. Change in real government expenditures on consumption and investment



SOURCE: Department of Commerce, Bureau of Economic Analysis

27. Federal receipts and expenditures



NOTE: Through 2015, receipts and expenditures are for fiscal years (October to September); gross domestic product (GDP) is for the four quarters ending in Q3. For 2016, receipts and expenditures are for the 12 months ending in May, and GDP is the average of 2015 Q4 and 2016 Q1. Receipts and expenditures are on a unified-budget basis.

SOURCE: Office of Management and Budget

The drag from federal fiscal policy has ended . . .

Fiscal policy at the federal level had a roughly neutral influence on GDP growth in 2015, as the substantial contractionary effects of earlier fiscal consolidation have abated. Policy actions had little effect on taxes, while transfers and federal purchases of goods and services merely edged up (figure 26). Going forward, if the increased spending authority enacted in last year's budget agreement is fully utilized, federal fiscal policy would likely be mildly supportive of GDP growth over 2016 and 2017.

After narrowing significantly over the past several years, the federal unified budget deficit has recently widened slightly. At 18 percent of GDP, receipts have remained high relative to the recession and early recovery period (figure 27). At 21 percent, expenditures as a share of GDP are above the levels that prevailed before the start of the most recent recession. Although the ratio of federal debt held by the public to nominal GDP is already quite elevated, the deficit currently remains small enough to roughly stabilize this ratio at around 75 percent (figure 28).

. . . and state and local government expenditures are rising

The expansion of economic activity and further gains in house prices continue to support a gradual improvement in the fiscal position of most state and local governments. Consistent with their improving finances, states and localities significantly expanded real construction spending in 2015 and in the early part of this year. By contrast, employment growth in the state and local sector was muted last year, but the pace has stepped up somewhat so far in 2016 (figure 29).

Financial Developments

Financial conditions tightened early in the year but then eased

Early in 2016, domestic financial conditions tightened, as uncertainty about the outlook

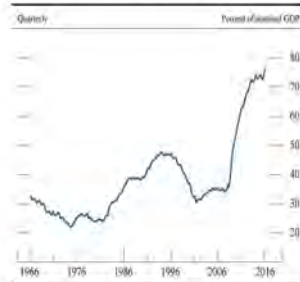
for the Chinese economy, lower oil prices, and weak data on economic activity in several economies contributed to concerns about the prospects for global economic growth and to a pullback from risky assets. At that time, Treasury yields declined across maturities, equity prices fell steeply, equity price volatility rose, and risk spreads on corporate bonds widened notably. In addition, investors came to expect a more gradual increase in the target range for the federal funds rate than they had previously anticipated. However, investors' concerns appeared to diminish beginning in mid-February, and since then, amid mixed U.S. economic data, domestic financial conditions have generally eased on balance: Stock prices rose notably, equity price volatility declined, and credit spreads on corporate bonds narrowed. (For a discussion of financial stability developments over this same period, see the box "Developments Related to Financial Stability.")

On balance to date this year, the expected path for the federal funds rate over the next several years declined . . .

The path of the federal funds rate implied by market quotes on interest rate derivatives flattened, on net, since December. The turbulence in global financial markets early in the year, the FOMC's communications, and some indications of a slowing in the pace of improvement in the labor market of late contributed to market participants' expectation that U.S. monetary policy would be more accommodative than they had anticipated late last year.

Survey-based measures of the expected path of policy also moved down this year. Respondents to the Survey of Primary Dealers and to the Survey of Market Participants in June expected fewer 25 basis point increases in the FOMC's target range for the federal funds rate this year than they projected in December. Market-based measures of uncertainty about the policy rate approximately one to two years ahead declined, on balance, from their year-end levels.

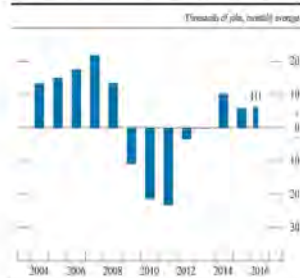
28. Federal government debt held by the public



Note: The data for gross domestic product (GDP) are in an annual rate. Federal debt held by the public equals federal debt less Treasury securities held in federal employee defined benefit retirement accounts, evaluated at the end of the quarter.

SOURCE: For GDP, Department of Commerce, Bureau of Economic Analysis; for federal debt, Federal Reserve Board, Statistical Release Z.1, "Financial Accounts of the United States."

29. State and local government employment change



Note: The value for 2016:H1 is calculated with data extending through May. The value for 2013 is -0.08.

SOURCE: Department of Labor, Bureau of Labor Statistics.

Developments Related to Financial Stability

Financial vulnerabilities in the United States overall remain at a moderate level. This assessment is supported by the resilience demonstrated by domestic financial firms and markets during the period of heightened financial volatility near the start of the year. Capital and liquidity ratios at large banks have stayed at high levels relative to historical standards, and debt growth in the household sector has been modest. However, leverage of nonfinancial corporations continues to be elevated by historical standards, leaving lower-rated firms potentially vulnerable to adverse developments. Stresses on energy firms remain high given the low level of oil prices. Valuation pressures have increased somewhat in equity markets as expected profits have been marked down. Commercial real estate (CRE) prices are near or above their previous peaks. Even given moderate financial vulnerabilities, a number of possible external shocks, including if the United Kingdom chooses to leave the European Union in a pending referendum, could pose risks to financial stability.

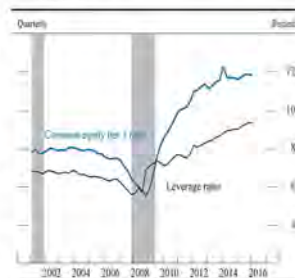
Stronger capital positions at domestic banking organizations have substantially contributed to the improved resilience of the U.S. financial system (figure A). The results of the stress tests mandated by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and the accompanying Comprehensive Capital Analysis and Review are scheduled to be released June 23 and June 29, 2016, respectively.¹ In addition, large domestic banks have continued to hold high levels of liquid assets and have shifted the composition of their liabilities toward more-stable funding sources. However, measures of profitability, such as return on assets and return on equity, declined noticeably in the first quarter as many banking firms increased provisions for loan losses. The pickup in provisions to date primarily reflects rising delinquencies for loans to energy-related firms. Energy exposures for most banks appear manageable, but some small domestic banks still have significant exposure to the oil sector, and others could be affected by spillovers from the energy sector to other business lines. A few large domestic banks have material ties to global banks that appear to be more susceptible to low oil prices due to their significant exposures to oil-producing emerging market economies.

1. The exercise tests the ability of the 34 participating bank holding companies to maintain adequate capital ratios and continue to provide intermediary services in the face of a hypothetical severe recession. For descriptions of the scenarios, see Board of Governors of the Federal Reserve System (2016), *2016 Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule* (Washington: Board of Governors, January), <https://www.federalreserve.gov/newsevents/press/bcreg/bcreg20160126a2.pdf>.

Capital positions also have remained relatively elevated at insurance companies and broker-dealers. In addition, net secured borrowing by dealers—primarily used to finance their own portfolios of securities—has stayed near its lowest levels since 2001. Margin credit extended by dealers—which funds clients' positions in traded stocks—has fluctuated within the upper part of its historical range, but margin calls reportedly were met without disruption or a marked increase in disputes during the heightened market volatility at the start of the year.

The stock of private, short-term, money-like instruments, which form funding intermediation chains that are vulnerable to runs, has continued to trend down relative to gross domestic product (GDP) and total nonfinancial debt, suggesting vulnerabilities from maturity transformation have continued to fall. Assets in money market mutual funds (MMFs) have been relatively stable this year, though assets in institutional prime MMFs have been declining, primarily because Securities and Exchange Commission (SEC) reforms aimed at mitigating the funds' susceptibility to investor runs have induced conversions of prime funds into government-only funds. Nevertheless, some structural vulnerabilities are expected to persist in MMFs even after SEC reforms go fully into effect in October 2016. For open-end mutual funds, the Financial Stability Oversight Council highlighted potential risks to financial stability from liquidity transformation.

A. Regulatory capital ratios at the top 25 bank holding companies



NOTE: The common equity tier 1 ratio equals core equity capital divided by risk-weighted assets, while the leverage ratio equals tier 1 capital divided by average total consolidated assets. Exact calculations for the two regulatory capital ratios can be found in schedule HC-R of the Federal Reserve Board's reporting form FR Y-9C. Before 2014:Q1, the numerator of the common equity tier 1 ratio is tier 1 common capital. Beginning in 2014:Q1 for advanced approaches bank holding companies and in 2015:Q1 for all other bank holding companies, the numerator is common equity tier 1 capital. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research.

SOURCE: Federal Reserve Board, Form FR Y-9C, Consolidated Financial Statements for Bank Holding Companies.

through funds that hold less liquid assets and could face elevated redemptions, and the council suggested possible actions to mitigate those risks.

Valuation pressures have generally stayed at a moderate level since January, though they rose for a few asset classes. Forward price-to-earnings ratios for equities have increased to a level well above their median of the past three decades. Although equity valuations do not appear to be rich relative to Treasury yields, equity prices are vulnerable to rises in term premiums to more normal levels, especially if a reversion was not motivated by positive news about economic growth. In contrast, valuation pressures in corporate bond markets—which manifest in low yields and credit spreads—were about unchanged. Credit spreads for 10-year investment- and speculative-grade bonds changed little, on balance, and far-term forward spreads on speculative-grade corporate bonds have risen slightly, suggesting only a small decrease in investors' risk appetite. Although respondents to the Board's Senior Credit Officer Opinion Survey on Dealer Financing Terms reported some deterioration in market liquidity during the heightened financial volatility near the start of the year, standard measures of liquidity in corporate bond markets decreased only about in line with what might be expected given historical relationships between liquidity and volatility.

Valuations in the CRE sector appear increasingly vulnerable to negative shocks, as CRE prices have continued to outpace rental income and exceed, by some measures, their pre-crisis peaks. However, leverage in the sector does not appear excessive, and some evidence points to a recent reduction in risk appetite among CRE investors. Overall growth of CRE debt is moderate, and the ratio of debt backed by nonfarm nonresidential property to GDP is below an estimate of its long-run historical trend. In addition, according to the January and April results of the Board's Senior Loan Officer Opinion Survey on Bank Lending Practices, banks tightened lending standards in the fourth quarter of 2015 and first quarter of 2016.

The private nonfinancial-sector credit-to-GDP ratio has stayed near the levels that prevailed in the mid-2000s, though it is below conventional estimates of its long-term upward trend. In addition, debt growth in the household sector remained modest and mostly attributable to prime borrowers. In contrast, leverage for the nonfinancial corporate sector has stayed elevated and indicators of corporate credit quality, though still solid overall, continued to show signs of deterioration for lower-rated firms, especially in the energy sector. Even so, the risks posed by the elevated indebtedness of nonfinancial corporations may be attenuated by substantial cash holdings of investment-grade firms, relatively low interest expenses, and limited short-term debt.

The Federal Reserve Board has taken several further steps to improve the resilience of financial institutions and overall financial stability, including three proposals that apply only to large banking organizations and increase in stringency with the systemic footprint of the organization. First, the Board issued for public comment a proposed rule that would impose single-counterparty credit limits to help constrain interconnectedness within the financial system.² Second, the Board and the other federal banking agencies issued for public comment a proposed rule that would require large U.S. banking organizations to maintain a minimum net stable funding ratio (NSFR).³ The proposal would require those institutions to maintain sufficient levels of stable funding relative to the liquidity of their assets, derivatives, and commitments over a one-year period, reducing liquidity risk in the banking system. The NSFR proposal would also serve as a complement to the liquidity coverage ratio rule. Third, the Board issued for public comment a proposed rule that would reduce the threat of disorderly liquidation of financial firms by requiring U.S. global systemically important banks (G-SIBs) and the U.S. operations of foreign G-SIBs to restrict the ability of counterparties to terminate qualified financial contracts early if the firm enters bankruptcy or a resolution process.⁴

In addition, the Board and the Federal Deposit Insurance Corporation announced their determinations and provided firm-specific feedback on the 2015 resolution plans of eight U.S. G-SIBs.⁵ The two agencies ordered five of the firms to address identified deficiencies in their plans by October 1, 2016, or possibly be subjected to more stringent prudential requirements.

2. See Board of Governors of the Federal Reserve System (2016), "Federal Reserve Board Proposes Rule to Address Risk Associated with Excessive Credit Exposures of Large Banking Organizations to a Single Counterparty," press release, March 4, <https://www.federalreserve.gov/newsevents/press/bcreg/20160304b.htm>.

3. See Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, and Office of the Comptroller of the Currency (2016), "Agencies Propose Net Stable Funding Ratio Rule," joint press release, May 3, <https://www.federalreserve.gov/newsevents/press/bcreg/20160503a.htm>.

4. See Board of Governors of the Federal Reserve System (2016), "Federal Reserve Board Proposes Rule to Support U.S. Financial Stability by Enhancing the Resolvability of Very Large and Complex Financial Firms," press release, May 3, <https://www.federalreserve.gov/newsevents/press/bcreg/20160503b.htm>.

5. See Board of Governors of the Federal Reserve System and Federal Deposit Insurance Corporation (2016), "Agencies Announce Determinations and Provide Feedback on Resolution Plans of Eight Systemically Important, Domestic Banking Institutions," joint press release, April 13, <https://www.federalreserve.gov/newsevents/press/bcreg/20160413a.htm>.

30. Yields on nominal Treasury securities



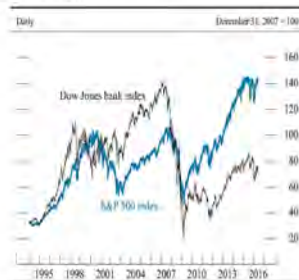
NOTE: The Treasury ceased publication of the 30-year constant maturity series on February 18, 2002, and resumed that series on February 9, 2006.
SOURCE: Department of the Treasury.

31. Yield and spread on agency mortgage-backed securities



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

32. Equity prices



NOTE: For Dow Jones Indices licensing information, see the note on the Contents page.
SOURCE: Standard and Poor's Dow Jones Indices via Bloomberg.

... longer-term nominal Treasury yields decreased ...

Yields on 5-, 10-, and 30-year nominal Treasury securities declined in the first half of the year on balance (figure 30). Treasury yields decreased most notably in the early part of the year amid an increase in safe-haven demands and a pullback from risky assets. Yields changed little since then, on net, as risk sentiment generally improved but concerns about longer-term economic growth remained. Consistent with the change in yields on Treasury securities, yields on 30-year agency mortgage-backed securities (MBS)—an important determinant of mortgage interest rates—decreased, on balance, in the first half of 2016 (figure 31).

... broad equity price indexes increased slightly, and those of companies linked to energy sectors rose substantially ...

After incurring sharp declines early in the year, broad equity price indexes rebounded as risk sentiment improved, resulting in levels that were slightly higher, on net, than at year-end (figure 32). In addition, reflecting the rebound in oil prices since the turn of the year, stock prices of companies in the energy sector outperformed broad equity market indexes over the first half of 2016. Meanwhile, implied volatility of the S&P 500 index increased through mid-February and then declined, ending the period above its year-end level.

... while risk spreads on corporate bonds narrowed

Similar to the movements in equity markets, spreads on corporate bonds over comparable-maturity Treasury securities widened early in the year but later retraced those moves, leaving spreads generally little changed, on net, over the first half of the year. Spreads on the lowest-rated speculative-grade issues declined appreciably. Nonetheless, corporate bond spreads stayed notably above their historical median levels, consistent with some deterioration in credit quality in the corporate sector.

Bank credit continued to expand, but profitability declined

Aggregate credit provided by commercial banks increased at a solid pace through May (figure 33). The expansion in bank credit reflected strong loan growth coupled with a modest increase in banks' holdings of securities. The growth of loans on banks' books was generally consistent with banks' reports in the April SLOOS of stronger demand for most loan categories and easier lending standards for loans to households.

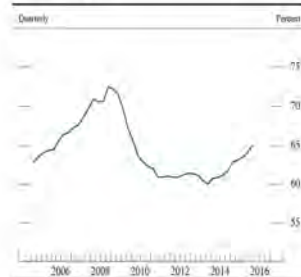
Measures of bank profitability remained below their historical averages and declined in the first quarter of 2016, pressured by higher provisioning for losses on loans to borrowers in the oil and gas sectors, reduced trading and investment banking revenues, and continued low net interest margins (figure 34). However, with the exception of C&I loans, loan delinquency and charge-off rates continued to decline across most major loan types and remained near or at their lowest levels since the financial crisis. Stock prices of large bank holding companies decreased over the first half of the year, while banks' credit default swap spreads increased and stayed above their average level over the past two years.

Measures of liquidity conditions and functioning in financing markets were generally stable

Available indicators of Treasury market functioning have remained broadly stable over the first half of 2016. A variety of liquidity metrics—including bid-asked spreads and bid sizes in secondary markets for Treasury securities—have displayed no notable signs of liquidity pressures over the same period. In addition, Treasury auctions generally continued to be well received by investors.

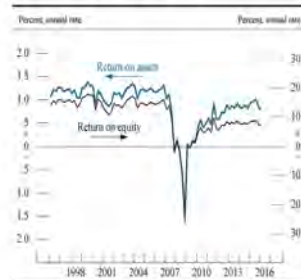
Liquidity conditions in the agency MBS market also appeared to be generally stable. Dollar-roll-implied financing rates for production coupon MBS—an indicator of the scarcity of agency MBS for settlement—

33. Ratio of total commercial bank credit to nominal gross domestic product



SOURCE: Federal Reserve Board, Statistical Release FR, "Assets and Liabilities of Commercial Banks in the United States"; Department of Commerce, Bureau of Economic Analysis.

34. Profitability of bank holding companies



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

suggested limited settlement pressures over the first half of 2016. In addition, measures of corporate bond market liquidity, such as gauges of the effect of trades on market prices, stayed at levels comparable with those seen prior to the financial crisis. However, accurately measuring liquidity in fixed-income markets can be challenging, and liquidity conditions may vary in certain segments of the market or during times of stress.

Short-term dollar funding markets also continued to function smoothly during the first half of 2016. There were generally no signs of stress in either secured or unsecured money markets, including at March quarter-end.

Municipal bond markets functioned smoothly despite recent developments on Puerto Rico's debt

Credit conditions in municipal bond markets continued to be stable even as the situation facing Puerto Rico and its creditors deteriorated further. Gross issuance of municipal bonds remained solid in the first quarter, and yield spreads on general obligation (GO) municipal bonds over comparable-maturity Treasury securities increased a bit on net. Puerto Rico's Government Development Bank missed a substantial debt payment due in early May, and investors remained focused on the next sizable payment of GO bonds due in July.

International Developments

Foreign financial market conditions improved after tightening early in the year

Foreign financial market conditions tightened early in the year, with bond spreads rising and equity markets falling in most countries as investor concerns about global economic growth increased, particularly with regard to China (figure 35). Since mid-February, in response to the release of some positive foreign data, reassuring moves by Chinese policymakers, and a market perception that

35. Equity indexes for selected foreign economies



NOTE: The data are weekly averages of daily data and extend through June 16, 2016. For Dow Jones Indices licensing information, see the note on the Contents page.

SOURCE: For Japan, Tokyo Stock Price Index (TOPIX); for the euro area, Dow Jones Euro STOXX Index; for the United Kingdom, FTSE 100 Index; for emerging markets, Morgan Stanley Emerging Markets MSCI Capital Index; all via Bloomberg.

U.S. monetary policy would be somewhat more accommodative than previously expected, financial conditions generally improved. A rebound in oil prices also seemed to reassure investors, possibly by diminishing financial stability concerns around oil-producing firms and oil-exporting economies. Bond yields, however, have generally moved lower since February, both because of low readings on inflation and in response to the U.S. employment report in June (figure 36).

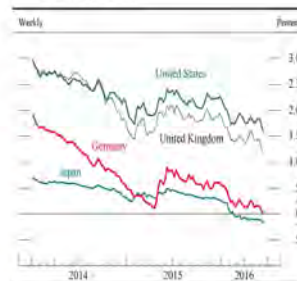
The dollar depreciated early in the year but has risen, on balance, more recently

After increasing more than 20 percent from mid-2014 through its recent peak in January of this year, the broad dollar index—a measure of the trade-weighted value of the dollar against foreign currencies—has declined about 4 percent on balance (figure 37). The exchange value of the dollar fluctuated importantly over the first half of this year in response to shifting views about the path of U.S. monetary policy—falling early on, rising starting in May, and declining again more recently. On net, the dollar declined significantly against currencies of some commodity exporters, including Canada, as higher oil prices provided support for those currencies. In contrast, the British pound appreciated less against the dollar than other currencies, likely reflecting investor concerns about the upcoming referendum on whether the United Kingdom should leave the European Union. The Chinese renminbi was under considerable depreciation pressure late last year and very early in 2016 but stabilized as fears that Chinese policymakers would allow the renminbi to fall considerably further were allayed by reassuring statements of Chinese authorities, positive macroeconomic data, and decreased capital outflows (figure 38).

Economic growth remained modest in most advanced foreign economies

In the euro area, Canada, and Japan, economic growth picked up in the first quarter of 2016 (figure 39). The euro-area economy was supported by the European Central Bank's

36. 10-year nominal benchmark yields in selected advanced economies



NOTE: The data are weekly averages of daily data and extend through June 16, 2016.
SOURCE: Bloomberg.

37. U.S. dollar exchange rate indexes



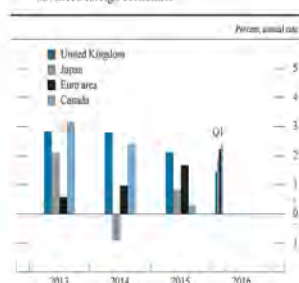
NOTE: The data, which are in foreign currency units per dollar, are weekly averages of daily data and extend through June 16, 2016.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

38. Chinese renminbi exchange rate



NOTE: The data are weekly averages of daily data and extend through June 16, 2016. The line plots the number of Chinese renminbi per U.S. dollar (RMB/USD). Given the inverted scale, the line moving up indicates an appreciation of the renminbi against the dollar.
SOURCE: Bloomberg.

39. Real gross domestic product growth in selected advanced foreign economies



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

40. Inflation in selected advanced foreign economies



NOTE: The data for Canada and Japan extend through April 2016.
SOURCE: For the United Kingdom, Office of National Statistics; for Japan, Ministry of International Affairs and Communications; for euro area, Statistical Office of the European Communities; for Canada, Statistics Canada; all via Haver Analytics.

highly accommodative monetary policies, and the Canadian economy continued to recover from a brief recession in early 2015, with past depreciation of the Canadian dollar providing some support. However, GDP growth in the second quarter is likely to be hampered in Japan (as a result of an earthquake in April) and in Canada (on account of massive wildfires that have disrupted oil production). In addition, uncertainty related to the forthcoming U.K. referendum appears to have contributed to a step-down in U.K. growth this year.

Inflation also remained low . . .

In most advanced foreign economies (AFEs), core inflation remained subdued, reflecting continued economic slack in some countries and generally subdued wage growth. As a result, despite the recent rebound in oil prices and the inflationary effects of past sizable depreciations of some currencies, headline inflation remained well below central bank targets in Canada, the euro area, Japan, and the United Kingdom (figure 40).

. . . leading AFE central banks to maintain highly accommodative monetary policies

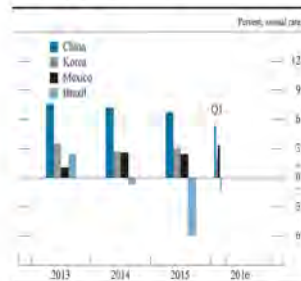
In late January of this year, the Bank of Japan adopted a negative policy rate, and in March, the European Central Bank reduced its deposit rate further into negative territory, increased the pace and scope of its asset purchases, and announced a new program of four-year loans—potentially at slightly negative rates—to euro-area banks. Meanwhile, the Bank of Canada, the Bank of England, and many other AFE central banks maintained their policy rates at historically low levels.

In emerging markets, economic growth picked up from late last year but remains subpar.

The Chinese economy slowed in the first quarter (figure 41). However, recent indicators suggest that more accommodative fiscal and monetary policies are providing a lift to economic activity, particularly in the property market, where easier credit conditions have fueled a sharp turnaround. Elsewhere in emerging Asia, weak external demand from both the advanced economies and China weighed on growth in the first quarter, but exports and manufacturing have improved more recently.

Mexico's economy was a bright spot in Latin America in the first quarter, as GDP growth picked up despite lackluster exports to the United States; however, it appears economic activity decelerated in the second quarter. In Brazil, the recession continued in the first quarter, reflecting long-standing structural problems, low commodity prices, and a political crisis, subsequently resulting in a change in government. However, the contraction was smaller than in previous quarters, as commodity prices recovered somewhat and the sharp depreciation of the currency last year helped boost exports. Growth was mixed in the rest of South America, with Chilean GDP rebounding sharply while Venezuela's economy continued to experience a deep recession.

41. Real gross domestic product growth in selected emerging market economies



NOTE: The data for China are seasonally adjusted by staff. The data for Mexico, Brazil, and Korea are seasonally adjusted by their respective government agencies.

SOURCE: For China, China National Bureau of Statistics; for Korea, Bank of Korea; for Mexico, Instituto Nacional de Estadística Geografía e Informática; for Brazil, Instituto Brasileiro de Geografia e Estatística, all via Haver Analytics.

PART 2

MONETARY POLICY

Over the first half of the year, monetary policy remained accommodative to support further improvement in labor market conditions and a return to 2 percent inflation. In particular, the Federal Open Market Committee (FOMC) maintained the target range for the federal funds rate at $\frac{1}{4}$ to $\frac{1}{2}$ percent. This unchanged policy stance was supported, among other factors, by the FOMC's assessments in the first months of the year that global economic and financial developments posed risks to the economic outlook, and in June that recent information indicated that the pace of improvement in the labor market had slowed. In addition, the Committee's policy stance reflected its expectation that inflation would remain low in the near term. Looking ahead, the FOMC expects that economic conditions will warrant only gradual increases in the federal funds rate. In determining future adjustments to the federal funds rate, the Committee will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments.

The FOMC maintained the federal funds rate target range at $\frac{1}{4}$ to $\frac{1}{2}$ percent in the first half of the year . . .

After raising the target range for the federal funds rate last December to between $\frac{1}{4}$ and $\frac{1}{2}$ percent, the Committee has maintained that range over the first half of the year (figure 42). This unchanged policy stance was supported initially by the Committee's assessment that global economic and financial developments posed risks to the economic outlook, as expressed in its March 2016 statement, and by its judgment in April that growth in

domestic economic activity appeared to have slowed.⁵ In June, the Committee noted that recent information indicated that the pace of improvement in the labor market had slowed, while growth in domestic economic activity

5. See Board of Governors of the Federal Reserve System (2016), "Federal Reserve Issues FOMC Statement," press release, March 16, <https://www.federalreserve.gov/newsevents/press/monetary/20160316a.htm>; and Board of Governors of the Federal Reserve System (2016), "Federal Reserve Issues FOMC Statement," press release, April 27, <https://www.federalreserve.gov/newsevents/press/monetary/20160427a.htm>.

42. Selected interest rates



NOTE: The 2-year and 10-year Treasury rates are the constant-maturity yields based on the most actively traded securities.
SOURCE: Department of the Treasury; Federal Reserve Board.

appeared to have picked up in the spring.⁶ The decision to maintain the target range for the federal funds rate also reflected the Committee's expectation that inflation would stay low in the near term, partly because of earlier declines in energy prices and in the prices of non-energy imports, as well as recently elevated uncertainty about the possible consequences of the U.K. referendum on European Union membership for the U.S. economic outlook.

Over the first half of 2016, the Committee remained particularly attentive to risks to the U.S. economic outlook posed by global economic and financial developments. The Committee noted earlier in the year that it was closely monitoring such developments and assessing their implications for the labor market and inflation and for the balance of risks to the outlook. The Committee subsequently indicated that these concerns had attenuated, but that it would continue to closely monitor inflation indicators and global economic and financial developments.

... indicated that the stance of monetary policy was likely to remain accommodative ...

The Committee continued to expect that the federal funds rate was likely to remain, for some time, below levels that were expected to prevail in the longer run, and that with gradual adjustments in the stance of monetary policy, economic activity would expand at a moderate pace and labor market indicators would continue to strengthen. The Committee also continued to expect inflation to remain low in the near term but to rise to 2 percent over the medium term as the transitory effects of past declines in energy and import prices dissipate and the labor market strengthens further.

Consistent with this outlook, in the most recent Summary of Economic Projections, which was compiled at the time of the June

FOMC meeting, FOMC participants projected that the appropriate level of the federal funds rate would be below its longer-run level through 2018.

... and stressed that future changes in the target range for the federal funds rate will depend on the economic outlook as informed by incoming data

The FOMC continued to emphasize that, in determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee would assess realized and expected economic conditions, as informed by incoming data, relative to its objectives of maximum employment and 2 percent inflation. This assessment would take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. In light of the current shortfall of inflation from 2 percent, the Committee indicated that it would carefully monitor actual and expected progress toward its inflation goal. Stronger growth or a more rapid increase in inflation than the Committee currently anticipates would likely call for faster increases in the federal funds rate; conversely, if conditions prove weaker, a lower path of the federal funds rate would likely be appropriate.

The size of the Federal Reserve's balance sheet has remained stable

To help maintain accommodative financial conditions, the Federal Reserve kept its holdings of longer-term securities at sizable levels over the first half of the year. In particular, the Committee maintained its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction, and it anticipates doing so until normalization of the level of the federal funds rate is well under way.

With the continuation of the Committee's reinvestment policy, the Federal Reserve's total

⁶ See Board of Governors of the Federal Reserve System (2016), "Federal Reserve Issues FOMC Statement," press release, June 15, <https://federalreserve.gov/newsevents/press/monetary/20160615a.html>.

assets have held steady at around \$4.5 trillion (figure 43). Holdings of U.S. Treasury securities in the System Open Market Account (SOMA) have remained at \$2.5 trillion, and holdings of agency debt and agency mortgage-backed securities at approximately \$1.8 trillion. Consequently, total liabilities on the Federal Reserve's balance sheet were mostly unchanged.

Interest income on the SOMA portfolio has continued to support substantial remittances to the U.S. Treasury Department. The Federal Reserve provided \$117.1 billion of such distributions to the Treasury in 2015, which included a one-time transfer of \$19.3 billion made in December 2015 to reduce aggregate Reserve Bank capital surplus to \$10 billion, as required by the Fixing America's Surface Transportation Act, and a transfer of \$24.8 billion during the first quarter of 2016.⁷

The Federal Reserve's remittances to the Treasury have totaled over \$600 billion on a cumulative basis since 2008.

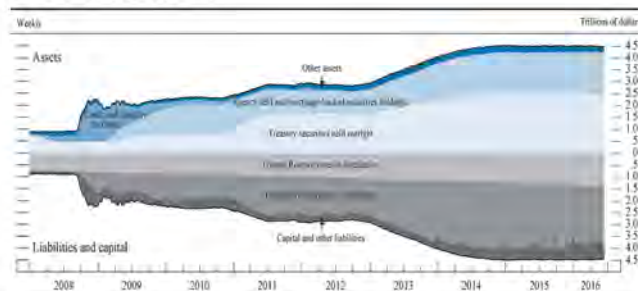
The Federal Reserve's implementation of monetary policy has continued smoothly

Consistent with the FOMC's Policy Normalization Principles and Plans published on September 17, 2014, and augmented with additional operational information at the March 2015 FOMC meeting, the Federal Reserve continued to use interest paid on reserve balances and employ an overnight reverse repurchase agreement (ON RRP) facility to manage the federal funds rate, and the effective federal funds rate has remained in its target range.⁸ Specifically, the Board of Governors left the interest rate paid on required and excess reserve balances unchanged at ½ percent, while the FOMC continued to authorize daily ON RRP

7. See Board of Governors of the Federal Reserve System (2016), "Federal Reserve System Publishes Annual Financial Statements," press release, March 18, <https://www.federalreserve.gov/newsevents/press/other/20160317a.htm>; and Board of Governors of the Federal Reserve System (2016), *Quarterly Report on Federal Reserve Balance Sheet Developments* (Washington: Board of Governors, May), https://www.federalreserve.gov/monetarypolicy/files/quarterly_balance_sheet_developments_report_201605.pdf.

8. See Board of Governors of the Federal Reserve System (2014), "Federal Reserve Issues FOMC Statement on Policy Normalization Principles and Plans," press release, September 17, www.federalreserve.gov/newsevents/press/monetary/20140917e.htm; and Board of Governors of the Federal Reserve System (2015), "Minutes of the Federal Open Market Committee, March 17-18, 2015," press release, April 8, www.federalreserve.gov/newsevents/press/monetary/20150408a.htm.

43. Federal Reserve assets and liabilities



Note: "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 unamortized premiums and discounts on securities held outright. "Capital and other liabilities" includes reverse repurchase agreements, the U.S. Treasury General Account, and the U.S. Treasury Supplementary Financing Account. The data extend through June 15, 2016.

SOURCE: Federal Reserve Board, Statistical Release H.4.1, "Factors Affecting Reserve Balances."

32 PART 2: MONETARY POLICY

operations at an offering rate of $\frac{1}{4}$ percent. In addition, the Board of Governors took no action to change the discount rate (the primary credit rate), which remained at 1 percent.

The FOMC also continued to indicate that the Federal Reserve's daily ON RRP operations would be undertaken in amounts limited only by the value of Treasury securities held outright in the SOMA that are available for such operations and by a per-counterparty limit of \$30 billion per day. The total take-up at ON RRP operations with the Federal Reserve generally decreased in the first half of the year and remained at levels below those observed prior to the increase in the target range for the federal funds rate in December. The

Committee has stated that it intends to phase out the ON RRP facility when it is no longer needed to help control the federal funds rate.

The Federal Reserve also continued to test the operational readiness of other policy tools. In particular, two Term Deposit Facility operations were conducted in the first half of 2016; seven-day deposits were offered at both operations at a floating rate of 1 basis point over the interest rate on excess reserves. In these operations, term deposit volumes were broadly in line with those in previous tests with similar parameters. In addition, the Open Market Desk conducted several small dollar value exercises solely for the purpose of maintaining operational readiness.

PART 3

SUMMARY OF ECONOMIC PROJECTIONS

In conjunction with the Federal Open Market Committee (FOMC) meeting held on June 14–15, 2016, meeting participants submitted their projections of the most likely outcomes for real output growth, the unemployment rate, inflation, and the federal funds rate for each year from 2016 to 2018 and over the longer run.⁹ Each participant's projection was based on information available at the time of the meeting, together with his or her assessment of appropriate monetary policy and assumptions about the factors likely to affect economic outcomes. The longer-run projections represent each participant's assessment 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.

The median of participants' projections for the growth of real gross domestic product (GDP) was 2 percent for each year from 2016 through 2018, in line with the median estimate of the longer-run growth rate of real GDP (table 1 and figure 1). The median of growth projections in 2016 and 2017 was slightly lower than the median of near-term projections made at the time of the March FOMC meeting. The range of participants' projections

9. One participant did not submit longer-run projections in conjunction with the June 2016 FOMC meeting.

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assessments of projected appropriate monetary policy, June 2016
Percent

Variable	Median				Central tendency				Range ³			
	2016	2017	2018	Longer run	2016	2017	2018	Longer run	2016	2017	2018	Longer run
Change in real GDP	2.0	2.0	2.0	2.0	1.9–2.0	1.9–2.2	1.8–2.1	1.8–2.0	1.8–2.2	1.6–2.4	1.5–2.2	1.6–2.4
March projection	2.2	2.1	2.0	2.0	2.1–2.3	2.0–2.3	1.8–2.1	1.8–2.1	1.9–2.5	1.7–2.3	1.8–2.3	1.8–2.4
Unemployment rate	4.7	4.6	4.6	4.8	4.6–4.8	4.5–4.7	4.4–4.8	4.7–5.0	4.5–4.9	4.3–4.8	4.5–5.0	4.6–5.0
March projection	4.7	4.6	4.5	4.8	4.6–4.8	4.5–4.7	4.5–5.0	4.7–5.0	4.5–4.9	4.3–4.9	4.3–5.0	4.7–5.0
PCE inflation	1.4	1.9	2.0	2.0	1.3–1.7	1.7–2.0	1.9–2.0	2.0	1.3–2.0	1.6–2.0	1.8–2.1	2.0
March projection	1.2	1.9	2.0	2.0	1.0–1.6	1.7–2.0	1.9–2.0	2.0	1.9–1.6	1.6–2.0	1.8–2.0	2.0
Core PCE inflation ⁴	1.7	1.9	2.0		1.6–1.8	1.7–2.0	1.9–2.0		1.3–2.0	1.6–2.0	1.8–2.1	
March projection	1.6	1.8	2.0		1.4–1.7	1.7–2.0	1.9–2.0		1.4–2.1	1.6–2.0	1.8–2.0	
Median: Projected appropriate policy path												
Federal funds rate	0.9	1.6	2.4	3.0	0.6–0.9	1.4–1.9	2.1–2.9	3.0–3.3	0.6–1.4	0.6–2.4	0.6–3.4	2.8–3.8
March projection	0.9	1.9	3.0	3.3	0.9–1.4	1.6–2.4	2.5–3.3	3.0–3.5	0.6–1.4	1.6–2.8	2.1–3.9	3.0–4.0

Notes: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes 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. Long-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The March projections were made in conjunction with the meeting of the Federal Open Market Committee on March 15–16, 2016. One participant did not submit longer-run projections in conjunction with the June 14–15, 2016, meeting.

1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.

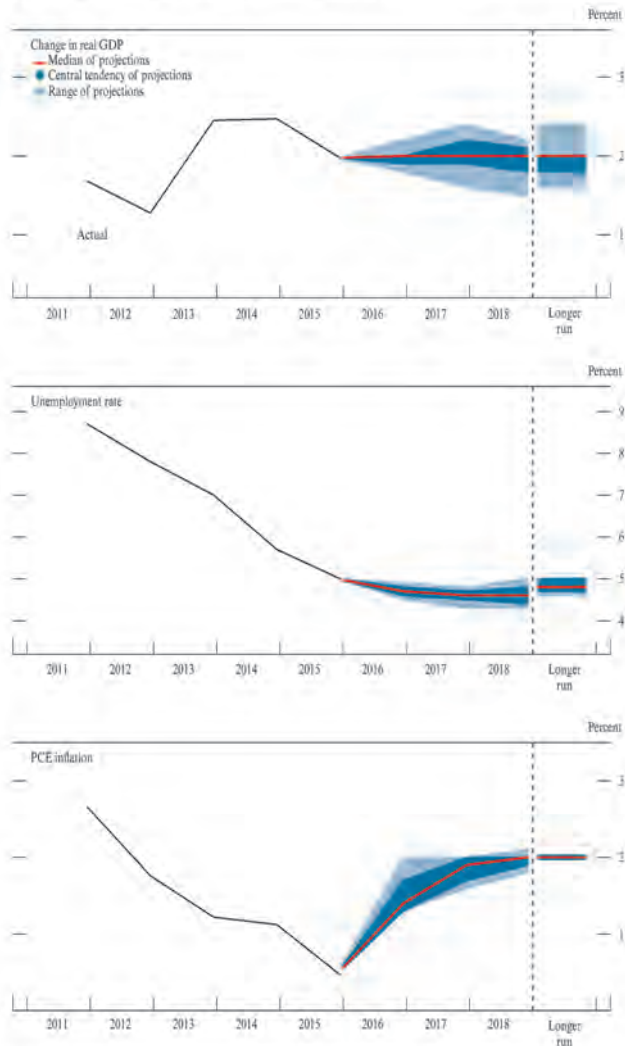
2. The central tendency excludes the three highest and three lowest projections in each variable in each year.

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

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

34 PART 3: SUMMARY OF ECONOMIC PROJECTIONS

Figure 1. Medians, central tendencies, and ranges of economic projections, 2016-18 and over the longer run



Note: Definitions of variables and other explanations are in the notes to the projections table. The data for the actual values of the variables are annual.

for real GDP growth in 2017, 2018, and over the longer run widened somewhat relative to March.

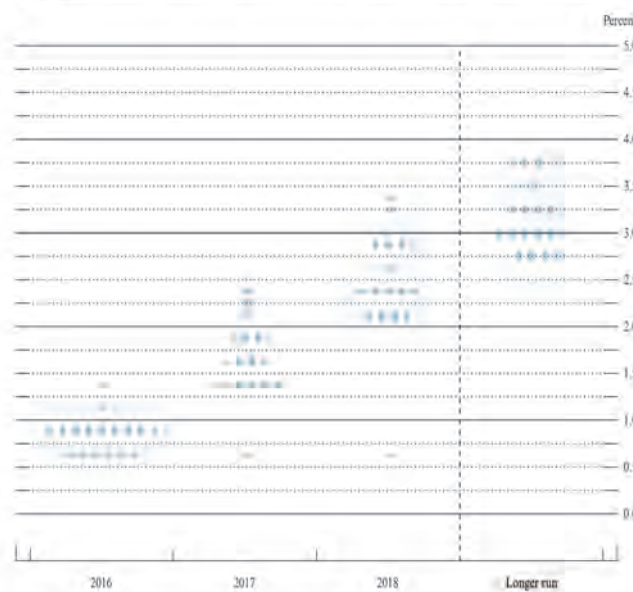
The median of projections for the unemployment rate edges down from 4.7 percent at the end of 2016 to 4.6 percent in 2017 and 2018, modestly below the median assessment of the longer-run normal unemployment rate of 4.8 percent. The medians and ranges of the unemployment rate projections for 2016 to 2018 were nearly unchanged from March.

The median of projections for inflation as measured by changes in the price index for

personal consumption expenditures (PCE) in 2016 stands at 1.4 percent, a bit higher than in March; the median rises to 1.9 percent for 2017 and to the Committee's objective of 2 percent for 2018 and over the longer run. The medians of projections for core PCE inflation also rise gradually over the next two years.

With regard to participants' projections of appropriate monetary policy, the median projection for the federal funds rate rises only gradually from $\frac{1}{2}$ percent in 2016 to 1 $\frac{1}{2}$ percent at the end of 2017 and 2 $\frac{1}{2}$ percent by the end of 2018, somewhat below the 3 percent median of participants' estimates of its longer-run normal level (figure 2).

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



NOTE: Each shaded circle indicates the value (rounded to the nearest $\frac{1}{4}$ percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections.

Although the median federal funds rate at the end of 2016 is unchanged from the March projection, a number of participants revised down their projections. For 2017 and 2018, the median projections are $\frac{1}{4}$ percentage point and $\frac{3}{4}$ percentage point lower, respectively, than in March. The median estimate of the longer-run level of the federal funds rate was revised down $\frac{1}{4}$ percentage point. These projections represent participants' individual assessments of appropriate policy consistent with their projections of economic growth, employment,

inflation, and other factors. However, the economic outlook is inherently uncertain; thus, each participant's assessment of appropriate policy is also necessarily uncertain, especially at longer time horizons, and will change in response to changes to the economic outlook and associated risks.

A more complete description of the Summary of Economic Projections will be released with the minutes of the June 14–15, 2016, FOMC meeting on July 6.

ABBREVIATIONS

AFE	advanced foreign economy
C&I	commercial and industrial
CRE	commercial real estate
ECI	employment cost index
FOMC	Federal Open Market Committee; also, the Committee
GDP	gross domestic product
GO	general obligation
MBS	mortgage-backed securities
Michigan survey	University of Michigan Surveys of Consumers
ON RRP	overnight reverse repurchase agreement
PCE	personal consumption expenditures
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

