

**Meeting of the Federal Open Market Committee on
March 18–19, 2014**

A meeting of the Federal Open Market Committee was held in the offices of the Board of Governors of the Federal Reserve System in Washington, D.C., on Tuesday, March 18, 2014, at 2:00 p.m. and continued on Wednesday, March 19, 2014, at 8:30 a.m. Those present were the following:

Janet L. Yellen, Chair
William C. Dudley, Vice Chairman
Richard W. Fisher
Narayana Kocherlakota
Sandra Pianalto
Charles I. Plosser
Jerome H. Powell
Jeremy C. Stein
Daniel K. Tarullo

Christine Cumming, Charles L. Evans, Jeffrey M. Lacker, Dennis P. Lockhart, and John C. Williams, Alternate Members of the Federal Open Market Committee

James Bullard, Esther L. George, and Eric Rosengren, Presidents of the Federal Reserve Banks of St. Louis, Kansas City, and Boston, respectively

William B. English, Secretary and Economist
Matthew M. Luecke, Deputy Secretary
Michelle A. Smith, Assistant Secretary
Scott G. Alvarez, General Counsel
Thomas C. Baxter, Deputy General Counsel
Steven B. Kamin, Economist
David W. Wilcox, Economist

James A. Clouse, Thomas A. Connors, Evan F. Koenig, Thomas Laubach, Michael P. Leahy, Loretta J. Mester, Samuel Schulhofer-Wohl, Mark E. Schweitzer, and William Wascher, Associate Economists

Simon Potter, Manager, System Open Market Account

Lorie K. Logan, Deputy Manager, System Open Market Account

Michael S. Gibson, Director, Division of Banking Supervision and Regulation, Board of Governors; Louise L. Roseman, Director, Division of Reserve Bank Operations and Payment Systems, Board of Governors

Nellie Liang, Director, Office of Financial Stability Policy and Research, Board of Governors

Stephen A. Meyer and William Nelson, Deputy Directors, Division of Monetary Affairs, Board of Governors

Jon W. Faust, Special Adviser to the Board, Office of Board Members, Board of Governors

Trevor A. Reeve, Special Adviser to the Chair, Office of Board Members, Board of Governors

Ellen E. Meade, Senior Adviser, Division of Monetary Affairs, Board of Governors

Eric M. Engen, Michael G. Palumbo, and Wayne Passmore, Associate Directors, Division of Research and Statistics, Board of Governors

Brian J. Gross, Special Assistant to the Board, Office of Board Members, Board of Governors

Edward Nelson, Assistant Director, Division of Monetary Affairs, Board of Governors

Jeremy B. Rudd, Adviser, Division of Research and Statistics, Board of Governors

Stephanie Aaronson, Section Chief, Division of Research and Statistics, Board of Governors; Laura Lipscomb, Section Chief, Division of Monetary Affairs, Board of Governors

David H. Small, Project Manager, Division of Monetary Affairs, Board of Governors

Peter M. Garavuso, Records Management Analyst, Division of Monetary Affairs, Board of Governors

David Altig, Jeff Fuhrer, Glenn D. Rudebusch, and Daniel G. Sullivan, Executive Vice Presidents, Federal Reserve Banks of Atlanta, Boston, San Francisco, and Chicago, respectively

Troy Davig, Christopher J. Waller, and John A. Weinberg, Senior Vice Presidents, Federal Reserve Banks of Kansas City, St. Louis, and Richmond, respectively

Jonathan P. McCarthy, Keith Sill, and Douglas Tillett, Vice Presidents, Federal Reserve Banks of New York, Philadelphia, and Chicago, respectively

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March 18 Session

CHAIR YELLEN. All right. I think we're ready to go. Why don't we start with Simon and the financial developments update?

MR. POTTER.¹ Thank you, Madam Chair. U.S. economic data generally disappointed for much of the intermeeting period and contributed to lower U.S. Treasury yields, as shown in your top-left panel. Many market participants attributed the soft data in part to severe winter weather. Despite the disappointing data, concerns over China, and escalating tensions in Eastern Europe, U.S. equity prices rose notably, as also shown in the top-left panel. In explaining this increase, market participants pointed to a variety of factors. These include some reversal of the sharp declines in risk asset prices in late January, as feared negative spillovers from emerging markets to domestic financial markets did not materialize and U.S. corporate earnings results were solid.

Corporate credit spreads also narrowed over the period, and investment-grade and high-yield spreads are near their tightest levels in the past decade, as reflected in the first two rows of the top-right panel. Despite continued increases in equity prices, valuations for the broad stock market do not appear overly stretched, with price-to-earnings ratios for the S&P 500 only modestly above their averages over recent years, also shown in the top-right panel. While valuations for some smaller-cap biotech and Internet firms are more elevated, they remain below levels seen prior to the crisis.

Risk asset prices have been supported by the continued accommodative stance of global monetary policy, which keeps funding costs low. In addition to easing financial conditions, this likely encourages investors to reach for higher-yielding returns, at times in difficult-to-track carry trades. Monetary policymakers have kept nominal interest rates low in major developed economies to achieve their policy objectives, though success has varied. Indeed, as reflected in the middle-left panel, three-year inflation compensation remains below inflation targets in both Japan and the euro area; notably, at this tenor inflation compensation is now substantially higher in Japan than in the euro area.

Many market participants still expect the Bank of Japan to take further action to ease monetary policy, though not until after it evaluates the impact of the consumption tax increase. In the euro area, the ECB staff's March forecast of headline inflation rises from its current level of 0.7 percent to 1.7 percent by the end of 2016. Market participants believe that if inflation does not begin to increase as anticipated, the ECB will take further action.

¹ The materials used by Mr. Potter are appended to this transcript (appendix 1).

Actual and expected monetary policy tightening by some central banks appeared to support the reduction in emerging market stresses. Tightening actions in Turkey, Brazil, and South Africa were seen as positive steps toward addressing imbalances. These actions resulted in higher short-term interest rates, as shown in the middle-right panel. Furthermore, measures to reduce fiscal accommodation in some emerging markets helped to increase policy credibility by reinforcing perceptions of the authorities' commitment to a timely correction of imbalances. Despite these positive steps, market participants remain focused on structural vulnerabilities and risks across emerging market economies.

Elsewhere in emerging markets, focus has been on developments in Ukraine and their potential impact on global financial markets. While escalating tensions in the region have led to some limited financial market volatility, the impact has been more pronounced on Russian asset prices. To contain pressures on the ruble, the Russian central bank increased its policy rate by 150 basis points in early March—leading to the increase in Russia's one-year swap rate seen in the middle-right panel—and has been intervening directly in the foreign exchange market.

In China, official-sector actions and concerns over a potential moderation in the growth outlook received considerable attention over the period. The bottom-left panel shows the relatively sharp depreciation of onshore renminbi, which followed a depreciation of the official exchange rate fix and reported intervention by the PBOC.

Although the actions to depreciate the renminbi may be consistent with concerns over recent moderation in the Chinese growth outlook, market participants generally interpret them as reflecting a new effort to stem rising capital inflows, which have contributed to credit growth beyond levels Chinese policymakers appear comfortable with. In particular, the depreciation likely reflects a desire by the PBOC to introduce greater two-way exchange rate risk after a reported buildup of speculative positions in the offshore market and may have been a precursor for the doubling to 2 percent of the onshore renminbi intraday trading band that was announced this past weekend. Market participants believe that the interventions were at least partially unsterilized and led to the decline in onshore interbank lending rates shown in the bottom-left panel.

Chinese credit markets were also in focus as authorities allowed the first domestic bond default since 1997. Participants interpreted the lack of a support package from authorities as signaling a greater willingness to allow for a more market-determined financial system and to reduce implicit guarantees associated with investment products and corporate bonds.

While the reaction in Chinese corporate credit markets was limited, copper and iron ore prices declined sharply, as shown in the bottom-right panel. The declines were due in part to concerns of higher future credit costs that could constrain Chinese growth and were amplified by weaker-than-expected Chinese production and trade data. Steve will discuss revisions to the staff's forecast for Chinese GDP growth in his briefing. In addition, base metals are widely used in China as a financing vehicle for onshore carry trades that invest in corporate credit or other high-yielding assets. Market participants believe that this type of trade is only one of many carry trade strategies present in the

Chinese onshore and offshore financial system produced by investors' attempts to evade regulation and exploit large yield differentials.

The top-left panel of your next exhibit reviews the market reaction to the Bank of England's changes to its forward guidance in mid-February. The BOE shifted emphasis from its 7 percent unemployment threshold to a focus on a broader set of economic indicators. While market participants had generally expected such a shift, following the announcement short-term interest rates rose sharply and broader financial conditions tightened modestly. Market participants attributed this reaction to the MPC's higher-than-expected GDP projections, which accompanied the change to the guidance, as well as to Governor Carney's emphasis on these projections in the related press conference. The BOE experience may illustrate the heightened sensitivity of market prices to central bank communications about the outlook as quantitative forward guidance is removed.

With regard to expectations of FOMC policy, as shown in the top-right panel, respondents to the Desk's dealer and buy-side surveys assign high odds to the Committee changing its forward rate guidance, with the vast majority expecting a change to be announced at this meeting. Dealers and buy-side participants assign the highest probability to the Committee providing additional *qualitative* guidance relevant to determining the appropriate timing of the first rate hike. They also assign a significant probability to the Committee providing additional information on the path of the target rate *after* the first hike.

The median expectation for the timing of liftoff in both surveys remains the second half of 2015—broadly in line with market-based measures—although the median dealer expectation shifted toward a slightly earlier liftoff relative to the January survey. With regard to economic conditions anticipated at liftoff, a new survey question asked about expectations for inflation in the one to two years following the first hike. As shown in the middle-left panel, averaging across respondents, both dealers and buy-side participants assign a probability of around 40 percent to inflation over this horizon registering within 1 quarter point of the Committee's 2 percent objective. The average probability distribution for each group of respondents appears to be roughly symmetric around 2 percent. Bill will talk more about respondents' expectations for economic conditions at the time of liftoff in his briefing.

With regard to asset purchases, all survey respondents view a reduction in the pace of asset purchases at this meeting as almost certain. Nearly all expect that the FOMC will continue to reduce the monthly pace of purchases by \$10 billion at each meeting, split evenly between Treasuries and MBS. Additionally, respondents believe that persistently large surprises in top-tier economic data would be required for the Committee to deviate from this "measured steps" path.

With regard to the target rate path, the middle-right panel shows that the market-implied path shifted down a bit over the intermeeting period and remains broadly in line with the median of year-end projections from the December SEP. The panel also shows the median expected rates from the Desk's dealer and buy-side surveys; these lie below the market-implied path through 2015 but above it thereafter. As shown in the bottom-

left panel, most respondents anticipate that the changes to the guidance that they view as most likely would have little impact on market expectations for the timing of liftoff or the subsequent target rate path. Among those who do expect a change to the guidance to affect market rate expectations, views are heterogeneous: Nearly all *dealers* anticipating a change think that the expected target rate path would flatten, while nearly all *buy-side participants* anticipating a change think that it would steepen.

The bottom-right panel shows the mean dealer expectation for the longer-run target fed funds rate. In the most recent survey, the decline in the mean was the largest since the question was introduced in mid-2012, and the median response also changed for the first time, declining from 4.0 percent to 3.75 percent. The decline may be related to revisions to expectations for longer-run GDP growth, also shown in the bottom-right panel. Separate from the survey, market commentary last week highlighted some expectations that Committee participants would revise lower their longer-run target rate forecasts in the SEP.

Turning to Desk operations, if the Committee continues reducing the pace of purchases, the Desk plans some operational changes. In particular, we plan to adjust the number of Treasury operations if the pace declines below \$30 billion while maintaining the current maturity distribution of purchases, shown in the top-left panel of your third exhibit. This approach will maintain the average duration of Treasury purchases at about nine years. The Committee could, of course, consider alternative approaches as it reduces the pace of purchases, including those that would change the maturity distribution and, thus, the duration target of the Treasury purchases.

For MBS, the Desk intends to decrease the size of daily operations to meet the Committee's monthly purchase pace, though actual daily operation sizes will vary based on fluctuations in monthly reinvestments. We will continue to focus purchases in production coupons. Additionally, as noted in the memo we circulated ahead of the meeting, we are beginning the process of transitioning MBS purchases to our proprietary FedTrade platform, which will improve the efficiency and transparency of our operations. We anticipate that these operations with FedTrade will begin on April 9.

Expectations for the path of remaining purchases from the dealer survey imply that the par value of the SOMA portfolio would peak near the end of this year at \$4.2 trillion. At that point, SOMA holdings would consist of \$2.5 trillion in Treasuries and \$1.7 trillion in MBS, as shown in the top-right panel. MBS holdings would represent 41 percent of the outstanding stock of available securities, while Treasury holdings would represent 23 percent of coupon securities outstanding.

Increases in the size and duration of SOMA holdings have resulted in a substantial rise in the interest rate risk of the portfolio, as was the policy intent in removing duration from the market. The middle-left panel shows the net unrealized gain or loss position of the portfolio, defined as the difference between its market and book values. The net unrealized gain was \$38 billion at the end of February—a decline of nearly \$175 billion since the start of 2013, but an increase of about \$90 billion from the level that was footnoted in the year-end financial statements released last Friday.

While market expectations for the path of future purchases show very little dispersion, dealer expectations about the time at which reinvestments would be stopped vary widely, ranging from one year before to six months after the first target rate increase. Staff estimates in the middle-right panel show that approximately \$250 billion in agency debt and MBS and just \$4 billion in Treasury securities would mature between the end of purchases and the fourth quarter of 2015.

Turning to the overnight RRP exercise, with approval from the Chair, the rate and the allotment cap were increased over the intermeeting period. As seen in the bottom-left panel, market repo rates increased over the period, along with Treasury bill yields and the effective federal funds rate (not shown). According to market participants, these increases were likely in response to a pickup in Treasury bill issuance related to the reinstatement of the debt limit as well as to the higher rate offered in our operations. As illustrated in the bottom-right panel, the majority of Treasury triparty repo transactions have printed within 1 basis point of the operation rate. The anticipated seasonal decline in bill issuance in April is expected to push market rates lower and thus may provide another opportunity to further examine the degree to which the RRP operations influence market repo rates.

The take-up in the operations continues to respond primarily to the spread between the rate offered and the market rate for overnight repo. As shown in the top-left panel of your final exhibit, when this spread is near zero, take-up appears to be highly elastic; this is particularly true for government money market funds and primary dealers. Take-up in the operations averaged around \$89 billion during the intermeeting period, and the operations may be having some effect on volumes in other money markets. In particular, as shown in the top-right panel, since the start of the exercise, triparty repo volumes have decreased alongside the increase in take-up. Brokered fed funds volumes have recently ticked lower, as shown in the middle-left panel, perhaps partly because of the participation in the exercise by the four FHLB counterparties.

Overall, we haven't learned anything yet that suggests overnight RRP could not be a powerful addition to our toolkit for the control of short-term interest rates. That said, there are additional enhancements we could make to further test the efficacy of the operations. Additionally, the seven-day term deposit operations carried out over the period went smoothly. The staff plans to outline testing options for the Committee in April in combination with further discussion of the intermediate and long-run framework options.

A quick update about the dollar swap lines: As shown in the middle-right panel, their usage has declined to very low levels. Recall that in January I sent a memo to the Committee informing you of the contingent plans of the BOE, ECB, SNB, and BOJ to discontinue regular three-month and seven-day operations. We expect little market reaction to the phasing-out of these operations after July, as the standing swap lines provide a framework for reintroducing these operations if market conditions warrant.

A final note: If the Committee decides to reduce the pace of purchases at this meeting, we will release a Desk statement at the same time as the Committee statement—the same approach as that taken at the two prior meetings. Lorie and I will have copies of the statement available for review. Thank you, Madam Chair. That concludes my prepared remarks.

CHAIR YELLEN. Questions for Simon? President Rosengren.

MR. ROSENGREN. My question is on figure 10. If I'm reading this right, the move from the dark blue to the light blue means that the brokers have been moving down their expectations for the fed funds rate since January. It looks like the December SEP is consistent with that lower rate, and I know we haven't gotten to it yet, but when we look at our own dots, they're moving in the opposite direction. They're moving up quite substantially. Do you see it as a potential problem that the dealers are moving down, while our SEP is going to be moving up fairly substantially?

MR. POTTER. The light blue line is the market-implied path. So it's not quite what the dealers think. Those are the little triangles. We try to look at what the market expects the SEP to look like, in terms of the dots. There are a few market participants who expect the dots to go up. There are more market participants who expect them to stay the same, and I would say there are some market participants, probably more than those who expect the dots to go up, who expect them to actually go down, partly because some people think that the longer-run normal rate of the federal funds rate will be revised, based, I think, on GDP growth—that bottom panel there. The estimates of GDP growth over the long run—for example, the CBO's—are starting to move down, and that would tend to produce lower estimates of the longer-run federal funds rate. So I would say that some people in the market expect the dots to go up, but it's a small set of market participants who have that view. Most market participants expect them to stay the same or move down. There's uncertainty because some dots do leave. How they'll interpret the dot that leaves—it's a very important one that leaves—I'm not sure.

MR. TARULLO. It's already gone.

CHAIR YELLEN. President Plosser.

MR. PLOSSER. I have two questions. The first one is about the buy-side survey. What's the sample size of that compared with the dealer survey?

MR. POTTER. It was 25 this time. It was 20 the previous time. The dealer—

MR. PLOSSER. Is it the same group?

MR. POTTER. It's not quite a balanced panel. We added five. So there's some issue comparing responses from the January one.

For the dealer survey, we went from 21 to 22. We looked at the balanced panel. So the first question I asked my staff was, "Did the median long-run federal funds rate fall because we added someone?" And they said, "We knew you were going to ask that question. No."

MR. PLOSSER. Okay. Thank you. Here's my second question: Looking at chart 20 on the overnight triparty repo volumes, the picture suggests that volumes have actually stayed pretty stable, and that our reverse RP allotment has just replaced volumes that were occurring by other parties. All we've done is change the mix. Our involvement hasn't really changed the volume, it's just changed the mix. Is that a legitimate interpretation? And if it is, what do I take away from this message that the volume has stayed the same?

MR. POTTER. I think volume between private counterparties has definitely gone down. That's clear from that.

MR. PLOSSER. But it went down about the same time that we intervened.

MR. POTTER. We can look at the microdata that underlie this from the triparty system, which we get each Tuesday, and you can see that for some funds there's a 100 percent setoff. For other funds, it's more like a 50 percent setoff. So you'll see their volume in triparty go down

by 50 percent of what they put into our overnight RRP, and that seems to be because they're trying to conserve the right to the dealer balance sheet space. We know that the dealers reserve balance sheet for them over a period of time, and the implicit agreement is to keep on using that balance sheet.

But what we need to do is look across the counterparties quite carefully. The set of counterparties that move around the most are the primary dealers themselves. So it's probably in the trades between the primary dealers in which there's been the biggest reduction in volume, as they will tend to use us more at that point than—

MR. PLOSSER. Is there a message to take away from that in terms of either, perhaps, longer-term market functioning or depth of the market in some way that matters? I'm just curious whether or not—

MR. POTTER. I think if there weren't a lot of regulatory reform bearing on repo and uncertainty about how short-term funding would be treated, it would be easier to take some type of message. One of the things we're not sure about is that some of the triparty behavior might be caused by the fact that there are a lot of reforms coming, which will affect that instrument—not as much as people thought before changes were made in the leverage ratio with regard to how it treated repo, but it's a little bit hard for us to push through that. We hope to send a report to research directors within the next two weeks that looks at some of the microdata, and they could probably tell you what we've seen there.

MR. PLOSSER. Thank you.

CHAIR YELLEN. President Fisher.

MR. FISHER. Thank you, Madam Chair. I have a question, an observation, and two other questions. To follow up on Eric's question, I wasn't sure what the answer was. Would

you expect some kind of market reaction if our dots don't align with this dealer expectation? I'm just curious about that point.

MR. POTTER. I don't have the chart in front of me. I think, Bill, you'll have that chart that shows the SEP relative to—

MS. LIPSCOMB. You should have it in the—

MR. POTTER. Okay. Why don't we let Bill go for this because he's practiced on this?

MR. ENGLISH. In front of you there are some charts in the handout with "Summary of Economic Projections" on the cover. As a couple of you have pointed out, the distribution, say, for the end of 2016 has moved up some. The median value for the end of 2016 is 50 basis points higher than the median value in December, at least for the dots plotted here. As somebody pointed out, it's a different set of people, as one person has dropped out of that.

As for whether that will have a market effect, I think it is the case that market participants look at the dot plot and take it as a signal of something. If you go back and you look at the dealer surveys for December and March, you see some upward shift in the expected path of the funds rate. You have to remember that from December to January, things looked a lot better, and then from January to now, they look somewhat worse. The net, I think, is still a positive for the dealer survey projections for the funds rate, but not 50 basis points.

And so it certainly is possible that market participants will read this as saying something about the Committee's intentions that is a little bit more hawkish, a little bit tougher, than they perhaps expected, leading them to mark up the path for the expected funds rate a little bit further.

MR. FISHER. Well, it is what it is, whatever we have put down there. So I guess it's just something that you may be asked, Madam Chair. I'm sure you'll be well prepared for the press conference.

CHAIR YELLEN. No doubt.

MR. FISHER. Here's my observation: When I signed off on our year-end financial statements under Sarbanes-Oxley at the Dallas Fed, my little Bank, I had an unrealized loss of a little over \$2 billion, and I was happy to see on chart 15 that that's come back up. But over time, if we're successful and the economy grows, the good outcome is that we will see a depreciation of our portfolio, particularly with the MBS holdings. Even if they're held to maturity, we're going to see some movement there. As much coordinated guidance as we can have in terms of answering any questions that may arise would be helpful. Just an observation, Madam Chair.

My question may be a little esoteric, but I want to ask the Desk, since we have the advantage of having you here. In Kurt Lewis's paper about dealer financing terms that was sent out, there was a reference to synthetic prime brokerage, and even though it was an excellent memo, it didn't quite explain the significance of this financing technique. Here's the question: Is this simply a way to escape regulators' notice? What is it, and how is it being utilized?

MR. POTTER. I'm not an expert in that. I don't know if MA has got a view.

MR. ENGLISH. I have a modest view. This is something that we're watching as a potential change in the way that markets operate, in the way that firms take on risk. We want to be sure we're on top of it because of concern that, over time, this could become a very substantial way to take on risk that isn't being appropriately managed and measured.

We had been hearing from contacts in markets that this was something that was developing, and we wanted to, in some sense, lay down a baseline as to what this looks like, who the participants are, and so on. The basic thought is that, instead of going to a prime broker and engaging in purchases of assets and financing them, instead you can do essentially the same risk-taking by engaging in derivatives transactions and doing those through synthetic prime

brokerage. So this was a first foray into this business, to try to understand it better—who are the participants, how big is it—and it's something that we'll be monitoring to see if it becomes a really big deal that we should worry about.

MR. FISHER. Thank you.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. I am going to follow up on President Fisher's question about chart 15. I was interested in the reactions, if any, in the media and in the public to the documentation of an unrealized loss.

MR. POTTER. You have to look hard to find it in the financial statements. I didn't see any real coverage of it. There was much more interest in the H.4.1 that came out the night before because of the large drop in Treasury holdings held at the Federal Reserve Bank of New York.

MR. KOCHERLAKOTA. I will just note, Madam Chair, that if people are concerned about the SEP, I think we do have an opportunity to resubmit.

CHAIR YELLEN. Thank you. Good observation. President Evans.

MR. EVANS. Thank you, Madam Chair. Simon, on the first page, chart 3, you show three-year inflation swaps. I think you made some comment about these countries and their inflation targets. For the United States, is this CPI or PCE inflation?

MR. POTTER. It is CPI, and I thought of mentioning that it is running below 2.5 percent, but it is not as far below as the red line is. The green line is actually pretty close to that.

MR. EVANS. Okay. That was really my question. A 2 percent PCE target translates into what for CPI? What is the translation you would suggest—2.3 percent, 2.5 percent?

MR. POTTER. I'm not the expert. We have experts.

MR. WILCOX. It probably adds a couple of tenths.

MR. EVANS. So, Simon, your first comment was three- to five-tenths.

MR. POTTER. Yes. But I'm not the expert.

MR. EVANS. Okay. All right. Interesting. One more question, a follow-up on Eric's, I guess. Taking the dealer survey on policy expectations, would you say that the dealers are basically assuming that coming out of this meeting we will be maintaining our stance of accommodation or—or what?

MR. POTTER. Yes. Nearly all of the dealers—and we try and ask a question to get at this—think that what you are trying to do with the statement, the SEP, and the press conference is to keep market expectations about where they are. Quite a few people think that will be hard to do, partly because changes in the forward guidance are hard to execute. They don't have access to the SEP right now. You could think that the SEP doesn't give the same signal. Then that would cause issues that I think I addressed with the two questions I got before.

MR. EVANS. Madam Chair, if I could, I would like to take the opportunity to ask the staff or someone to write us an opinion on what the appropriate wedge is between PCE and CPI inflation, because I wasn't actually expecting as low a number as two-tenths. When I have asked before, I was thinking I had heard more like between three- and five-tenths. And I think it's increasingly important for us to have a better feel for that issue.

MR. WILCOX. I think Jeremy Rudd has an update.

MR. RUDD. The table that I have shows that the gap between headline PCE and CPI, on a current-methods basis, has averaged about 35 basis points per year for the past, say, 11 or 12 years.

MR. EVANS. Okay. Thank you.

VICE CHAIRMAN DUDLEY. Two decimal places.

CHAIR YELLEN. Any further questions for Simon? [No response] If not, we need a motion to ratify domestic open market operations since January.

MR. TARULLO. So moved.

CHAIR YELLEN. Without objection. Okay. Let's then turn to our briefings on the economic situation, and David Wilcox will start us off.

MR. WILCOX.² Thank you, Madam Chair. I'll be referring to the packet that is creatively titled "Material for Forecast Summary." As shown in the top-left panel by the gap between the red and black lines, the indicators that have been published since the January Tealbook caused us to revise down our near-term forecast for GDP growth in the March Tealbook by a sizable amount. As you can see in the table to the right by comparing the first two lines, the indicators that were published late last week rearranged the quarterly pattern of GDP growth a little further but left the overall profile of activity broadly unrevised. This morning's report on housing starts and permits was a little weaker than we had expected and would take another tenth out of GDP growth in each of the first and second quarters of this year relative to what's shown in your exhibit. Meanwhile, in the labor market, payroll employment growth has been roughly in line with our expectations in the January Tealbook after taking account as best we can of likely weather effects, but once again the unemployment rate has come in a little lower than we expected. Finally, there has been essentially no news on the inflation front.

As you know from the Tealbook, we spent a great deal of effort this past round trying to discern how much of the downward surprise to our near-term GDP estimates could be traced to the unusually severe weather that several of you experienced firsthand this winter. (As one piece of quantitative evidence, the "W" word appears 60 times in Tealbook A, 25 times in the Beige Book's national summary, and—at last count—15 times in this briefing alone. I got tired of counting after that.) Our Tealbook assessment was heavily informed by an extensive empirical investigation undertaken by Charlie Gilbert, a member of our Industrial Output section, which is summarized in a box in the Tealbook. For this exercise, Charlie used daily data from roughly a thousand individual NOAA weather stations to construct measures of extreme weather events at the county level; he then aggregated those readings to the national level using customized activity-related weights and used the resulting measures to explain the behavior of four key monthly economic indicators. With these highly detailed metrics, Charlie was able to detect noticeable effects from both cold and snow on housing starts and auto sales and some restraint of extreme cold on

² The materials used by Mr. Wilcox are appended to this transcript (appendix 2).

retail sales as well. Payroll employment seems less sensitive to snow or cold, though the average length of the workweek seems more so.

Adding up all the pieces, and taking account of the possibility that some of the weather-related hit to final purchases was likely buffered by inventories, our best guess—as shown on line 5 of the table—is that bad weather may have held down GDP growth this quarter by about four-tenths of a percentage point; next quarter, we expect spending and production to rebound, with no net effect on the level of output after the third quarter. We also think that adverse weather probably had little effect on the unemployment rate and only a modest effect on payroll employment.

Some outside analysts have circulated estimates much larger than ours. While we would be the first to acknowledge that a good deal of uncertainty surrounds any assessment of weather effects, including ours, we are skeptical that recent weather effects could have been as large as some of the more adventuresome estimates would suggest. Our skepticism is born of issues of timing, location, and sector: Some of the unexpected softness in spending predates the period of bad weather; some occurred in areas of the country that did not have bad weather; and some occurred in categories of spending that probably are not very sensitive to bad weather.

Thus, in our estimation, even adjusting for weather effects, the recent data point to a somewhat weaker profile of GDP growth than we had expected in January. As is likely more firmly emblazoned in my memory than yours, a rush of stronger data a few short months ago had encouraged us to mark *up* our GDP projection in the January Tealbook. It now appears that some of this optimism was misplaced. Thus, it is useful to go one step further back and compare the March forecast to the one we made in December, as I have done in the box in the middle-right panel. The first two lines in the box compare our forecasts of GDP growth over the four quarters ending in the second quarter of this year—a period over which weather effects should come close to washing out; our assessment of GDP growth over that period is essentially unrevised relative to the December Tealbook. Nonetheless, as can be seen by comparing lines 3 and 4, the unemployment rate appears on track to come in three-tenths below our December Tealbook projection.

As I highlighted in my January presentation, this situation—a downside surprise in the unemployment rate despite real GDP growth about in line with our forecast—has been present to a greater or lesser degree for the past couple of years. In part, we have responded to these forecast errors by trimming our assumption for the growth rate of potential GDP, and we took a further step along these lines in the most recent forecast. Separately and additionally, this time around we took potential GDP growth in 2015 and 2016 down a touch further to reflect our revised—but still provisional—assessment of the effect that the Affordable Care Act may have on labor supply.

The bottom-left panel shows the net effect of these latest revisions on the GDP gap. By the end of the near term, the output gap is about unchanged relative to our January projection. Over the medium term, the revisions that we made to potential output growth pass through one-for-one to our projection for actual output; as we

made only minor changes to our other conditioning factors—the only one worth noting being a slightly higher path for the dollar—the projected output gap from the middle of this year onward is little revised relative to January. Our unemployment rate forecast is similarly essentially unrevised relative to January.

In the past, we have emphasized that we would need to see a pickup in GDP growth in order to be assured that labor market conditions would continue to improve. With the changes to our supply-side assumptions that we have made over the past few rounds, even continued growth along the lines of what we saw, on average, during 2013 would *eventually* be sufficient to achieve the employment-related goal in the Committee's dual mandate. It wouldn't be speedy, but it would ultimately get the job done.

Turning to the other component of the dual mandate, the incoming data on core PCE inflation—shown in the bottom-right panel—have been close to our expectations. After the Tealbook was closed, we received the February PPI and—this morning—the February CPI; in terms of their implications for our PCE projections, these releases were also close to our expectations. With slack, inflation expectations, and core import prices all little revised from our January forecast, we have made essentially no change to our core inflation forecast; likewise, our projection for headline inflation (not shown) is also mostly unrevised over the medium term. We therefore continue to expect a modest pickup in inflation over the projection period—though at this point, such a pickup is completely prospective. Indeed, the anticipated increase is modest enough—especially relative to the usual volatility of the data—that I expect it will be difficult to discriminate in real time as to whether we are seeing the slow attainment of the Committee's 2 percent target, or whether inflation is actually anchored at some slightly lower level. Steve Kamin will now continue our projection.

MR. KAMIN. Several weeks ago, I accompanied Chair Yellen to the meetings of the G-20 and the BIS held in Sydney, Australia. Although 20 hours of flying is an awfully long way to go for some meetings, these discussions proved unusually productive. In their lead-up, the media was rife with comments that the Federal Reserve was oblivious to events beyond our borders, that its tapering had contributed to the eruption of financial stresses earlier this year, and that once normalization of monetary policy began in earnest, it would substantially disrupt emerging financial markets. In Sydney, Chair Yellen convincingly pushed back against these assertions, emphasizing the weight that the Committee places on global economic developments and underscoring how, by supporting U.S. economic growth and by clearly communicating its monetary policy intentions, the Federal Reserve will enact policy that should also redound to the benefit of our trading partners, including the emerging market economies (or EMEs).

Indeed, that view underpins our staff projection, in which the global economy converges toward normality by the end of the forecast period. In the advanced foreign economies, real GDP growth runs at 2 percent this year, about the same as last year, and rises to 2¼ percent in 2015 and 2016 as the euro-area economy picks up

steam. While hardly a boom, this expansion is sufficient to reduce the amount of slack in these economies to below 1 percent of GDP by the end of the forecast period. The emerging market economies, broadly speaking, are already in the neighborhood of full capacity. In both the previous and current quarters, the pace of expansion in the EMEs looks to have been rather subdued at about 3½ percent, nearly a percentage point below its estimated trend pace, as China and Latin America have shown surprising weakness. However, with some bounceback in these economies, we are projecting EME growth to strengthen to roughly 4½ percent in 2015 and 2016.

The narrowing of output gaps in the advanced economies, along with the return of inflation back toward targets—which are generally at 2 percent—will naturally imply some normalization of monetary policies. Among the major foreign central banks, we expect the Bank of England to be the first out of the gate, as U.K. GDP growth has been brisk and the unemployment rate has fallen nearly to the BOE’s 7 percent threshold. In consequence, the BOE has already announced new forward guidance, as Simon has described, and we see it lifting the policy rate starting early next year. The euro-area economy has been weaker and inflation has been lower than in Britain, so we do not see the ECB raising rates until 2016, and it might even loosen further if the recovery flags. Finally, the BOJ is still in the process of easing policy via asset purchases, and, in fact, we expect it to expand that program sometime soon; however, in our projection, the BOJ completes these purchases in 2015 and implements its first rate hike at the end of 2016.

As I noted earlier, during our meetings in Sydney, Chair Yellen and I frequently heard concerns that once monetary policies in the advanced economies began to tighten, this could be quite disruptive for EMEs. In the staff outlook, with the Fed and other central banks communicating their policy intentions as clearly as possible, markets are expected to anticipate the rate hikes so that once they occur, they should not exert large and sustained effects on yields, exchange rates, and other asset prices. In this regard, we take some comfort from the relatively tranquil introduction of tapering last December. Of course, the events of the past year underscore how difficult it is to foretell market responses to our policies, and there may well be segments of the markets that are surprised by even the most clearly telegraphed policy actions. But our sense is that, as long as the EMEs are growing solidly—in part because of the recovery in the advanced economies—and as long as the most vulnerable EMEs are making progress toward better fundamentals, they should be able to weather the market volatility that might arise around the time of policy tightening. However, if at the time we start raising rates, EMEs are struggling to maintain economic growth and continue to face concerns about their desirability as an investment destination, the risks are considerably higher than our policy normalization could have adverse spillovers abroad, a scenario we explored in the Tealbook. In light of this concern, a number of developments have been quite worrisome.

First, many Latin American economies have been struggling over the past year and, although we are projecting improved performance down the road, the most recent data have not given us much confidence. In Mexico, despite the pickup in U.S. growth, GDP expanded at only a ¾ percent rate in the first three quarters of last year

and stayed at that anemic pace in the fourth. A number of factors have been cited for the recent weakness—auto plants that have been shut down for retooling, fiscal policy that has been less expansionary than expected, and confidence that has been damaged by uncertainty over recent tax hikes—but a solidly grounded expansion should have been more resilient to such shocks. In Brazil, where the economy appears set to flatten out yet again in the current quarter after a very weak 2013, we see more fundamental reasons for a slump: sharp hikes in policy rates to contain high inflation, structural bottlenecks that are depressing investment and productivity, and the drag from even worse performance in its neighbors, Argentina and Venezuela. We are anticipating that Mexico and Brazil will shake off their malaise by next year, but if they are still struggling when the Fed and other advanced economies start raising rates, this could weigh heavily on investor sentiment and significantly worsen their economic and financial difficulties.

A second and even more worrisome risk that could intensify any spillovers from policy normalization, and which would be injurious to many economies in its own right, is a substantially sharper slowdown in growth in China than we are currently projecting. Based on very weak data for January and February released after the Tealbook was finalized, we now estimate that Chinese GDP growth dropped from 8 percent in the fourth quarter to 6¼ percent in the first, well below our January projection. Our best guess is that the measures the authorities took last year to push up interest rates and rein in lending, especially in the shadow banking sector, led to a greater pullback in spending than we had expected. With the People's Bank of China having allowed interest rates to fall back more recently, and also having engineered a depreciation of the currency, we are projecting growth to bounce back from its current low. However, after reaching 7¼ percent next quarter, our forecast for Chinese growth edges back down as potential output decelerates and the economy rebalances away from investment and net exports. We had already marked down our medium-term outlook for China a touch for the March Tealbook, and the most recent data leave us less confident still about our projection. A sharper slowing of the Chinese economy would by itself weigh on global commodity and financial markets, creating problems for many EMEs. It would be even more injurious if it triggered problems in the Chinese property and financial sectors that, in turn, caused a much deeper downturn.

At this point, I should probably remind you that our baseline forecast for the global economy is reasonably benign. Moreover, I can even think of some upside risks to the outlook, such as faster growth in the euro area than the tepid recovery we are predicting. But I would be remiss if I did not mention Ukraine. With its economy contracting sharply and the government running out of cash, Ukraine is in very dire straits. Even if Ukraine succeeds in getting an IMF program, fulfilling program conditions and avoiding default on its obligations will be challenging. As long as its problems stay mainly in the local economic and political sphere, including the spillovers to Russia that are already taking place, effects on the U.S. and global economy should be limited. However, if the confrontation between Russia and the West intensifies and leads to global financial market disruptions, the risks to the global outlook become considerably more pronounced.

Laura Lipscomb, from Monetary Affairs, will continue with a briefing on the SEP submissions.

MS. LIPSCOMB.³ Thank you. I will be referring to the packet labeled “Material for Briefing on the Summary of Economic Projections.” Exhibit 1 shows the trajectories of your forecasts for key economic variables under the assumption of appropriate monetary policy. The top panel shows a gradual pickup in real GDP growth this year and next. Subsequently, in 2016, real GDP growth begins to move back toward its longer-run rate. Your projections for the unemployment rate, shown in the second panel, decline gradually over the forecast period and, by the fourth quarter of 2016, reach levels that the majority of you view as broadly in line with your individual judgments of the longer-run normal rate of unemployment. The bottom two panels show inflation rising over the next few years; almost all of you see it remaining at or below the Committee’s 2 percent objective.

Exhibit 2 compares your current projections with those in the December Summary of Economic Projections and the March Tealbook. As shown in the top panel, in general, you made only small revisions to your forecasts for real GDP growth. Most of you revised down projected growth in 2014 slightly, with many noting that some of the softness in recent data may reflect the transitory effects of unusually severe winter weather. More broadly, the top ends of the central tendencies for growth in each year and in the longer run all moved down somewhat. As shown in the second panel, the central tendencies of your forecasts for the unemployment rate shifted down by roughly two-tenths in each year of the projection, likely reflecting the actual decline in the unemployment rate in recent months. In addition, the central tendency of the longer-run normal rate of unemployment narrowed to 5.2 to 5.6 percent. In the bottom panels, almost all of you left your inflation projections nearly unchanged. The Tealbook forecast for economic growth is at or near the upper end of your central tendencies over the projection period, while the Tealbook projections for the unemployment rate move from the middle of your central tendency this year to just below the central tendency in 2016. For inflation, the Tealbook projections are at the bottom of your central tendencies throughout the projection period.

Exhibit 3 provides an overview of your assessments of the appropriate path for the target federal funds rate. As shown in the top panel, most of you continue to think that it will be appropriate to begin raising the federal funds rate in 2015. The middle panel of the exhibit provides your current assessments of the appropriate level of the target federal funds rate at the end of each year of the forecast period and over the longer run. Although your expectations about the year in which it will be appropriate for the federal funds rate to leave the effective lower bound are little changed, a number of you marked up your target funds rates over the projection period: The median funds rate projection now stands at 1 percent in 2015 and 2.25 percent in 2016. This compares with 75 basis points and 1.75 percent, respectively, in your

³ The materials used by Ms. Lipscomb are appended to this transcript (appendix 3).

December projections. On average, the changes to your target federal funds rate projections for the end of 2016 were roughly consistent with the revisions to your unemployment rate projections, assuming a policy reaction function similar to the standard (noninertial) version of the Taylor (1999) rule. Fourteen of you judge that the funds rate at the end of 2016 will still be below your assessment of its longer-run level.

With regard to securities purchases, almost all of you indicated that your assessment of appropriate policy was in line with the assumption in the Tealbook baseline forecast, which has purchases continuing to slow in measured steps and concluding before the end of this year. Two of you thought it appropriate to reduce the pace of purchases more rapidly and end the purchase program somewhat sooner than assumed in the Tealbook.

Exhibit 4 depicts the economic conditions that you anticipate at the end of the year in which you judge that it will be appropriate to raise the federal funds rate above its effective lower bound. Because liftoff likely won't occur at year-end, the chart shown is only illustrative of the market conditions around the time of liftoff. Your projections for the unemployment rate at the end of the year of liftoff range from about $5\frac{1}{4}$ to $6\frac{1}{4}$ percent, with a median near $5\frac{1}{2}$ percent, while your inflation projections are clustered between $1\frac{1}{2}$ and $2\frac{1}{2}$ percent, with a median of $1\frac{3}{4}$ percent. For the 13 participants who view it as appropriate to first raise the target federal funds rate in 2015 (shown by the white diamonds), all project that the unemployment rate will be below 6 percent, and all but one judge that inflation will be at or below the Committee's longer-run objective of 2 percent at the end of the year of liftoff.

The final exhibit reviews your assessments of the uncertainty and risks surrounding your economic projections. As shown in the top two panels in the column on the left, nearly all of you judge the current level of uncertainty about real GDP growth and unemployment to be broadly similar to the average level of the past 20 years. A majority of you also judge the level of uncertainty about inflation, shown in the lower two panels in the column on the left, to be broadly similar to the average over the past 20 years. As shown in the top two panels in the column on the right, as in December, almost all of you judge the risks to real GDP growth and unemployment to be broadly balanced. As shown in the bottom two panels in the right-hand column, the majority of you see the risks to inflation as balanced, but five of you now see the risks as weighted to the downside, slightly more than in December. A few of those who saw risks to growth or inflation as weighted to the downside noted concerns about geopolitical factors or external demand. That concludes my prepared remarks.

CHAIR YELLEN. Thank you very much. Questions for our presenters? President Rosengren.

MR. ROSENGREN. I apologize for my inquisitiveness today, but I have two questions. The first one is for David. Your memo on the weather effect, line 5, basically says that it washes out over the course of the year, which was basically my intuition. So if people look at our SEP median forecast and see real GDP is three-tenths lower in 2015 and four-tenths lower in 2016, do you think they will assume that weather had no effect on that because it would have washed out over the course of the year? As you think about private-sector forecasts and your own forecast, do you think it's a standard assumption that it will all wash out over the course of a year?

My second question actually goes to the alternative scenario about emerging markets in the Risks and Uncertainty section in the Tealbook A. You have the financial crisis in the EMEs, and the result is a leveling-off of the unemployment rate at 6½ percent. What's interesting about this one stress is that it's different from the others, which are getting more at plausible differences that people might have in their baseline forecasts. This is getting a little bit more at a financial-stability type of stress, for which I commend you. I think it's a good one to be thinking about. But I do wonder if some of the financial spillovers are incorporated in the modeling that you're doing. For example, European banks have a much larger exposure to emerging markets than U.S. banks. And so if they are having a stress test in Europe at the same time that this emerging market financial crisis occurs, would you see more of a flow coming through Europe? Would you pick up those secondary factors in the way that you're doing the modeling?

MR. KAMIN. I'll go first. In regard to the EME crisis simulation, we incorporate some types of financial effects on the U.S. economy, but we don't incorporate others. Aside from the strictly macroeconomic effects that we incorporate—which are a bunch of shocks to the EMEs themselves that lower their output as well as flight-to-safety shocks that push up the dollar, both of which reduce our trade balance and have a direct impact on U.S. GDP—we do also

incorporate a number of financial market shocks in the United States itself, specifically upward shocks to corporate bond spreads and to equity premiums that are in part offset by downward shocks to Treasury yields as part of that flight to safety. So those are the factors that we do build in, and they are factors that our DSGE model can accommodate.

You mentioned an additional factor, which is the possibility that because European banks are very exposed to emerging markets, and because U.S. banks of course are very exposed to Europe, that could be an additional channel of spillover and contagion, and we have definitely thought of that. In the QS surveillance report on financial stability that we prepared in December, there is actually some discussion of that, including a table that directly shows that certain economies, particularly the United Kingdom, Switzerland, and Spain, have pretty heavy exposures to the five fragile EMEs, and that U.S. banks in turn have pretty heavy exposure to the United Kingdom, less to the others. So that's a plausible channel of contagion. It is not one that we have built directly into our simulation, but we could think about doing that.

I would note, additionally, that if you think about these different channels, the United Kingdom, for example, has somewhere in the neighborhood of 60 percent of capital as exposure to EMEs, and then U.S. banks have something on the order of 10 percent of Tier 1 capital in exposure to U.K. banks. Probably that type of channel alone might not be enough to give you too much bang for the buck in terms of an effect of an EME crisis on U.S. banks, although it would be material.

However, noting that the euro-area economy more generally is pretty fragile, and knowing that the situation of European banks in general is fragile and dependent on the outcome for the euro-area economy, if a crisis in EMEs derailed the euro-area recovery, and if it led to the

types of fears of meltdown that were so prevalent a couple of years ago, then that could truly be an avenue for deep contagion through Europe back to the States.

MR. WILCOX. I think the answer to your question about weather-related effects is “yes,” in the sense that I think they should wash out within the calendar year 2014. A convenient happenstance of the timing of the storms was that we basically don’t see any effect in the fourth quarter of last year. So it all starts in the first quarter of this year. And then we’ve got some complicated razzmatazz built in with payback, and so forth. But that all works out within the four-quarter span from the fourth quarter of last year to the fourth quarter of this year. I haven’t seen any outside analysis that materially deviates from that.

CHAIR YELLEN. President Kocherlakota?

MR. KOCHERLAKOTA. Thank you, Madam Chair. I have a question for David: The FOMC statement talks about the Committee “monitoring inflation developments carefully for evidence that inflation will move back toward its objective over the medium term.” I would welcome counsel from the staff about what kind of evidence we should be looking for.

MR. WILCOX. I don’t have anything that is not obvious. Realized inflation would be good to see, inflation projections moving up. I’m a partisan of ours, so I’d like to see evidence that convinces us. What would do that would be continued progress on reducing margins of slack. That will add mechanically, I think, about three-tenths to our projection between now and full attainment of maximum sustainable use of resource utilization.

I think that some acceleration in measures of compensation would be consistent with that. We’ve had compensation growing at the quite tepid rate of only about 2 percent. A sort of rough rule of thumb is that something more in the neighborhood of 3½ percent might be consistent in

the steady state, with 2 percent inflation and labor's share holding constant at some level. Those are a few of the key factors. Bill, do you have anything material to add?

MR. WASCHER. No, that's good.

MR. KOCHERLAKOTA. Thank you.

CHAIR YELLEN. President Evans.

MR. EVANS. Thank you, Madam Chair. David, let's see, today the unemployment rate is 6.7 percent. The summary table that you put before us reminds us that the Tealbook has the unemployment rate in the second quarter of 2014 at 6½ percent. In our June meeting, we will have the May employment report in front of us. In terms of the Tealbook analysis, what would you say the probability is that the unemployment rate remains above 6½ percent at that meeting?

MR. WILCOX. For May, which would be the last report we would have in the scenario that you posed, we have penciled in an unemployment rate equal to 6½ percent. I suppose there is some probability, which I can't compute in my head, that we might actually be correct.

[Laughter]

MR. KOCHERLAKOTA. Let's round that.

MR. WILCOX. We could round that to zero. That would leave three employment reports to be received between now and the June meeting. I don't have any reason to believe that the risks are skewed either to the upside or downside importantly over that period of three employment reports. So I think I'd say that it's about a 50/50 proposition that unemployment would be either at or above 6½ percent.

MR. EVANS. Thank you.

CHAIR YELLEN. President Fisher?

MR. FISHER. Thank you, Madam Chair. To my surprise, I am within the central tendency of all those dots on every front. Truth in advertising.

MR. TARULLO. You can revise, Richard. [Laughter]

MR. FISHER. I don't plan to revise, but I do want to ask a question of David on the natural rate—the green line on the unemployment rate chart. CBO projections of the natural rate go back to the historic year of 1949, Madam Chair, and they range between 5 percent in the early 2000s to 6¼ percent in the 1970s. Even though it's hard to tell from the scale, they average about 5.6 percent over that timeframe, 1949 to now. On the scale that you have here, it's hard to see, but basically you have us going from 5½ percent to 5.2 percent. So my question is, why 5.2 percent? Where does that come from? Why would we be below the historical average and not closer to what we saw in the 1970s?

MR. WASCHER. I think a lot of the variation in the natural rate over time has been associated with demographics. So when there was the big influx of teenagers into the labor market in the 1970s, that drove up the natural rate because they tend to have high unemployment rates on average or to change jobs a lot and have periods of unemployment in between. As we saw the aging of the population, the natural rate looked like it was coming down. In the mid-2000s, or 2007, say, we thought the natural rate had come down to about 5 percent, and that seemed consistent with what we were seeing in terms of inflation at the time.

The demographics are a relatively neutral factor since then, and so we have it basically going back down to where it was prior to the financial crisis by the end of the medium-term forecast period. Our assumption is that for the most part labor markets are back to functioning normally. We are not seeing the types of mismatches and things that we think drove up the

natural rate during the financial crisis and the subsequent recession. So it is basically an assumption that labor markets are going to eventually return to more normal functioning.

MR. FISHER. The reason I ask is that obviously it's important if you are trying to get a sense of what the slack is and how far away we are.

MR. WASCHER. Yes. I don't want to overstate our confidence. There is a lot of uncertainty around any estimates.

MR. WILCOX. I would say that that uncertainty is two-sided.

MR. FISHER. Yes. With regard to the razzmatazz on the weather effect—I love the term “razzmatazz,” by the way—you mentioned automobiles, housing prices and housing activity, consumer activity, and so on. And I'll mention this a little bit in my go-round, but I think logistics are also a big part of it. If you talk to the rails, it is very hard to move trains and trucks, to find drivers, et cetera. So it may not have affected wages, but in terms of logistics—I'm impressed that Charlie could look at a thousand NOAA weather data points and assemble quite an impressive analysis—but the effect is the same, you expect a snapback. But I wouldn't ignore the gearing of the economy and how it was affected, whether it's river transport, rail transport, air transport, et cetera. I just wanted to make that point.

And then the last point is that I would be very careful not to put Brazil and Mexico in the same basket. I know you didn't mean to, but they are geared entirely differently. One is significantly manufacturing-export driven—the northern one—and the southern one is tremendously vulnerable to commodity prices. You used them in the same sentence. I just wanted to warn you. Both have been underperforming, for sure, but in terms of the potential for recovery, they are geared to different demand functions.

MR. KAMIN. I certainly take that point. I guess I would just—

MR. FISHER. Plus, they hate each other.

MR. KAMIN. Excuse me? Oh, yes. Well, what I would note is that for the past year, I, and I believe you and others, have been very heartened by developments in Mexico, by the many reforms that they have passed—things look very promising. So I have to say, I view with some disappointment the fact that their economy has been underperforming. If that's just due to a series of idiosyncratic shocks, and then the economy picks up, as we have it doing in our forecast, that is all well and good. But when the economy is doing as relatively poorly as it has been doing for this amount of time, that does lead to concerns that maybe there is something underlying that that we are not picking up. So that's the source of my concern.

MR. FISHER. Thank you.

MR. WILCOX. President Fisher, the logistical kinds of bottlenecks that you are talking about are the types of situations that could give rise to a little inventory buffer. So it's a different thing, as you are implicitly pointing out, to try to discern a production effect than it is for the absorption, and in between, inventories could be playing an either intentional or unintentional buffering role. A lot of the trucking and shipping phenomena that you describe could be in the unintentional category.

MR. FISHER. You saw that, by the way, in the sale of cereals through food retailers. They were drawing down the inventory because they couldn't get anything out of Battle Creek, Michigan. So I think that point is correct.

CHAIR YELLEN. Vice Chairman Dudley.

VICE CHAIRMAN DUDLEY. I was going to make an observation on the SEP, and if the staff want to react to it, they are very welcome to. When I'm looking through the SEP, and I compare the changes in the 2016 numbers in terms of growth and inflation and unemployment,

and then I compare those with the change in the interest rate projections, it seems like the change in the interest rate projection is pretty large relative to the change in the central tendency and, in fact, the ranges.

If you look at the unemployment rate, the changes are basically two-tenths at the top end and one-tenth at the bottom end, but the longer run is also being brought down by two-tenths at the top end. On the range, there is a change of two-tenths at the top end, but that is offset by a one-tenth increase at the bottom end. So basically you have a net change in the unemployment rate projection from December of, it looks like, one-tenth of 1 percentage point. And if you look at the inflation numbers, they are basically unchanged for the central tendency, but they are actually lower for the range.

So you get a 50 basis point move in the interest rate projection for what essentially seems like a marginal change in the unemployment rate projection and a change in the inflation projections that actually goes the other way. If one were looking at this from the outside, would one view this as all fitting together?

In contrast, I think the Tealbook forecast hangs together a lot better, because there you have upward revisions to inflation, downward revisions to unemployment, and then you have an upward revision to interest rates. It seems to me like we have a little bit of a challenge as a Committee here because either the SEP doesn't hang together or there is just unbelievable interest rate sensitivity to incredibly minute changes in the unemployment rate.

CHAIR YELLEN. Well, you would expect, what, one-fourth of a point, two-tenths, on the interest rate for a movement of one-tenth in the unemployment rate with Taylor (1999), right?

VICE CHAIRMAN DUDLEY. I certainly wouldn't expect 50 basis points. So I just throw that out there as an observation, and I'm curious if you have any reactions. You don't have to.

MR. WILCOX. Well, I can't speak for the 16 of you. In terms of our forecast, though, just so you know what reflecting glass you are confronting—this situation motivates precisely our modus operandi of adopting a transparent and very mechanical approach to setting the monetary policy assumption. So what we do, as best we can, is listen very carefully to the guidance that you give us, and we took that on board, for example, with respect to the liftoff date. We interpreted the second quarter of 2015 as consistent with your statement in January that there would be a period of time between the cessation of asset purchases and the liftoff.

After that, we turn over the setting of the funds rate to the inertial Taylor (1999) rule. That's what we did in December. That's what we did now. So, in some sense, the settings on the box that is churning out these results are unrevised. And what we're trying to do is project back to you a forecast that is coherent and iterated. In other words, it takes on board the monetary policy. So as best as we can, up to the limits of fallibility, the monetary policy assumption goes with the economic projection and the economic—

VICE CHAIRMAN DUDLEY. It feeds through mechanically.

MR. WILCOX. Indeed. And the economic projection goes with the monetary policy. But policy in some sense is unrevised, and there is just a mechanical formula that drives the revisions that you are seeing in our funds rate assumption.

CHAIR YELLEN. President Kocherlakota has a two-hander.

MR. KOCHERLAKOTA. Yes. Thank you, Madam Chair. I think the Vice Chairman raises some good points. I'm not one of the people who revised their outlook for the federal

funds rate in 2016, under appropriate policy and all that—but one way to think about this is that participants might be reflecting their view of the headwinds that are prevailing at that time to give rise to those economic conditions. So it's really about their valuation of what the appropriate intercept is in the Taylor rule, as opposed to anything else. And that's hard to get at just through these questions. So the reason alternative B talks about the Committee keeping the fed funds rate unusually low, consistent with maximum employment and target inflation, is because headwinds are so strong. But if people change their evaluation of what those headwinds are, that's going to lead to changes in what they think the appropriate fed funds rate is as well.

MR. ENGLISH. If I may, one point that's worth thinking about is something that Thomas Laubach looked into. He applied a noninertial Taylor (1999) rule to the SEP contributions for unemployment and inflation in December and in March and found he actually could explain, on average, essentially all of the change in the funds rate contributions. There was a change in the coverage—who was submitting in December and in March—and that matters some as well, but in fact I think that, looking around the table, on average the people who are here were reflecting something like a Taylor (1999) rule in their contributions for the funds rate.

CHAIR YELLEN. Governor Tarullo.

MR. TARULLO. Thank you, Madam Chair. Steve, you helpfully drew our attention to a couple of potentially significant external risks, and I wonder if you could elaborate on both of them—that is, China and Ukraine.

With respect to China, the question is, what's the magnitude of the risk? If, for example, we hypothesize that instead of just slipping a bit, growth slipped pretty substantially—say, to 5 percent, which for China is a recession—what would your expected impact on world GDP be?

And then, with respect to Ukraine—I know anything that’s geopolitical in origin is hard to trace through because in the first instance it’s not an economic event that follows on, but instead a set of reactions to a political event—but how would you see a potential problem in Ukraine spilling over into the rest of the world? Is it principally a geopolitical—that is, a military—conflict, or is it a debt issue? And if the latter, to whom do they owe money and, particularly, how much do they owe to people other than Russians?

MR. KAMIN. Let me start with Ukraine and I’ll work back to China. On Ukraine, there are really quite a number of different channels by which a deepening of the crisis there could affect the global economy and the United States. So let me start with in some sense the most normal channels: Imagine that Ukraine is just an ordinary emerging market economy, not located where it is but, let’s say, in South America, and is having deep financial problems. It’s getting an IMF program but is widely expected to have great difficulties. Probably in that case the effect of its crisis deepening, leading it to default on some of its obligations, would be pretty small because, first, it’s a very small economy. In terms of global trade, it accounts for less than 1 percent, and in terms of U.S. trade, less than 1 percent. So on the real side, it wouldn’t have too much of an effect. On the debt side, it has a weight in the emerging market bond indexes that is probably, I think, in the neighborhood of 1 or 2 percent, and in terms of its weight in U.S. bank exposure, less than 1 percent. You name it—it’s very hard, when you consider the country by itself, to identify a big effect. So just by virtue of that, those normal spillovers would not have such a big effect.

Those effects become somewhat more discernible if you want to suggest—now putting Ukraine back where it is—that its economy as it implodes could drag down Russia’s, which would not be that likely, frankly, if only economic factors were present, but could become

relevant as the political factors become more present. Russia, of course, is still not a particularly large world trader. It probably accounts for somewhere in the neighborhood of 2 or 3 percent of world trade. It only accounts for about 1 percent of U.S. trade. So, again, the impacts are not huge, even if Russia is brought into the fray, but they're getting to be more material.

The impacts that are more concerning are the following: If the political situation were to deepen such that trade relations between Russia, Ukraine, and Western Europe were damaged, Europe is highly dependent on them for natural gas, and in addition the weight of Russia and Ukraine in European trade is a bit higher—though it's still not great, around 5 percent. So that's one concern, and given the fragility of the euro-area recovery, that's a material risk. But the bigger risk really is geopolitical, and that's the risk that came to the fore a couple of weeks ago, right after the Crimea incursion, when global markets took a dive the following day. They recovered on Tuesday when it became apparent to most investors that the events probably were not going to trigger a deep standoff, but that's the risk that I think is most worrisome—that geopolitical problems leading to a real rift between the West and Russia could snowball in some way. That would be extremely uncertain, and because markets don't like uncertainty, they could really plunge. And in that context, the impact on the economic expansion, particularly in Europe, could be quite damaging. So that's the Ukraine part.

On China, the scenario that we worry about is that some combination of slower growth in China interacts with the financial fragilities there—the property market, the shadow banking market, the tremendous amount of dodgy loans—and that those two combine to lead to a financial crisis that pushes growth down a lot further. So then what's the impact on the global economy and the United States? It's pretty hard to tell. I will note that in the fall we did a simulation in the Tealbook that looked at a China hard landing. In that scenario, Chinese growth

fell to something in the neighborhood of 5 percent, which is considered quite low by historical standards, and aggregate foreign GDP growth ended up coming in some 3 percent below baseline. That pushed U.S. GDP about 1 percent or so below baseline, which actually seems moderately contained.

I am thinking as I review that simulation that it might not have given enough weight to financial factors that might attend those developments. I actually think that if Chinese growth fell to 5 percent or below, it would create downdrafts in global financial markets that would lead to further downward pressures on GDP in China, in EMEs, in foreign advanced economies, and in the United States that would make injury greater than the 1 percent in that simulation.

CHAIR YELLEN. Okay. Seeing no more questions, why don't we begin our economic go-round? President Williams.

MR. WILLIAMS. Thank you, Madam Chair. In California, we've had the warmest winter on record. [Laughter] Let me say that again. In California, we've had the warmest winter on record—when, in much of the country outside my District, I have been told, the economy has been suffering through winter headwinds, literally. Cold, snowy gales have held back growth. Pinning down the effects of adverse weather on economic activity is always difficult, even well after the fact, but it appears a good share of the recent economic slowdown reflects unseasonable cold and snow.

For example, one of my business contacts, the head of a national freight-trucking company, reported a huge upswing in weather-related disruptions to his operations. In a typical winter, he reports that about 2 percent of his shipments are delayed by weather, but this winter it has been more than 12 percent. This is December through February. Now, since these trucks generally run at capacity, the commercial business loss is very hard to make up, perhaps even

after accounting for inventory adjustments. A contact at a national retail chain tells a similar story. Although they never like to use the so-called weather excuse for poor sales performance, this time he believes it is appropriate.

Still, with some of the lost consumption and output merely postponed, I've marked down real GDP growth for the four quarters of this year by only a tenth, to just less than 3 percent. This modest revision reflects small permanent losses that are due to bad weather and a bit of underlying softening in the data.

Looking further ahead, my outlook for growth remains unchanged at just over 3 percent for the next two years. Similarly, after adjusting for weather, favorable labor market trends are continuing, and I expect the unemployment rate to fall to almost 6 percent by year-end and to 5½ percent, close to my estimate of the natural rate, by the end of 2015.

Although I view the risks to this projection as balanced, the latest slump in the housing sector is worrisome. Even abstracting from adverse weather—I think I'm up to three uses of "weather" so far, David—the single-family starts and permits data are disappointing. By now I expected housing to be much more of a tailwind for the recovery. Also troubling is the drop-off in existing home sales since the middle of last year, which feeds through to fewer purchases of durable goods like furniture and appliances.

As many in the popular press have suggested, slackening demand from institutional investors appears responsible for some of the decline in home sales. At a granular MSA level, my staff has found that recent sales have fallen more in those cities with a large investor presence. Furthermore, sales have slowed most in cities in which home prices have risen fastest relative to rents, implying that investors may be running out of attractive buying opportunities to pencil out. But I'm skeptical that a decline in investor demand is a significant factor behind the

falloff in overall existing home sales. My staff has found that the timing and the size of the sales decline were very similar across all of the broad regional markets. So any location-specific factor is unlikely to be the whole story. In fact, their empirical analysis indicates that before the winter weather hit, about half of the drop in home sales can be explained by last year's jump in mortgage rates. Looking ahead, their models predict that home sales should pick up, boosted by the underlying fundamentals, and this outlook is supported by what some upstream housing-related businesses are telling us. For example, a major window and door manufacturer in my District reports solid orders and sees a pickup ahead. This suggests that the latest disappointing housing data are just a soft patch, and that growth in housing will provide greater support for the recovery later this year.

Turning to inflation, I continue to expect that it will gradually return to our 2 percent target over the next few years. Admittedly, so far the consumer price data have shown little sign of cooperating with my projection. The 12-month overall and core PCE inflation rates have stubbornly remained at about 1 percent for almost a year. Furthermore, labor cost growth remains muted, and my business contacts uniformly indicate that they're still implementing modest wage increases and unchanged merit pools. On a more optimistic note, financial market participants appear to have become more confident about the return of inflation to our target. This assessment is based on what financial derivatives, such as inflation caps and floors, are saying about the risks that inflation will move too high or too low.

So my staff has been tracking the implied risk-neutral probability that inflation over the next year will be in a 1 percentage point range around our target. Just to be clear, this is based on CPI data, and we put a 0.3 percentage point gap between rates of PCE and CPI inflation, so we were looking at a 2.3 percent CPI. They find that the probability that inflation will be in this

target range has almost doubled over the past year, moving up from about 20 percent to 40 percent, and financial market participants are putting money on the table that both the upside and the downside tail risks to the inflation outlook are lower than they've been in recent years.

Thank you.

CHAIR YELLEN. Thank you. President Plosser.

MR. PLOSSER. Thank you, Madam Chair. Economic activity in the Third District declined modestly in January and February, as—I think I have six uses of “weather” in mine, if I counted correctly—severe weather seems to have interrupted the moderate growth trend. Manufacturing, retail, and construction sectors all felt the cold hand of Old Man Winter. Business contacts who experienced a downturn in activity anticipate a rebound from this as the weather normalizes, whenever that might be, and their outlook remains quite optimistic.

Unemployment rates continue to move down in our three states. Early this year employment gains were seen in Pennsylvania, but employment fell modestly in both New Jersey and Delaware.

Regional manufacturing activity contracted in February, with moderate declines in our business outlook surveys, indexes of general activity, and new orders and shipments attributed to severe winter weather by the respondents. Many respondents reported that the negative effects included lower demand on sales, disruptions to supply channels and deliveries, fuel shortages and power outages, lost production days, and the cost of snow removal. The general activity index fell from 9.4 in January to minus 6.3 in February. It was the first negative reading in over nine months, and this 15.7 percent decline in one month is comparable with the decline we saw in November 2012, when manufacturers noted that two or three days of production activity were lost to Hurricane Sandy. This is the same sort of magnitude of change.

But despite this weakness in current indicators, manufacturers reported underlying strength in production plans and product demand. In response to a special question, manufacturers reported that the increase in underlying demand for their products was still strong and continued through the beginning of the year. Only 20 percent reported softer demand.

Our March survey results, which aren't published until Thursday, show a rebound in manufacturing activity, and the indexes of general activity, new orders, shipments, and hours worked are all back in positive territory. The general activity index jumped from minus 0.63 back up to plus 0.9, which is about where it was the previous month—so there was a complete reversal. Shipments, new orders, and back orders all bounced back to levels we saw previously as well.

Retailers in the District were hurt by the weather rebound around Valentine's Day. One mall contact reported that they typically do two-fifths of their entire February sales the weekend of Valentine's Day. But this year Valentine's Day was a complete snow-out in the region, and their sales were off 40 percent for that weekend, which was a significant drop in their monthly retail sales.

Homebuilders also reported decreased activity. Toll Brothers, a major nationwide builder, reported that it expects first-quarter results to be 4 percent lower relative to expectations, primarily because of weather. Real estate brokers also reported that existing home sales in the region were flat to down in January compared with year-ago levels. On the other hand, building permits remained solid. Commercial and industrial real estate indicators continued to improve in the region at a modest pace, and commercial construction activity in Philadelphia is at its strongest levels in about five years.

Overall, the outlook among Third District businesses remains positive, and I see no particular reason to disagree with them. The future activity index in our manufacturing survey moved up in February and remained strong in March. My staff's leading indicators suggest continued moderate growth over the next six months. Most banking contacts remained optimistic that growth would continue at a moderate but steady pace.

The weather clearly has complicated the national outlook, but at this point I see little reason to change my medium-term outlook from our January forecast. And I made little change in my SEP submissions from December. I continue to anticipate growth at or a bit above trend this year, around 3 percent, before returning to its steady state, which I penciled in at 2.4 percent, by 2016. I project the unemployment rate will continue to decline, reaching 6.2 percent, perhaps a bit lower, by the end of 2014, and 5.8 percent by the end of 2015 through '16, which I now assess to be roughly the natural rate. With inflation expectations well anchored and core inflation stabilizing, I project that inflation will gradually move back to our target over the forecast horizon.

My projections incorporate continued reductions in the pace of asset purchases, with the program ending in the third quarter. I suspect we might be needing to raise the federal funds rate sooner than the Tealbook does. However, I have taken on board the Committee's forward guidance on the effect of being at the zero bound, so my policy rate path calls for a slightly more gradual increase of the funds rate than implied by the simple policy rules, with the funds rate returning to neutral, or about 4 percent, by the end of 2016.

While that is my modal forecast, I also think this Committee needs to be prepared for circumstances that might be calling for a more rapid increase in the funds rate—if you will, that headwinds dissipate more quickly than we currently anticipate. As indicated in Book B of the

Tealbook, the prescriptions from four of the six policy rules that we regularly examine are higher than the current target rate for the funds rate today. By the third quarter, all but the nominal income-targeting rule point to a higher funds rate—above zero. Note that this is also with inflation running somewhat below target.

In addition, the staff's estimate of the equilibrium real fed funds rate, minus 0.75— r^* , in their table—is slightly above the current funds rate of minus 1 percent, as they put it. While some have advanced arguments as to why these rules in essence may not be applicable in today's economic environment, prudence does suggest that we shouldn't be too quick to dismiss the possibility that rates may have to rise at a faster pace and perhaps sooner than we may be currently anticipating.

Our policy language has been asymmetric for a very long time. But as this expansion continues, even though it is at a moderate pace, I believe we will need to move back to more-symmetric language that signals that we are prepared to act either way to achieve our goals. I am somewhat concerned that by focusing so much on the downside risks we are undercutting ourselves by sending a negative signal to the economy. We have seen this happen before, and I think we need to be alert to this possibility. My preference is to try to explain our reaction function in a qualitative way as best we can, so the public will have a better grasp of how policy is likely to react to changes in economic conditions and the outlook, changes that could be either positive or negative.

I wasn't able to attend the March 4 conference call, but in reading the transcript I was struck by President Williams's analogy of driving from Sacramento to Disneyland. As you get closer to your destination, your decisions become more critical as to which turns to make and

actions to take. As we get closer to our goals, our language needs to be more about our policy framework and more detailed about our reaction function. Thank you.

CHAIR YELLEN. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Madam Chair. My own forecast is quite similar to that of the Tealbook. I have the economy growing for the rest of this year at roughly 3 percent and then growing slightly faster in 2015. This growth is sufficient to return the economy to my estimate of the natural rate of unemployment of $5\frac{1}{4}$ percent by the end of 2016, which, if correct, means that it will have taken nine years to reach full employment from the beginning of the recession in late 2007.

Because I expect the PCE inflation rate in 2016 to undershoot our 2 percent inflation target by a bit, I have the federal funds rate somewhat lower than the staff assumption at the end of 2016. Thus, almost a decade after the onset of recession, we will still be undershooting the explicit inflation target we have adopted. Such a prolonged miss on inflation and unemployment is one reason for doing all we can to ensure that the return to full employment occurs as quickly as possible.

I would note a couple of caveats associated with my forecast. First, I want to thank the staff for doing an incredibly painstaking job estimating the impact of weather on data for the first quarter of this year. My own staff did a careful but somewhat less comprehensive appraisal of the impact of weather on recent data and, like the Board staff, concluded that the effect on this quarter's real GDP would be rather modest. My estimate of first-quarter real growth, at a bit below 2 percent, implies that growth this quarter likely would have been roughly only 2 percent even in the absence of weather problems. This makes me worry. To date, the incoming data provide little evidence of a self-sustaining recovery that attains or exceeds 3 percent growth.

While I and many others are forecasting such a recovery, tangible support for the forecast has yet to appear in the data, providing ample reason for caution as we consider our policy tomorrow.

A second caveat is that I still believe that the risks to the forecast are slightly skewed to the downside. My modal forecast assumes that a variety of foreign disruptions do not turn into a much larger headwind. Were developments in Ukraine or China to take a turn for the worse, the U.S. economy might face more severe headwinds. In particular, problems in Ukraine have the possibility of being very disruptive to the fragile recovery in Europe. Furthermore, European banks are much more exposed to Eastern Europe and emerging markets than U.S. banks and are less well positioned to suffer another adverse shock. Similarly, developments in China have sent reverberations through financial and commodity markets. More-severe economic problems there have the potential to be disruptive. I would note that the 10-year Treasury rate has remained fairly stable, somewhat below 3 percent, since the end of last year. These sustained low rates in the face of an improving economy suggest to me that investors continue to put significant weight on the possibility that international developments could derail our forecast of accelerating growth.

A third caveat is that I continue to estimate that there is significant slack in labor markets. Not only is the unemployment rate at 6.7 percent, well above my estimate of full employment, but other indicators of slack tell a similar story. My staff has been looking at broader measures of unemployment such as U-6. This broader measure of unemployment rose significantly during the recession and remains elevated relative to historical averages and also relative to our more traditional U-3 measure. The main driver of the unusual increase is the large number of workers reporting that they are working part time for economic reasons. Last week's employment announcement reported that 7.2 million Americans want full-time work but are currently

working part time. This compares with only 4.6 million workers in that situation in December 2007.

Furthermore, of those 7.2 million workers who are part time but seeking full-time work, 4.3 million report that the reason they are part-time is because of slack work or business conditions. Note that unlike those that are classified as marginally attached to the workforce, there is no doubt that these people are willing to work since they are already working. While much more work needs to be done on these measures, that these measures remain so elevated appears consistent with the contention that significant slack remains in the labor force. Whether one looks at the elevated measures of labor market slack or the continued low readings on compensation and PCE inflation, together they provide ample justification for maintaining a highly accommodative monetary policy for a considerable time. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Evans.

MR. EVANS. Thank you, Madam Chair. Since our January meeting, the incoming data on the real economy have been somewhat soft, leading us to mark down our near-term forecast. However, it seems likely that a good portion of the slowing in activity is the result of an unusually difficult winter combined with a modest inventory swing.

For the moment, it is most likely that the underlying growth trend remains reasonably healthy. This view aligns well with reports from my business contacts. Among those in the Midwest, all reported some weather-related slowing in their business. Many have national business lines that were influenced beyond simply my frigid District boundaries. Nevertheless, the tone of their reports remains quite optimistic and somewhat better than in January. They all expect that activity will pick up once the weather improves.

Of course, for most of my contacts, these are simply expectations. While their conversations with customers were encouraging, they have yet to see a sustained increase in actual orders. And, given the difficulties in assessing the weaker incoming data, it is not surprising that a few reports raise some cautions. For instance, the auto industry has seen car inventories rise well above desired levels. So far they have not reduced production, but they may need to do so if they don't see improving sales in the next couple of months.

On the inflation front, cost pressures remain low. A number of contacts noted falling input prices, such as those for iron ore, steel, and other metals. This included some businesses with fairly upbeat assessments on demand. Weakness in China and emerging market economies accounts for some of the reduced demand pressures on materials prices, but a few reports indicated that additional supplier capacity also contributed to reduced materials prices. Most of those reports were related to iron ore mining.

Of the largest input cost—labor—I heard no concerns about overall wage cost increases. Sure, some skilled areas continue to be in high demand. For example, one director cited complaints about shortages of long-haul truck drivers. Another director in the staffing industry added that drivers quitting for better jobs was something that one often sees in the earliest stages of a labor market rebound.

My CDIAC participants, many of whom are located outside of large metropolitan areas, say it is difficult to find more-skilled workers. But this really is nothing new. They have been saying this for quite some time, and my agriculture, labor, and small business advisory councils also recount these perennial challenges. Frankly, a lot of what I hear from such groups is really about how difficult it always is to run businesses requiring new technologies in smaller regional

markets. Importantly, they don't appear to be on the leading edge in offering higher wages in order to solve their labor difficulties.

With regard to our national economic outlook, our forecast of GDP growth for this year is down three-tenths since our previous submission, but that is all due to a weaker first quarter. Looking through the inventory swings and the weather-related slowdown, final demand growth appears to be on a rising trajectory. So for the balance of the year we still expect growth to average 3 percent or a bit more, with similar numbers in 2015 and 2016. In our forecast, that kind of growth is enough to eliminate almost all the slack in the economy by the end of 2016.

However, the low inflation outlook remains quite a concern. The numbers haven't changed for several meetings. We are still running far below our target. My SEP submission does envision an eventual increase in inflation, but we expect it to be slow—only getting to 1¾ percent by the end of 2016. That's my forecast, but I have to say that my level of conviction isn't very high. While diminishing slack plays some role, my forecast relies heavily on well-anchored inflation expectations pulling actual inflation up toward our 2 percent target. While we've been waiting for this reversion to expectation for quite a while now, it would be useful if we, as a Committee, put a time frame on the table for how long we will allow inflation to seriously underrun our 2 percent PCE objective, much as President Kocherlakota was alluding to when he was asking about what the inflation markers are. I think it would be very helpful for us to have more of a discussion.

The 2 percent inflation floor presented in alternative A is a useful option if we are serious about defending our inflation objective from below. For the time being, I am sticking to my view that we will get the expectations updraft and that inflation will move slowly back toward

our 2 percent target, but I certainly see downside risks to this forecast. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Madam Chair. Despite the significant impact that adverse weather conditions appeared to have on the Sixth District economy, business optimism is still running high. For the most part, firms are looking through the weather events and are positive about the economic outlook for the balance of the year. Firms seem to be operating under the assumption that the business environment for the final three quarters of 2014 will resemble the second half of 2013. But we did hear an earful about weather effects in our most recent round of contacts. Per these anecdotal reports, there was virtually no industry in the Sixth District north of Florida and east of Mississippi that was unaffected by bad weather. Contacts reported large cuts in sales and production in areas that were adversely affected by the weather. That's three mentions of "weather" so far. Are you counting these?

MR. WILCOX. I am. [Laughter]

MR. LOCKHART. The nation's largest auto retailer said that sales fell abruptly and the decline was felt across all product and service lines. He pointed out that when underlying demand changes, spending usually shifts between the new, used, and service categories. In this instance, spending fell across the board.

The Southeast's largest utility reported that power usage shifted dramatically from commercial and industrial usage to residential in those areas experiencing bad weather. We also heard expectations of a protracted recovery process, particularly in transportation and the domestic supply chain. These views run counter to the quick bounceback thesis.

Long story short, anecdotal reports of a sizable weather effect were widespread and consistent with my staff's estimate that the weather cut first-quarter GDP growth by $\frac{3}{4}$ percentage point. Regarding the Tealbook's observation that three inches of snow probably has a different effect in Athens, Georgia, than in Athens, Ohio, we actually checked. Both the University of Georgia and Ohio University were closed because of bad weather. [Laughter]

In considering the outlook, even with a different reading of the weather effects in the first quarter, our forecast is virtually identical to that of the Tealbook. My outlook interprets the softness in the first quarter as a one-off development. I am looking at the risks around growth as broadly balanced. In my view, factors external to the United States economy—Ukraine, China, emerging markets imbalances—have gotten louder. At the same time, I view headwinds coming from domestic sources as quieter.

As regards the balance of risks for inflation, I see those as weighted to the downside. Recent readings on wages and prices do not hint at a move in any direction from the current low rate. I am increasingly of the view—very similar to President Rosengren's view—that a shadow workforce exists that is not adequately captured by the most-used measures of labor market conditions, particularly the U-3 unemployment rate, and that this shadow workforce must be taken into account in determining how near or far we are from full employment.

Low wage growth amid modestly improving productivity trends suggests that there could be continued downward pressure on the inflation rate. If this risk plays out, I am thinking we may need to consider strategies for increasing accommodation at some point during the current forecast horizon. I will have more to say about that in the policy round. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Fisher.

MR. FISHER. Thank you, Madam Chair. To commemorate this being your first formal meeting, I wore the special “Janet Yellen” tie—

CHAIR YELLEN. Thank you.

MR. FISHER. —which shows the donkeys, who are the Democrats, and the elephants, who are the Republicans, just butting heads, and you flying in—I think it’s on the wings of a dove—

CHAIR YELLEN. I believe it is.

MR. FISHER. —and spreading money around the system. Perhaps if it had you herding cats it might have been a better analogy for this meeting, but anyway, it’s in your honor that I wear this tie.

Very quickly, with regard to the Eleventh District, we have continued to expand at what I would call a fortunate pace. Our employment payroll growth has strengthened modestly. It is running about 2.3 percent. We expect it to run 2.4 percent. That’s up from December. Our unemployment rate has dropped significantly, to 5.7 percent. I had our staff do an analysis, and across all of the “U” measures, we’ve seen significant declines to a five-year low. So we are a fortunate District, and in that little laboratory that we have in Texas and slices of Louisiana and New Mexico, we’ve seen some modest increases in wage pressures and also labor shortages, which I’ve reported on before.

So enough about my District. I want to make just some brief comments, since others have commented eloquently on their corporate contacts—and I’m happy to hear that, although as Governor Tarullo likes to point out, and I think he’s correct, you have to put this all within an anecdotal frame of reference. A couple of things caught my ear other than weather, weather, weather, which we’ve heard from everybody. One is the assumption that we will return to

normality. For example, the large shipping company in your District, Dennis—UPS—expects and sees numbers coming back to the 3 to 4 percent range, which is their average, and the homebuilders are telling me pretty much the same.

There are a couple of comments that I think we might want to track over time. I'm hearing from the large homebuilders—and these, again, are not just in my District but are the national builders—that, for the first time, buyers are being priced out of the market or are ineligible to be qualified because of the hangover in terms of qualifications—particularly first-time buyers, because of student loans. It's the first I've heard of this. Most homebuilders are talking about it, and it's something we may wish to monitor to see if it's actually having a real-time effect.

With regard to Ukraine and the disturbances that we're seeing in Europe, and the concern all of us have about that, it is notable, according to the major oil companies and the independents, that energy prices have remained fairly stable. And at least among those that provide us energy at the retail level, motor gas in particular, there's an expectation that we should have relatively stable prices as we go through time with maybe a 10 percent rise or decline from the current pricing level. So expectations, if anything, do not seem to have been affected by the crisis in Ukraine. I think that's somewhat noteworthy. We just have to track it.

Most noteworthy of all for me was talking to the semiconductor companies. As you know, semiconductors are used in everything from electric toothbrushes to automobile manufacturing—in fact, everything that we now use—and this particular data point caught my ear: The book-to-bill ratio has been running above 1 every day this quarter, which is the first time this has happened in seven years. That means that what the semiconductor companies are

shipping out the door is less than what is in their order book, and that is a significant development—perhaps—if it continues as it has been running for some time.

Then lastly, with regard to payroll dynamics, turning to one of the companies in your District, President Evans—in fact, the chairman of your District said—I’ll give you a direct quote: “Firms have more confidence despite a tremendous amount of uncertainty about regulation and the standard complaints about health care. Wages are being managed quite effectively through IT enhancement and patience. No one is concerned that demand for labor will develop quickly.” That underscores what other people have been saying, in terms of concerns about the rapidity of the recovery and employment, with the exception of the Eleventh Federal Reserve District.

I do want to take a moment to do something a little bit different from what I’ve done in the past, Madam Chair, and focus on my principal area of concern, which is a byproduct of accommodation. I’ll actually end up on the same point that I raised by exhibiting the tie. I have some concerns about what’s developing in the markets, and rather than rely on anecdotal evidence, I turn to the flow of funds report that was issued two Thursdays ago. It showed that the market value for all equities traded in the United States soared to a record \$34.7 trillion at the end of last year. That’s up \$21 trillion since the start of the bull market, which, if I recall correctly, started on March 9, 2009. Total stock market capitalization as a ratio to nominal GDP rose to 1.25 at the end of last year. That exceeds the previous peak of 1.12 in 2007. It’s the highest since the third quarter of 2000. The price-to-sales ratio of the S&P 500 rose to 1.54 again last year, its highest reading since the first quarter of 2002. If you look at Tobin’s q , which is an interesting valuation metric and can be calculated using the data from the flow-of-funds report, the ratio of market value of equities to net worth at market value of nonfinancial

corporations was 1.44 at the end of last year. That's the highest since the second quarter of 2001.

I've mentioned margin debt, and my concern about it, and I've said in speeches that we're pushing up against historic limits. I have received notes from most of the major financial houses saying that I'm wrong. It has actually been setting new record highs since July 2012. It was \$451.3 billion during January. That exceeds the July 2007 peak by 18.3 percent.

I've expressed concern about the narrow spreads between junk and quality credit. The spread between high-yield corporates and 10-year U.S. Treasuries was just 280 basis points last Friday. That's the lowest since the lows in 2007 just before the financial system began to unravel. The issuance of bonds by investment-grade corporations continues. Roughly \$48 billion was issued the week before last. That's the second most ever, and if you take the Verizon transaction out of the week that it was issued, it's the most ever.

Highly rated firms have sold roughly \$233 billion in debt so far this year. That's a 9 percent increase from the same period last year. And interestingly, the net issuance of debt is running at about \$650 billion for the year. Last year, the net issuance of corporate equities was a minus number, minus \$383.7 billion. In addition, if you talk to the Goldman Sachs desk, they'll note that on that big rally day we had on March 5, over one-tenth of the equity trading at that desk was related to corporate share buybacks.

So the thing that I wanted to point out is that we are seeing a restructuring of corporate balance sheets. I think this is good. Our corporations are well positioned to take advantage of resumed confidence in terms of growth, and certainly they have the capacity to hire. But thus far—and I say very specifically “thus far”—the benefits of our accommodation, it strikes me, have been going mainly to enrich corporations and to make them firmer financially and improve

their balance sheets. And even though money tends to burn a hole in anybody's pocket, including the most responsible CFO or CEO, I conclude that they're simply not going to hire until they have greater fiscal clarity and regulatory clarity, something that we have a limited ability to affect.

I'm fully supportive of alternative B, and I'll talk more about that tomorrow. I do want to point out one thing that came to mind as I was listening to the discussion about the international situation in particular, and also looking at the chart on copper that was given to us early in the presentation—as you know, people that operate in the markets always talk about Dr. Copper and whether or not it was influenced by China. However, if you look at the other indicators of the commodities indexes, something has occurred that I find my contacts in the major food industries cannot explain—the Bunges and the Archer Daniels Midlands and so on—which is that, in the past 45 days, the funds that invest in commodities have gone from being record shorts, particularly in the proteins, corns and soybeans, to record longs in extraordinary volumes, and there's no reason for that shift from a fundamentals standpoint. Wheat, for example, which bottomed on January 29 at 550 cents per bushel, is now trading at 673 cents per bushel. Soybeans have risen dramatically. So it's something that I think we might just want to watch. It could either be a sign of financial excess, which is where my principal concerns lie at present, or it could be a shift that may occur as a result of these geopolitical tensions that you mentioned. Thank you, Madam Chair.

CHAIR YELLEN. Thank you, President Fisher. President Pianalto.

MS. PIANALTO. Thank you, Madam Chair. I have not found the recent incoming data overly informative in light of the abnormal winter weather. Many of my business contacts alluded to the severe weather in their recent reports. One of them noted that good news that he's

heard is due to good management. Bad news is weather related. And my staff also suspects that a fair amount of the recent softness in the data has been weather related.

As a result, I've only edged down my near-term growth forecast. I still see the economy reaching a pace of more than 3 percent output growth in the latter half of this year. I also continue to expect progress on unemployment, with the unemployment rate reaching 6.2 percent by the end of the year. While a number of commodity price indexes are up recently, broader consumer inflation readings remain subdued, and I have left my inflation forecast largely unchanged. I continue to expect PCE inflation to rise from a little more than 1 percent this year to about 1½ percent next year.

Because concerns have been raised about the unemployment rate as an indicator of current labor market slack, my staff reviewed the state of a wide range of labor market indicators. A good number of these indicators reveal a labor market that has improved substantially and continues to improve. For example, if we exclude the data affected by the recent severe winter weather, average weekly hours of production and supervisory employees are back to the levels reached midway through the most recent expansion. The same holds true for the job openings rate from the JOLTS data.

Stronger labor market data like these may lead some to question our extremely accommodative monetary policy stance. However, as others have pointed out, other indicators suggest that there's still a lot of slack in the labor market. For example, wage growth remains tepid and many workers are involuntarily working part time. These conflicting indicators make it challenging to gain an overall assessment of the state of the labor market, and the lack of clarity in the labor market may add to communications challenges for the Committee as we continue to focus on meeting our maximum employment objective.

The picture is different on the inflation side of the dual mandate. PCE inflation is running well below our longer-run objective. While CPI-based measures are higher, research done by my staff suggests that at least part of this difference is attributable to increases in OER inflation, but the ultimate source of these homeownership cost increases is unclear at this point. I continue to project that our accommodative monetary policy, a strengthening economy, and stable inflation expectations will bring inflation back toward 2 percent. But I expect that the process will be very slow, a view that is shared by the Tealbook. Furthermore, my inflation forecasts have tended to creep lower ever so slightly with the passage of time. Thus, I continue to see this outlook for inflation as my primary motivation for my position on monetary policy, which I'll discuss tomorrow.

In general, I see the risks to my projections as broadly balanced. The real economy faces a number of downside risks, including recent geopolitical events and the potential slowdowns in key foreign economies. But the economy has also shown considerable resilience over the past year, and as the fiscal drag eases and the labor market improves, upside surprises are certainly plausible. At this point these risks to output growth are also the primary risks to my unemployment and inflation projections, resulting in my assessment of risks to both inflation and unemployment as balanced. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. I suggest we stop now and take a little break.

[Coffee break]

CHAIR YELLEN. Okay, everybody. Let's continue with our go-round. President Lacker.

MR. LACKER. Thank you, Madam Chair. Economic activity in the Fifth District has continued to improve at a moderate pace since the end of January, but there are clear signs of

weakness. Our business surveys for February point to a contraction in the manufacturing and retail sectors and a modest weakening in the nonretail service sector. At least some of that weakness was attributable to severe winter weather. The Board staff provided what I thought was a clever analysis showing which counties were most affected by unusually large snowfalls and unusually cold temperatures, and apparently the Fifth and Sixth Districts were the most heavily affected by the snow relative to seasonal norms. Weather effects were evident in comments from our contacts in recent weeks. We heard widespread reports of weather-related delays in construction and a range of construction-supply industries. Contacts expect activity to catch up in the spring, though, and to add to the typical seasonal pickup in demand.

Manufacturing in the Carolinas was affected by widespread power outages as well as shortages of natural gas due to a weather-related surge in demand. In addition, many plants shut down just for economic reasons, because the utility costs had gotten so high that it made more sense to shut down for a couple of days. Some plants lost as many as 10 days during January and February. Many affected manufacturers were expecting to catch up through overtime and weekend work, and they generally remained optimistic about activity in the spring, as in the Sixth District.

Disruptions were also reported in tourism, shipping, nurseries, fishing, and crabbing. The storms generated some economic winners, though. Grocery stores saw their typical flurry of consumers stocking up frantically on necessities, and the chemical industry benefited from a surge in sales of ice melt and windshield washer fluid.

The net effect of the unusual weather is very difficult to quantify, of course. My staff evidently wasn't up to the task. [Laughter] We will talk about that later, on the way back. But our information suggests that the weather-related disruptions were large enough to cloud the

interpretation of the economic data for our region. Preliminary results from our March survey, which I got this morning, show a slight decline from February to March for manufacturing and a strengthening on the service side. The weather wasn't as bad in March as it was in February. It does suggest that there's an underlying theme of weakness on the manufacturing side despite the optimism we've heard about. We'll have to see as the data come in.

Turning to the national outlook, neither my forecast nor the Tealbook's has changed much since the previous meeting, apart from the revisions to the fourth and first quarters necessitated by incoming data. My projection is for GDP growth to continue at about the rate we've averaged since the end of the recession. I again wrote down 2.2 percent.

The Tealbook is projecting faster growth beginning next quarter driven by strong growth in consumption, supported by strong growth in disposable income, which is, in turn, supported by a pickup in productivity growth. I don't really see compelling evidence for either of those two supporting factors at this point. At the previous meeting the case for a strong pickup in growth was bolstered by an apparent surge in real consumer spending in the fourth quarter of last year, but that surge has been largely revised away since then.

For the remainder of my comments I want to say a few words about labor markets. We're about to back away, it seems, from forward guidance tied to a specific numerical value of the unemployment rate. There's a narrative that has been circulating that says we're doing this because the unemployment rate has proven to be an unreliable indicator of labor market conditions. I think that story is unwarranted, and we should discourage that interpretation. I think we're dropping the reference to a 6½ percent unemployment rate because the value has been attained, not because the unemployment rate is particularly unreliable now. And in

particular, I think the evidence supports the view that the measured unemployment rate is not terribly distorted or biased right now.

This popular story about why unemployment is unreliable is that there's a large pool of workers who are classified as out of the labor force because they did not actively look for work in the past four weeks, but who are likely to flood back into the labor market if conditions improve. In other words, the labor force participation rate is artificially low right now or will rise—or, more realistically, stop falling—when labor market conditions tighten. In the past I've discussed some of the research that staff economists at the Richmond Fed have done related to labor force participation and labor markets. Some of that work was recently published in our *Economic Quarterly*, and it's closely related to this issue.

A paper by Marianna Kudlyak reports on research I mentioned briefly last year. She estimates a very straightforward model of the impact of demographic change on labor force participation trends. The model is essentially a parsimonious version of that in the 2006 *Brookings Papers* article by Aaronson and colleagues that's cited so often. It has a set of fixed effects for gender, age, and cohort with an allowance for cyclical variation. She finds that at the end of 2012, the model prediction for the labor force participation rate is actually a little below the actual labor force participation rate. In other words, even though the labor force participation rate has been declining in the Great Recession and recovery, all of that decline can now be accounted for by demographic factors, and the cyclical effects have virtually disappeared. That's consistent with the pre-recession prediction in that paper by Aaronson and coauthors. Demographic factors point to a continued decline in labor force participation in her model, as in others, and that suggests we shouldn't expect the labor force participation rate to flatten out and delay further declines in the unemployment rate.

Another paper in our most recently *Economic Quarterly* is by Andreas Hornstein, and it looks at the observed negative correlation between cyclical movements in the unemployment rate and the labor force participation rate. In other words, when the unemployment rate goes up, the labor force participation rate falls. He finds that the most common interpretation of this correlation, this “discouraged worker” story, seems inconsistent with the underlying gross flows between employment, unemployment, and being out of the labor force. In the data, a falling unemployment rate is associated with a smaller transition rate from out of the labor force to unemployment, not larger, as the discouraged worker narrative would suggest. Moreover, a falling unemployment rate is associated with larger transition rates from unemployment to out of the labor force, not smaller, as the discouraged worker narrative would suggest. So if you think of that story in terms of workers drawn from out of the labor force into unemployment as labor markets improve, it seems inconsistent with the data.

On the other hand, a broader version of that story does seem consistent with the data. It turns out that a falling unemployment rate is associated with larger transitions from outside the labor force directly into employment, and the significance of those flows from out of the labor force to employment supports the broad concern that measured labor force participation doesn’t properly reflect the number of people who might want to work or are available to work at any given time. In other words, there isn’t a very sharp distinction between the labor-force attachment of those counted as unemployed and those counted as out of the labor force.

In fact, you can decompose those out of the labor force into different groups based on whether they say they want a job, what search activities they report to have engaged in, or what their reasons are for not wanting a job, and if you do that, you find different transition rates for different groups. So you can document gradations in the degree of attachment to the labor force

among those who aren't employed, but if you look at those groups in recent years, you don't see evidence of a disproportionate increase in the size of the subgroups that are more likely to return to the labor force. In ongoing research, my staff is developing a comprehensive index of the employable labor force that covers both the unemployed and those out of the labor force. It essentially weights those without a job by their likelihood of transitioning to employment. Preliminary results suggest that the behavior of this index is currently in line with the behavior of the unemployment rate.

This has been sort of a lengthy discourse. To sum up, what I take away from this is that a broad range of measures of labor market conditions are providing signals that are essentially in line with the signal provided by the unemployment rate alone. So I think we should not communicate that the change in our forward guidance reflects an erosion of our confidence in the measured unemployment rate as a guide to policy. We've always emphasized that we look at an array of indicators of labor market conditions. I think we should continue to do so, but we shouldn't suggest that there's an atypically large overhang of discouraged workers relative to normal times. Thank you.

CHAIR YELLEN. Thank you. President Bullard.

MR. BULLARD. Thank you, Madam Chair. Before I start, I would just like to say that during the intermeeting period I gave a speech called "The Rise and Fall of Labor Force Participation in the U.S.," which actually reviewed a lot of the literature that President Lacker just referred to, and I came away from that with a similar conclusion—that the labor force trend in the United States has a reasonable demographic explanation behind it, and that it rose up during the 1970s, '80s, and '90s, peaked, and now is on a downward trend. The models that President Lacker referred to do seem to have predicted, as far back as 2006, that the labor force

participation rate would be where it is today. And so that makes me doubt, along with President Lacker, that there's a big cyclical component to labor force participation, which there historically has not been in the United States. I don't think it exists now, and that makes me think that unemployment is, in fact, a good indicator of the state of labor market performance. But I would finish by saying that I also agree with President Lacker that we should look at a wide variety of labor market indicators.

Turning to the Eighth District economy, it continues to expand at a modest pace. Retail sales in the District seem to be holding up rather well, despite the unusual weather patterns during recent weeks and months. Convenience store sales, in particular, were strong during the February time frame after a slowdown in December and January. Both commercial and residential real estate markets continue to show improvement. The most recent data indicate that home sales have increased over the past year at a double-digit pace in Louisville and Little Rock and at a single-digit pace in Memphis and St. Louis. District labor markets continue to improve but not as rapidly as in the nation as a whole. Labor market outcomes are heterogeneous. The St. Louis zone within the District has an unemployment rate of 6.3 percent. The Memphis zone has a rate close to 9 percent.

A large logistics firm reported severe weather-related difficulties during February. This is an anecdote similar to the one President Williams reported earlier in our meeting, but it is actually a different firm. According to the CEO, "We have really been scrambling to make adjustments." Intermodal business in particular was down sharply based on volume during February, but the CEO doubted that underlying demand had shifted. Instead, the problems have had a clear tie to the weather. Trains could not move fast enough. Loading and unloading took too much time. Contracting with outside service providers jumped significantly. I took this

anecdote as a microcosm of the types of business challenges faced during the intermeeting period.

For the national outlook, I continue to expect that recent disturbances will abate and even reverse during the March–April time frame, and that data reports in April and May will suggest stronger growth for the U.S. economy. Accordingly, I made only small, modest revisions to the St. Louis forecast for this meeting’s SEP. I continue to envision real output growth at or above 3 percent during 2014 and 2015.

Our empirical macroeconomic model suggests that oscillatory adjustment to the steady state is likely, and accordingly, I have taken this feature onboard in the St. Louis SEP submission. I have inflation moving above target in 2015 before returning to the Committee’s 2 percent objective later in the forecast horizon. You heard it here first. I also recognize that inflation is inexplicably running low in recent years, and I’m not in any way putting that aside, but I did forecast that inflation will be above target in 2015.

I continue to expect improving labor market conditions during 2014, with unemployment moving below 6 percent by the end of the year. Overall, I remain optimistic concerning U.S. growth prospects in 2014 and beyond. My judgment is that many of the drag factors that we have cited in recent years have dissipated considerably, clearing the way for better macroeconomic performance in the period ahead. Having said this, I acknowledge that first-quarter growth looks like it will be sluggish and that we will not have a good read on whether the scenario I’m expecting is playing out until later in the spring.

There are, of course, many risks in any outlook, but I will highlight just two. One is that the economy returns to historical form and improves more rapidly than currently projected by most on the Committee and by the outside forecasting community. With all of the

accommodation we have in train, the Committee may in that particular circumstance be badly out of position from a policy perspective. In this respect, I agree with President Plosser. We are, in effect, calibrated to a mediocre economy.

The second risk is that, while the current accommodative stance of this Committee does not seem to have fomented excessive financial imbalances so far, we may be entering the more dangerous period from this perspective. In this respect I agree with President Fisher's comments from earlier. Many of my contacts have in mind the period from 2004 to 2006, during which the FOMC was removing policy accommodation but a major housing price bubble was forming nevertheless. With respect to this issue, I appreciated the staff memos as offering ways to frame the concern about financial market instability appropriately.

On the plus side, I think the Committee is generally well aware of these two risks, and so I will not go into them in any further detail for today and will wait for the policy round to make further remarks. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President George.

MS. GEORGE. Thank you, Madam Chair. The Tenth District economy has continued to expand at a modest pace with considerable support from the energy and agriculture sectors, so my comments about the region will focus on those two sectors.

The recent winter weather has been a net positive for the energy industry, as natural gas prices rose considerably and oil prices remained at high levels. As a result, energy firms in the District are seeing more cash flow from natural gas operations, which will likely be used to invest in further drilling for oil and natural gas liquids over the next 6 to 12 months. Natural gas inventories are now very low and will need to be replenished ahead of next winter.

WTI crude oil prices benefited from the opening of the Keystone Pipeline's southern leg, which began shipping crude oil from Cushing, Oklahoma, to refineries in the Gulf Coast on January 22. This development eased the bottleneck at Cushing, narrowing the spread between WTI and Brent crude oil significantly, from more than \$13 per barrel to around \$8.

In the agriculture sector, farm income is expected to drop by more than 25 percent in 2014 from last year's record levels, driven primarily by a sharp drop in expected crop prices. Strong profitability in recent years should provide some liquidity for the farm sector in 2014, and the recent farm bill appears to have enhanced the safety net for some producers who could begin to face financial difficulties. However, rural bankers in farm communities have indicated that the negative outlook for 2014 will likely stress the broader economy in their lending areas. Gains in farmland values have begun to slow, with lower farm income expectations, although demand for quality farmland remains solid. In the fourth quarter of 2013, District cropland values increased less than 1 percent from the third quarter, but they remain 9 percent higher than a year ago.

My outlook for the national economy is basically unchanged from January, although I did revise down my outlook for the first quarter of this year by $\frac{1}{2}$ percentage point, reflecting slightly more drag from inventory investment and payback for the stronger-than-expected growth in nonresidential fixed investment in the fourth quarter. Weather-induced shifts in real activity during the winter months should have little impact on 2014 growth, according to analysis by my staff, although weather undoubtedly had some effect on certain labor market indicators, such as the decline in hours worked in February.

Looking through some of these short-term fluctuations, I continue to expect above-trend growth of 2.6 percent this year, rising to 3 percent for the rest of the forecast horizon. I would

also note that over the four quarters ending in 2013:Q3, real GDI continues to grow faster than real GDP. The drivers for this growth outlook reflect fading fiscal drag and stronger growth in domestic demand. Business fixed investment also seems poised to move higher as corporate profits remain near record levels, although my business contacts continue to cite uncertainty and regulation as persistent headwinds. One contact noted that markets have rewarded publicly-traded companies for buybacks versus capital investments, which tend to pressure their margins.

I remain encouraged by the progress in labor markets. Over the past two years, an index developed by my staff to measure labor market activity shows sustained improvement supported by historically high levels of momentum. Most of the key variables in that index improved over the past year. In particular, the unemployment rate fell 1 percentage point and U-6 fell 1.7 percentage points, the largest year-over-year decline in its history, and the number of people working part time for economic reasons also fell substantially. Finally, the NFIB survey indicates that small businesses are close to being more concerned about the quality of labor than about poor sales.

With regard to inflation, with measures of inflation expectations holding steady, the labor market continuing to gradually normalize, and wage inflation moving higher, I expect inflation to firm and move toward 2 percent over the next few years. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. I will focus my remarks on the national inflation picture, which remains a matter of great concern to me. We adopted a 2 percent inflation target in January 2012. Since that time, PCE inflation has averaged 1.3 percent, and the inflation outlook remains subdued. Tealbook A, doesn't see inflation returning to target until 2018. Under the formulation in Tealbook A of the FOMC's reaction

function, my own inflation outlook is about the same. I should note, yet again, that my SEP outlook has no connection to reality. [Laughter] It is grounded in the fundamentally unrealistic assumption that I am in charge of monetary policy.

This inflation outlook—that is, the one based on the reaction function in Tealbook A—is playing a key role in my thinking about policy. For that reason it's important to constantly question the validity of the outlook. With that in mind, in preparation for this meeting I asked my staff this question: What evidence is out there that would suggest that our inflation outlook is misleadingly low? I could go through the long laundry list of data that we examined on statistical forecasts, model-based forecasts, inflation expectations, compensation data, et cetera. Rather, I will just offer you our bottom line. We found essentially no evidence that suggested a need to raise our baseline outlook for inflation. Indeed, if anything, one could possibly make the case that our inflation outlook and the one that is in Tealbook A, are actually a little optimistic.

This characterization was true nationally, but it is also, and a little more surprisingly, true in the Ninth District economy. In our District, compensation and pricing pressures remain muted, even though the unemployment rate is now well below 5 percent. The only significant compensation pressures that we see in the Ninth District are in North Dakota, where the unemployment rate has now fallen below 3 percent.

I think this inflation performance and this inflation outlook, combined with our recent policy choices, are problematic for the credibility of our 2 percent inflation target. Having an inflation target has two implications. First, because inflation forecasts are subject to considerable error, successfully targeting 2 percent means that we should typically be facing relatively similar and significant risks of inflation running above or below 2 percent over the medium term. We don't right now. My staff's review of the evidence strongly suggested that

the risks of running below 2 percent over the medium term were larger than the risks of running above 2 percent. And it's worth noting that a lot of our public communication continues to suggest that a significant risk of exceeding 2 percent is unwelcome or even unacceptable to the Committee.

The second implication of the term “target” is that when we see inflation deviating from 2 percent, we should be purposefully taking steps to redirect the economy toward the level that we find desirable—that is, 2 percent. We're not doing that. Instead, we're content to drift below 2 percent for many years at a time. Indeed, the tapering process could be seen by some as purposely steering the economy away from 2 percent inflation.

Now, I'm concerned about low inflation for another reason, and this ties into some of the remarks that Presidents Lockhart and Rosengren made. The FOMC statement refers to persistently low inflation posing a risk to economic performance. I would say that differently. Persistently low inflation signals poor economic performance. So when we are struggling with the issue that President Bullard and President Lacker raised—the question of how much slack there really is in the labor markets—persistently low inflation is a signal to us about what kind of slack is out there. Having low inflation relative to long-term expectations for inflation suggests that we as a country are leaving key resources underutilized.

Now, in my view, we can see that large amount of waste in the data from the labor market. The unemployment rate itself remains high—regardless of what you think of U-3, it still remains high. But there are other significant markers of this kind of underutilization. The fraction of people who are working part time for economic reasons remains very high by historical standards. That has been noted by others. One point that doesn't get as much attention as I think it deserves is that the fraction of people who have been unemployed less than six

months who transition into employment still remains quite low by historical standards. And this is true even if one focuses on prime-age workers. What I'm talking about here is the job-finding rate for people who have been unemployed for less than six months. Many have attributed low employment to disability and retirement effects. But if you look at the fraction of people aged 25 to 54 who are classified as nondisabled by the CPS and who also have a job, that remains very low by pre-recession standards. That casts some doubt, I would say, on disability and retirement playing the full role in explaining low employment.

I see all of these labor market markers as suggesting a large degree of underutilization of American human capital, and that ties together with the low inflation outlook—it is entirely consistent with that perspective. So putting it another way, by missing our target of 2 percent inflation persistently, we are failing to deliver on the maximum employment part of our mandate as well.

I would describe my benchmark outlook as one in which inflation returns to target within the next few years. But I put more than a little probability on another possible future, in which the inflation rate is around 1½ percent over the next decade. What would this Committee do in response as this scenario started to unfold or did unfold? I'm highly uncertain about the answer to this question, which means that I'm uncertain about the credibility of the 2 percent inflation target itself in the period ahead. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Vice Chairman Dudley.

VICE CHAIRMAN DUDLEY. Thank you, Madam Chair. I don't take much signal from the slowdown in real GDP growth in the current quarter. I agree with everyone that weather played a role. I think the effect was probably a little bit greater than in the Tealbook, because there are probably some effects that are hard to measure. So it's probably a little bit

more than ½ percentage point rather than a little bit less than ½ percentage point, but I'm not going to quibble.

Also, I don't take much signal from the slowdown in real GDP growth because we did expect some payback from the contributions to GDP from inventories and trade in the current quarter, which were important in boosting the economy in the second half of last year. I also think the fact that the payroll employment growth trajectory has held up makes me a bit more optimistic that this is just a short-lived pause. To quote that well-known economic prognosticator, Chauncey Gardner, who was the main protagonist of *Being There*, "There will be growth in the spring." [Laughter]

That said, I do take some signal from a couple of things. The first thing from which I take a signal is the downward revisions to consumer spending that we have seen in the fourth quarter of 2013. That does suggest that there is a little bit less impetus for growth from the household sector. And I also take some signal from the fact that housing activity seems to have taken a greater hit from the backup in mortgage rates over the past year than I would have expected.

There is also a broader question that I have been grappling with: What is the impetus to faster growth in a global context? It seems that several EMEs around the world are going to have to move to smaller current account deficits or to current account surpluses, if capital flows reverse. China's growth also seems to be a considerable downside risk. We talked about that earlier. And so I asked myself the question, what is the impetus on the other side that would push the global economy along at a faster pace? With respect to Ukraine, I agree that the direct effects on the U.S. economy are pretty trivial. But if it goes a particular way, one in which there is a big standoff between the West and Russia and there are sanctions, I can imagine pretty

sizable effects because there could actually be a disruption to commodity supply, and then you would have a significant supply shock to the global economy.

My bottom line is that I'm more optimistic still than I was a year ago. I still expect the economy to rebound to about a 3 percent growth trajectory over the remainder of the year as the fiscal drag abates and consumer spending and business fixed investment are supported by buoyant financial conditions. But at the same time, I don't think a fast recovery is yet "in the bag." I'm worried about the downside risks to my forecast, especially given the fact that our forecast errors have mostly been on that side in recent years.

On inflation, I agree with President Kocherlakota that the 2 percent objective is supposed to be a target that you hit over time—it's not a ceiling. And so I think we should be trying to spend half the time marginally on both sides of that 2 percent objective. But I am not as concerned as he is about the fact that we are continuing to track a bit below our target. Inflation expectations are well anchored. The slack in the economy appears to be gradually diminishing. Compensation trends appear stable. Nominal incomes are rising. So apart from the core inflation readings themselves, the situation doesn't seem very dire.

Also, I do think that core inflation will drift up over the next few months for several reasons. First, some of the softness, as the staff has pointed out over time, is due to special factors. In addition to the very benign trend for some nonpriced services, health-care price trends have been unusually subdued. And some of this is due to a one-time shift last April in Medicare reimbursement rates that won't be repeated. That is going to fall out of the numbers once we get the April data. Also, I think the increase in home prices is almost certainly going to feed through more into owners' equivalent rent and rental prices. I would be very surprised if a

year from now we don't see core inflation higher by at least a few tenths of a percent, if not more. Thank you.

CHAIR YELLEN. Governor Tarullo.

MR. TARULLO. Thank you, Madam Chair. The first thing I want to say is, if that staff person who did all the weather work has researched and filled out an NCAA bracket, I think he should circulate it [laughter] before the deadline for getting your stuff into the pools.

MR. FISHER. Can we split the profit prize?

MR. WILCOX. He is subcontracted to Nate Silver.

MR. TARULLO. I join what seems to me to be something of a consensus around the table that, although developments since the previous FOMC meeting suggest a little diminution in the momentum of the economy, the basic narrative hasn't changed. I also agree that a notable development since then has been a significant increase in externally generated downside risks, although, for some of the reasons that Steve explained earlier, it is hard to quantify those, at least at this point.

Like President Lacker, I am going to dedicate most of what I say to labor markets, although probably with a somewhat different direction. But I do want to begin with a point of agreement with Jeff, which is that in speaking about the anticipated shift in our guidance we should emphasize the fact that we are getting to the 6.5 percent threshold, and of course that is exactly what the language in the proposed paragraph 7 does. It says, "with the unemployment rate nearing 6½ percent."

I think it continues to be difficult to reconcile, at least on the basis of past experience and consequent expectations, everything that has been going on in labor markets. It seems that, for each piece of information suggesting structural change in the labor markets—such as the large

number of people out of the labor force who report that they don't want a job—there is another piece of information suggesting that significant slack remains— such as the continued elevated levels of people who report working part time but who would like a full-time job, which is reflected, of course, in the U-6 number that several people have cited.

We probably are going to continue to have to read most labor market indicators more tentatively than one might have done prior to the recession. Some, like the U.S. Beveridge curve, have only a relatively short history to begin with. And even those that have been around a lot longer are likely to be of at least somewhat less assistance in interpreting broader economic trends, precisely because the magnitude of the financial crisis and the Great Recession have either delayed the reversion of behavior by employers and workers to pre-crisis norms, accelerated secular changes in the economy, including labor market dynamism changes that were already at work, introduced a new set of changes in labor market behavior that will persist, or some combination of all three of these possibilities.

There are a number of arguments out there now that purport to establish structural explanations based on experience to date. In each case, there is, or at some point may be, something to these explanations. But I don't think that they can be more than hypotheses right now. I have to confess to some disappointment that nobody has raised some of those yet today, because I had prepared a stunning rebuttal to any such arguments. [Laughter] So I am going to omit several of them—unless one of you has the temerity next time to mention it, in which case I will still be prepared—and instead just talk about one, which is the argument for less slack based on the fact that the rate of short-term unemployment has returned to pre-recession levels.

I don't think this observation tells us too much beyond the fact that the rate of separations has come down substantially, and that there is hiring going on. Since the short-term unemployed

become, by definition, long-term unemployed after 26 weeks, the declining rate of separations assures that there is going to be a limited universe of the short-term unemployed. And, more important, it doesn't really address the issue that should be central for us, which is how much slack does remain in labor markets. That is, a lot of these things are interesting intellectual questions, and people will be writing about them for years. But from our point of view, in making monetary policy, the answer to each of these little conundrums is less important than the ultimate question of how much slack does remain.

Now, some have tried to connect the observation on short-term unemployment more directly to slack by arguing either that the long-term unemployed exert little or no downward pressure on wages or that the supposedly stable Beveridge curve relationship between vacancy rates and the short-term unemployed suggests that the long-term unemployed do not represent slack in labor markets. The Board's staff circulated a memo last week that addresses the first argument quite well. On the second, again, I'm not sure the argument adds too much beyond the fact that as a historical matter there are a lot of long-term unemployed relative to short-term unemployed. And this seems to be the classic case in which it would be a mistake to infer too much from deviations from an observed relationship that was developed over a relatively short time span that did not include anything approaching a disruption in the economy similar to that which we experienced half a decade ago.

Given these unusual circumstances, there could be other factors that are both shifting the Beveridge curve and contributing to long-term unemployment. Read anything that Peter Diamond has written, and one will come to your mind, which is that in an environment of uncertain demand growth, firms have made less intense efforts to fill some kinds of vacancies or have awaited the perfect candidate rather than filling the vacancy with a serviceable or less

experienced one as they might if demand were rising more quickly and the need were more intense.

Going back to the data that we do have, we continue to see that job-finding rates for the long-term unemployed declined during the recession and recovery less than for the short-term unemployed—though of course, in absolute terms, the rates for the former are higher. It is true that exit rates from the workforce by the long-term unemployed ticked up last year after having remained quite similar to rates for the short-term unemployed throughout most of the recession and recovery, and that is something that might indicate a shift, but to date it is a tentative shift. I would end by saying, again, that there is almost surely some structural damage here, and it is very unlikely that all of the long-term unemployed represent labor market slack. But to this point, there really isn't very convincing evidence for the proposition that they reflect only a very limited amount of slack, which is sometimes the implicit premise of the arguments one hears.

A couple of points on wages. There has been some evidence of increased wage growth, but I would make two observations. First, wage growth is hardly generalized or rapid to this point, and I think the anecdotal information that some of you have provided is supportive of that observation. Second, and maybe more controversially, the prospect that wage gains from what have been very depressed levels for some time will be more generalized and sustained in the next couple of years should quite possibly be read not as bad news—the inevitable sowing of undesirable inflationary seeds—but as good news. That is, you can make the argument that the economy is in need of a wage recovery that will allocate a larger proportion of productivity gains to labor, thereby reversing recent trends, allowing for more sustained increases in personal consumption expenditures, and thus helping to lay the foundations for a firmer demand, production, and investment cycle.

Uncertainty around what is going on in labor markets makes it an interesting time to be a labor economist, but it makes it somewhat more frustrating for us. To the degree that this issue has importance for us in deciding on monetary policy, as I indicated a few moments ago, the mixed signals should be of less concern now than they might have been had we experienced a period of rapid growth during the recovery.

Just a couple of years ago, the prevailing view around this table was that eventually we'd see growth rates at an annualized 4 percent or more. The expectation of rapid growth raised at least the debate as to whether a reasonably rapid tightening in monetary policy might be needed. But now, probably in part precisely because we have had a modest recovery in place for several years, it seems unlikely that we will experience the sort of spurt in growth that might have engendered concerns about wage pressures and expectations that could get away from us. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Stein.

MR. STEIN. Thank you, Madam Chair. Despite some of the ups and downs of the recent data, my overall outlook for the medium term is not much changed and remains very close to that of the Tealbook. For example, I have GDP growth in the ballpark of 3 percent this year and next, and I also have unemployment coming down to 6.2 percent by year-end. I still expect to see decent growth in consumer spending, supported by wealth effects and stronger consumer balance sheets as well as a pickup in capital spending by businesses. Housing is probably going to become less of an impetus, in part because of mortgage rates and in part simply because house prices are closer to being back in line with fundamentals.

I thought I would focus the remainder of my remarks on conditions in credit markets and how things have evolved over the past couple of years. I'm going to cover a little bit of the same

ground that Richard did. In my case, I was prompted by an interesting conversation I had with a market participant who is in the business of packaging and reselling loans to banks and who, as a result, has a good window into the pipeline for various sorts of credit assets. This particular person expressed some alarm over what he saw as the recent developments just over the past weeks, I guess—maybe months. He said that the market was in the middle of a “meltup,” and that there had been a capitulation on the part of some lenders and some investors who had been trying to hold out and wait. At this point, he says, they’re capitulating, feeling that they had no choice but to put their money to work. He thought a further downward leg in credit spreads of another 50 basis points was coming in the pipeline, although this sounded a little bit uncertain. There was a lot of talk about covenant stripping and other erosion in nonprice terms, as well as some general sense that this was pretty widespread across a variety of credit assets. The sense that things were changing rapidly struck me as a little bit dissonant with other stuff, but the broad story didn’t seem unusual. And if you read the memo by Eichner and Natalucci on market participants, it has a similar feel. They talk about, again, continual gradual erosion in pricing and terms—that sort of thing.

I was trying to think about this. One issue with all of these anecdotal reports, beyond the fact that they’re anecdotal, is that they give you a better sense of the local rate of change than of where we are in absolute terms. It’s always like, “This month, there is a gradual erosion in terms,” and I wondered where we were in some absolute sense. So I did a little bit of what President Fisher did. I just tried to look at data on prices. It’s not ideal, because the prices are just the prices, and you don’t capture, on a historical basis, the spread stuff. But, to echo what President Fisher said, I looked at the Markit CDX high-yield index. It’s around 320 now. It’s been coming down pretty steadily over the past couple of years. Two years ago, it was in the

neighborhood of 700. A year ago, it was about 430. Again, it's around 320 now. Its average over the sample period was about 550. So we're about 230 basis points below average. I looked at the average during the boom, which I defined as 2006 and the first half of 2007, and it was 290. So we're not there yet, but we're pretty close. If you look at various high-yield indexes, they tell a similar story. We're, simultaneously, not at the lows but a couple of hundred basis points below any historical average.

Another take that I like is, these two guys at Harvard Business School, Sam Hanson and Robin Greenwood, have produced a forecasting model whereby you can predict the future returns over the next two years to holding junk bonds, essentially. The two inputs into that model are credit spreads and the issuance share of high-yield firms. Basically, when a lot of guys are issuing high-yield bonds, it's because they think that the unobservable terms are pretty attractive. So there tends to be a lot of issuance. This model has a remarkable forecasting ability. It forecasts returns two years ahead with an R-squared of 40 percent. So you run their model. It says that expected returns over the next two years on junk bonds relative to Treasuries are about minus 2 percent. That is to say, junk bonds are expected to underperform Treasuries because of the two inputs into the model—credit spreads are low and the high-yield share is high.

To give you a sense of that, minus 2 percent is about where we were in 2006. It's obviously on the low side because, on average, you don't earn less than Treasuries when investing in junk bonds. It's not epically low. I tried to get a sense of it. It's probably somewhere between the 20th and 30th percentiles of the distribution. I think all of these things paint that kind of qualitative picture. It's low. It's come down quite a lot. It's not dramatically low. None of these measures suggest historically low levels.

I do think that, if we had another 6 to 12 months of decline like we've had, then we'd be flirting with 5th percentile territory. Then we'd be in a situation in which credit spreads are really at or near historical lows. To me, that would be concerning. I would say that it would be more concerning than the stock market stuff because we have evidence—less so for the stock market, but—when credit spreads spike up 50 basis points, that tends to be associated with pretty bad things happening to GDP and unemployment. I'm not making a causal statement, just a correlational one. So I would be pretty uncomfortable in that situation.

Having said all of that—I thought about this for a long time—I don't know what the policy implications of that are. It seems to me that if you worry about financial stability, it makes you want to step more lightly both going in and coming out. That is to say, you might have added less accommodation on the easing part of the cycle than you otherwise would because you don't want to let things get too out of hand, but, once you reverse course—and especially if you're reversing course when you perceive markets to be somewhat overheated—you might want to do so a little bit gingerly. You're going to have to tiptoe out of the room to some extent.

In my own mind, some of these financial-stability considerations incline me to be a little bit more “hawked up” on the way in and when we were continuing on with QE3. It doesn't get me to that same place now. Right now, it feels to me as though the most important goal is to manage. We're on the transition back to normal, and it seems as though the imperative is to manage that as smoothly as possible, whatever that implies.

I think you've got to be careful here because, of course, you could argue that if we worry too much about smoothness and about not upsetting the markets, we can err on the side of being too slow, and that's going to kick the can down the road. So I understand there's not a clear

implication here. There is a little bit of a sense that the fuse has been lit, and, again, if the trends continue, we're going to be in a somewhat tricky place, not that I have a clear sense of what to do about it. Thank you.

CHAIR YELLEN. Thank you. Governor Powell.

MR. POWELL. Thank you, Madam Chair. My forecast is not much changed and remains close to the baseline, except that I've got a lower path for the funds rate, and I moved up my funds rate from 1.75 percent to 2 percent in 2016.

I'm going to devote the bulk of my remarks to the issue of labor market slack, as several others have. But, first, I'm going to briefly revisit the SEP issue because I'm sitting here feeling as though we didn't quite get to the heart of it in our earlier discussions. The 50 basis point change in our SEP for 2016, in the face of a downbeat paragraph 1 in the statement and market expectations of no change at all, is going to be very hard to explain—more specifically, very hard for you to explain. [Laughter] There are three possible explanations, and this is about the disagreement between the new SEP and the expectation of the market. The first is that we think the economy is better than the market thinks it is. I don't think that's right.

The second is that the market misunderstood our reaction function and has new learning to do on that subject. First, I don't think that's true, but, second, we're at the beginning of the normalization process. It's going really well. The single worst thing we could do is to send a confusing signal about our reaction function. So that's not an answer we want to provide, and, again, I don't think it's true.

The third explanation is that the market doesn't really understand how the SEP works and how it gets put together, and I think that's where the truth is. Specifically, what I'm hearing is that—I'm not sure everyone around the room is aware of this—25 of the basis points are due to

what we euphemistically refer to as a change in personnel on the Committee since December. Another 25 basis points are due to the fact that 13 of the 16 members who are in the room now have an increase of 25 basis points or less. Somehow that works out to be an increase of 50 basis points in a world in which people are going to rip to that page of the SEP, look at the dots, and, in the 30 minutes between the time when the statement goes out and the time when you walk in front of the cameras, some of them are going to land on the second explanation. Even if they don't this time, they will some other time. This is probably stretching a metaphor too far, but it's like the scene of a nuclear plant that's blown up, and a series of engineers are all saying, "We did the right thing. We did exactly what we were supposed to do. It was right here in the book."

MR. TARULLO. That is probably not the best metaphor.

MR. KOCHERLAKOTA. I guess you've been watching too many episodes of *The Simpsons*. [Laughter]

MR. POWELL. I think this process needs some reengineering. There is a significant risk, and if this doesn't get us this time, we're going to face it again. It has to do with medians and all of that sort of thing.

With that said, I will move on. I want to talk briefly about the question of labor market slack and its implications for the full employment mandate and for the behavior of measures of compensation and broader price inflation. As the economy recovers, these issues are going to be on the front burner, as they obviously already are. The baseline estimate of the natural rate is currently 5.4 percent, which leaves an unemployment gap of about 1.3 percent. To me, there are good reasons to think that labor market slack may be even higher, and I would cite the disproportionate decline of the labor force participation rate below our estimate of trend and the unusually high level of those who are working part time for economic reasons. Labor flows, as

Governor Tarullo pointed out—especially quits and hires—suggest a labor market that’s not fully recovered.

For these and other reasons, my prior is that the unemployment gap more likely understates slack than overstates it. I also think the level of slack is even more uncertain than usual, so that raises a question: How do we know? How will one be able to tell that the economy is getting close to full employment? To start to believe that the labor market is getting tight, one would want to see some fairly broad confirmation across a range of labor and other market indicators that we look at, and one particularly important metric would be the growth rate of wage and benefits.

As I suggested a moment ago, we care about labor market slack for two closely related but different reasons. First, the full employment mandate directs us to eliminate it. And, second, the inflation mandate would be threatened in either direction if the Committee estimated the gap incorrectly.

The excellent memo by Katia Peneva asks whether long-term unemployment exerts less downward pressure on compensation than does short-term unemployment. But, for purposes of the full employment mandate, I’m not sure that matters. Unemployment is unemployment. The fact that some of the unemployed may exert more or less pressure on wages matters for the inflation mandate only. Even as people fall out of the labor force—for example, after their benefits expire—there’s a reasonable likelihood that their attachment to the labor force would return if jobs were plentiful. So policy should not be too eager to give up on these people without some evidence that the labor market is actually getting tight.

Moving to wage inflation, the thrust of the memo is that the case advanced by Robert Gordon and others for ignoring long-term unemployment has not been made, and I see the memo

as successful in achieving that limited goal. But it also seems to me that risks remain. We know that search intensity declines with the length of unemployment. There's strong evidence that employers take some signal from the length of unemployment, leading them to prefer candidates unemployed for shorter periods. The rate of job finding declines with the length of unemployment. And, finally, longer-term unemployment is so far above normal levels that we should be cautious about relying on relationships in the data that were stable in more normal periods. With all of that, it seems quite plausible to me that, while Gordon's case has not yet been made, it may still prove right in the long term. So I would just put this risk under the category of one to be monitored.

More broadly and more immediately important, is undesirable compensation inflation a risk in the near term? The evidence suggests to me that it's not. In a standard model, real compensation should increase with productivity, which has generally run about 1½ percent over the long run and since the crisis. So one might say that the normal level of compensation inflation that is consistent with full employment and price inflation of 2 percent is about 3 to 3½ percent. But compensation inflation as shown by the ECI and other broad measures has been only 2 percent for several years. The exception is the narrower measure of wages for nonsupervisory employees, which is near 2½ percent. The fact that this one indicator of wages is beginning to move up is not enough to suggest that the Committee is in danger of falling behind the curve. Compensation growth is at levels that are well below normal, and a modest increase would be welcome. In fact, if the Committee is to attain its 2 percent price inflation objective, there will need to be a significant acceleration in compensation inflation toward more normal levels. Now, I'm not suggesting that the relationship between compensation inflation and price

inflation is a tight one. What I am suggesting is that neither of them is sending any signal like tightness at the moment. Thank you, Madam Chair.

CHAIR YELLEN. Thank you, Governor Powell. And thanks, everybody, for your observations and comments. It's been a very interesting discussion.

I want to say that, in terms of FOMC management, I am committed to continuity. That said, I now intend to depart slightly from previous practice because we've reached the point at which Ben would present an encyclopedic summary of our economic go-round. [Laughter] I sat here and marveled at his ability to accomplish that type of summing up, drawing in insights from every single participant during the go-round.

I do want you to know that I, too, have listened carefully to what all of you have said, but I am not going to try to provide that kind of detailed summation. Instead, I'm going to do something marginally different. What I'll try to do is to summarize what I've heard as the main comments and conclusions of this discussion about three questions that I think bear importantly on our policy decisions and that we reference in our statement. The first question is, Does incoming data pertaining to the labor market suggest that the labor market recovery is still on track? The second question is, Are incoming data on spending consistent with ongoing improvement in the labor market over time? And the third question is, Is it reasonable to expect that inflation will return to our 2 percent objective over time? If you look at what alternative B says on the first question, it summarizes recent labor market developments by saying that "labor market indicators were mixed but on balance showed further improvement." As I listened to your characterizations of labor market developments, it seemed to me that that statement roughly reflects what I heard. You talked about a number of different metrics that we can look at to assess what's been happening in the labor market. The standard unemployment indicator, U-3,

has moved down three-tenths since December. You pointed out that broader measures, like U-6, have also declined. And if we look at completely different kinds of indicators of what's happening in the labor market—for example, those reflecting the job hiring rate, the quit rate, and so forth—while they're not all exactly consistent in showing the same extent of improvement, it seems to me that, on balance, all of those indicators point in the same direction and suggest that we've seen improvement.

Of course, it's also important for us to assess just how much slack there is in the labor market. And I really didn't hear anybody give the argument that Governor Tarullo so effectively rebutted. [Laughter] I fully expected somebody to argue that, because the short-term unemployment rate had declined so much, that was suggesting slack in the labor market has diminished. But I actually didn't hear that argument.

We have a debate about whether U-3 is a perfect summary statistic or whether other indicators may show more slack in the labor market. But, certainly, the standard unemployment rate measure suggests that there's still a lot of slack in the labor market. Broader measures, like U-6, may suggest yet more slack. The extent of part-time employment is unusually high.

We had a good discussion of trends in labor force participation, but I believe that the staff and participants here think there are cyclical elements to labor force participation. So if we were running a tighter economy, there may be, as I think President Lockhart called it, shadow unemployment out there—people who would come into the labor force.

The natural place, I guess, to look to decide whether we are running into tight labor markets—many of you referred to this—is the behavior of wages. Wage growth has been, as I believe David described it, tepid. Some of you described it as low. As Governor Powell just mentioned, we would need to see something like 3½ percent wage growth as being consistent

with our 2 percent inflation objective, and, instead, wage inflation is running at something more like 2 percent. So wage growth seems quite low. Arguably, we should really want to see that come up. And while there are some arguments about difficulties in hiring certain kinds of workers, as President Evans noted, this is something that's a perennial. I've been impressed with this in the past. You can't talk to businesses without hearing about the difficulty of hiring certain kinds of labor, and that may have increased somewhat, but that's probably not a sign the labor market is really tight.

On the second question of whether incoming data on spending and productivity indicate enough strength in the broader economy to support ongoing improvement in the labor market, basically, what I heard in the discussion is that the answer to that question is "yes." Obviously, there's a lot of uncertainty thrown into this assessment by the severe winter weather and by the fact that, in a sense, we got head-faked in January and substantially revised up our outlook. Now the disappointment is not all weather, but part of it is simply saying that what we thought we were seeing in January is strength that wasn't really there. But if we compare our thinking in December and now, it seems roughly unchanged in terms of the amount of underlying momentum in the economy. Obviously, waning fiscal drag provides support.

I noticed that many of you mentioned reports of positive business outlook and business confidence—the view that businesses are feeling good and may be poised to increase their spending. An area of concern here is housing, which really has been running slower than I think any of us would have expected. But again, generally, while it certainly looks as though the increase in mortgage rates we saw last spring and summer has had a very meaningful negative impact on the housing market, still, I heard a general feeling that we'll get beyond this soft patch and the recovery will come back again.

Regarding risks, obviously, there are the geopolitical risks that we discussed having to do with emerging markets: Ukraine and China. We had an interesting discussion of potential financial-stability risks, which duly noted developments in credit markets and in equity markets that we really need to pay careful attention to, although, again, as Governor Stein mentioned, it's subtle as to exactly what the right moral is to take from that.

On inflation, everybody commented on the fact that inflation is low. We do say in our statement that we wouldn't want to see it run persistently below our objective, and that that would create risks, including rising real interest rates, that would impede recovery. Most of you seem pretty comfortable with the view—and I think almost all of you have it in your SEP forecasts—that inflation will gradually move back toward 2 percent over time, with diminishing slack and well-anchored inflationary expectations. But I certainly did hear many notes of caution about this. We don't really see evidence at this point that inflation is moving back up over time. And we have to be very attentive to make sure that that occurs.

I'd summarize by saying that most of you seem to see improvement in labor markets with enough momentum to support ongoing improvement over time; and inflation that's low and no firm evidence—but a reasonable presumption—that the forces are there to raise it over time.

I'd just add a couple of comments of my own. I'm not going to add very much. I agree with those assessments. I'd say that one thing I do find sobering is that we've seen ongoing improvement in labor market conditions in a context in which growth has been running only around 2 percent. My forecast, like many of yours, shows growth moving up to close to 3 percent or over 3 percent for the next several years. I think that's what's likely to happen. But, until pretty recently, I thought that that had to happen for us to see continued improvement in the labor market, and I, frankly, no longer think that's the case.

Since 2010, productivity in the nonfarm business sector has grown at an annual average pace of just 1.1 percent. The Tealbook has once again revised down potential GDP growth to better reconcile the observed decline in the unemployment rate with GDP growth. And the Tealbook projects productivity to accelerate noticeably. I have to say that I'm not so sure, and I think we need to remain open to the possibility that the trend growth rate may have persistently shifted down. This is something that would be a substantial negative from the perspective of long-run improvement in living standards, but it could well result in a more rapid return to full employment than in the baseline Tealbook forecast.

Finally, on inflation, it seems to me that inflation is now stabilized but at a very uncomfortably low level. My SEP shows it moving back over time, but I don't think we fully understand why inflation has been running so low. And I don't think that we should take too much comfort from the fact that inflation expectations, whether they're survey- or market-based measures, seem to be well anchored. In Japan, inflation has persistently run below the levels that were expected for almost two decades. A situation in which longer-term nominal rates are boosted by inflation expectations that then run persistently above realized inflation is likely damaging to the economy. So I will be focused on the behavior of inflation and attentive to the possibility that inflation may not be moving back up to 2 percent in the months ahead.

Let me stop there. I think we have time to turn next to Bill for a discussion and briefing on monetary policy.

MR. ENGLISH.⁴ Thank you, Madam Chair. I'll be referring to the exhibits that were distributed before this session that are labeled "Material for Briefing on Monetary Policy Alternatives."

The top-left panel of the first exhibit shows the projected path of SOMA holdings under the three policy alternatives described in the Tealbook along with the median

⁴ The materials used by Mr. English are appended to this transcript (appendix 4).

dealer expectation (the black solid line), which closely tracks the staff projection under alternative B. As indicated to the right, all dealers anticipate with virtual certainty another \$10 billion reduction in the pace of purchases at this meeting, and almost all expect that the program will be wound down by the end of October. Many dealers commented that they saw the Committee as highly unlikely to deviate from this measured pace of reductions unless economic developments warranted a significant downgrade or upgrade of the Committee's medium-term outlook for economic growth and the labor market or for inflation.

The table in the middle-left panel summarizes Desk survey results regarding expectations for economic conditions at the time of the first increase in the federal funds rate. Most see the first increase in the funds rate occurring when the unemployment rate has fallen to 6 percent or less. And most also expect current and projected inflation to be close to the Committee's 2 percent target at that time.

The panel to the right shows that dealers' expectations for the path of the federal funds rate moved up slightly since the time of the December meeting (the red lines). As Laura reported earlier, the medians of your SEP projections for the funds rate (the solid dots) also moved up relative to their December values (the hollow dots). I'd add, because I may have caused this uncertainty, that the 50 basis point rise in the median funds rate in the SEP at the end of 2016 would be 37½ basis points if the person who left were not counted in December. So if we dropped the Bernanke observation in December, you'd still get 37.5, but it would be less than the 50 that is shown here. The basic problem here is that the number of participants is relatively small, the underlying data are discrete in 25 basis point intervals, and, when you take a median, you can get results that are a little bit unexpected. The medians from the March SEP lie a bit above the March survey paths for both the dealers and those on the buy side. That said, most of you, as well as most of the survey respondents, anticipate that the funds rate will remain noticeably below its longer-run level—shown in the inset box—for some time after liftoff.

The bottom panel summarizes respondents' expectations for revisions to the Committee's forward guidance. Most expect the Committee either to drop the quantitative thresholds or to de-emphasize them. As Simon noted earlier, the survey respondents place high odds on a shift to qualitative guidance, with the majority expecting that the Committee's assessment of the appropriate time to first raise the funds rate would be based on a broad set of labor market indicators or that the Committee might suggest greater concern about below-target inflation. Moreover, most anticipate that any new forward guidance would reaffirm the Committee's current accommodative policy stance and thus would not affect current market expectations for the timing of liftoff or the subsequent path of the funds rate during normalization.

Turning to the alternatives for this meeting, alternative B, on page 6, may appeal to policymakers who continue to view the economy as evolving about as they expected at the time of the January meeting and, with the unemployment rate approaching 6½ percent, see this meeting as the appropriate occasion to introduce

new forward guidance about the Committee’s intentions regarding the federal funds rate.

The first paragraph updates the Committee’s summary of recent economic developments, attributing part of the recent slowdown in economic growth to adverse weather conditions. The characterization of the economic outlook in paragraph 2 is relatively little changed from the January statement. However, rather than pointing specifically to a gradual further decline in the unemployment rate, the paragraph adopts a broader view that “labor market conditions will continue to improve gradually” toward those consistent with the dual mandate. The risks to the outlook for the economy and the labor market are described as “nearly balanced.”

Paragraph 3 announces another measured reduction in the pace of asset purchases and states that the Committee continues to judge that there is “sufficient underlying strength in the broader economy to support ongoing improvement in labor market conditions.” The guidance about future purchases, in paragraph 4, is unchanged.

The new forward guidance language in paragraph 5 shifts the focus of the Committee’s decisionmaking from quantitative thresholds to a broader qualitative assessment of “progress—both realized and expected—toward its objectives of maximum employment and 2 percent inflation.” The paragraph continues to indicate that the Committee will assess a “wide range of information” in its policy decisions. The final sentence states that the current target range for the federal funds rate is likely to be appropriate for “a considerable time after the asset purchase program ends, especially if projected inflation continues to run below the Committee’s 2 percent longer-run goal, and provided that longer-term inflation expectations remain well anchored.” While the reference to the end of the purchase program provides an element of calendar dependence, it is also consistent with the state-contingent nature of the forward guidance because decisions about purchases “remain contingent on the Committee’s outlook for the labor market and inflation.”

Alternative B then introduces two new paragraphs. Paragraph 6 provides some post-liftoff guidance. It retains the reference to taking “a balanced approach” to removing accommodation. It then adds a sentence stating that, “even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping short-term interest rates below levels the Committee views as normal in the longer run”—a view that a number of you have expressed, for various reasons.

Paragraph 7 is intended to reduce the odds of an undesirable change in financial conditions in response to the new forward guidance by making clear that the new guidance does not indicate a change in the Committee’s policy intentions. On balance, alternative B seems roughly consistent with market expectations and so should elicit relatively little response in markets. However, the increase in your federal funds rate projections in the SEP, which will be released along with the statement, may well trigger some rise in rates and perhaps a decline in stock prices.

Alternative C, on page 8, may appeal to policymakers who judge that policy normalization should occur more quickly than envisioned in alternative B and that new forward guidance, while appropriate, should avoid making what might be interpreted by some observers as a commitment to keep short-term interest rates low for an extended period. Alternative C begins with a somewhat more upbeat reading of the recent economic news, attributing “much of” the recent softness in the spending data to adverse weather and citing the solid expansion in payroll employment. Paragraph 2 of alternative C expresses more confidence than alternative B that inflation will move back toward its objective over the medium term. Accordingly, paragraph 3 of alternative C announces larger reductions in the pace of asset purchases at this meeting than in alternative B, and paragraph 4 signals the possibility of an earlier end to the program by removing the reference to “measured steps.”

Alternative C also incorporates qualitative, state-contingent forward guidance for the federal funds rate. However, it states that the Committee “now anticipates” that it will be appropriate to maintain the current target range only for “some time” after the asset purchases end. Alternative C doesn’t provide post-liftoff forward guidance.

A decision to reduce the pace of purchases more rapidly, as in alternative C, would surprise many investors and, in combination with dropping “for a considerable time after the asset purchase program ends,” would lead them to pull forward the expected timing of the first increase in the federal funds rate and might lead them to steepen the subsequent path. Longer-term interest rates likely would rise, equity prices fall, and the dollar appreciate.

Finally, alternative A, on page 4, may appeal to policymakers who are concerned that monetary policy is not sufficiently accommodative to make significant progress toward the Committee’s goals over the medium run and, in particular, want to strengthen the Committee’s commitment to returning inflation to its 2 percent objective.

Regarding the recent news, paragraph 1 expresses concern that the housing recovery has “slowed further” and that inflation “has continued to run well below” 2 percent. And, in light of the recent weakness in economic activity, even after accounting for the weather, paragraph 2 indicates that the risks to the outlook are “tilted slightly to the downside.” Given this assessment, paragraph 3 announces a continuation of asset purchases at the current pace.

In its version of revised forward guidance, alternative A retains the statement that the Committee will consider a wide range of information in determining how long to maintain a highly accommodative policy. It then replaces the earlier threshold language with an inflation floor, stating the Committee’s anticipation that the current target level of the funds rate will be appropriate “at least as long as inflation between one and two years ahead is projected to be below 2 percent and longer-term inflation expectations continue to be well anchored.” Alternative A, like alternative B,

describes the Committee's expectation that it will maintain the current target rate "for a considerable time" after the asset purchase program ends.

A decision to leave the pace of purchases unchanged and introduce an explicit, quantitative inflation floor would surprise investors and would likely lead them to push back the expected timing of liftoff, although the size of that effect would depend on their assessment of the outlook for inflation. Longer-term interest rates would likely decline, and the dollar depreciate; equity prices might rise.

Draft directives for these alternatives are presented on pages 11 through 13 of your handout. Thank you, Madam Chair. That completes my prepared remarks.

CHAIR YELLEN. Thank you. Let's do questions. President Evans.

MR. EVANS. Okay. Well, I had a question. I was struck by the dealer survey, in which the dealers seem to have the expectation of liftoff—whatever the right way to say that is—in the second half of 2015. Bill, you mentioned expectations for forward guidance, and that's to drop or de-emphasize the thresholds. I guess the imponderable question, if you had any information on this, would be, is this because dealers see 6.7 percent as close enough to the 6½ percent threshold that they came up with this on their own, or is it because the FOMC talk has most recently ceded this expectation, given that we've said so many times, "Well, we're close to this, and so we need to be dealing with that"? And does the fact that we have a press conference in March have anything to do with this expectation, as opposed to the fact that in April we don't have one scheduled?

MR. ENGLISH. I think that it's some of both. Market participants have been thinking about this for a while. If you remember the dealer survey back in January, the dealers were saying they expected changes to the forward guidance. They didn't necessarily expect them in January, but they thought they might be coming in March. Here we are in March, and they're saying, "Yes, we think that's right," in part, I think, because there wasn't really pushback against the thought that there would be a change in March. So they proceeded with the expectations that they had in January. Simon, do you have any further thoughts?

MR. POTTER. I think that the expectations in the January survey are not that different than the ones we've reported to you today. That hasn't changed. They don't know the language that you'll use, and some of the uncertainty is how they might react to those words. And that's been—it's very hard to work out, because you don't have numbers, you have words. And how they interpret the words is really hard for us to tell.

MR. KOCHERLAKOTA. Very good point.

MR. EVANS. That's a good point.

VICE CHAIRMAN DUDLEY. I'm going to ask a leading question. Don't you think that, as it's Chair Yellen's first meeting, people view that as an opportunity to do something more to the statement than if it was just a random meeting?

MR. POTTER. I think that's the logic we've used ourselves a lot, and, on the margin, they would definitely understand changes that way. There are lots of other moving parts when it's the first press conference from a new Chair. So I'm not sure how to weight those moving parts with the internal logic, which is that it is much easier for us to think of a change at this point.

CHAIR YELLEN. President Rosengren.

MR. ROSENGREN. Governor Powell and President Kocherlakota highlighted the challenge of forward guidance at a time when the SEP is based on a different set of assumptions concerning optimal policy, which may or may not be consistent with the forward guidance. This is a little bit radical, but I wonder if we should rethink the SEP and not hand out the SEP at this meeting, saying that we are going to revamp the process and think more carefully about how we make forward guidance consistent with what we're doing for the SEP. I know that is somewhat

dramatic, but I am a little worried that there have been a number of meetings at which the SEP and the forward guidance have been inconsistent. At some point, we're going to have to do it.

This is your first meeting. Saying that we need to revamp it and we're going to take the time now to do it—judging from the faces, I'm not seeing a whole lot of support, but we should at least think about alternatives. In effect, you may have to be saying, "I'm disregarding the SEP, and you should focus on the statement." That is going to be an awkward conversation, I would think, if the two aren't congruent.

MR. POTTER. There's no expectation of that. So that would be a big shock, and then everyone would ask the question why—

MR. ENGLISH. "How bad was it?"

MR. POTTER. ". . . why if it was a plan, could you please have spoken about this plan somewhere? You could have told us something other than that you didn't like how the dots looked, so you didn't want to show them to us," which might be even worse.

MR. KOCHERLAKOTA. Which is pretty much true.

MR. POTTER. No, that's even worse, I think, than showing people the dots and trying to explain them, because then they don't know whether the dots showed 3 percent for the median at the end of 2016.

MR. ENGLISH. Maybe I'm being a little Pollyanna-ish, but I do think that there is a story behind what's in the SEP that isn't so bad. You have to remind people that we're looking from December to March, not January to March. We had a lot of good news from December to January, and we got some not-so-good news from January to March. But, on balance, you and markets—as this is captured by the dealer survey—see the outlook as a bit better. Our policy is data dependent and should be data dependent, so it's not wrong that there should be some

adjustment to the path of the funds rate, because the outlook is different and is somewhat improved.

VICE CHAIRMAN DUDLEY. The outlook is so marginally different.

MR. ROSENGREN. Well, and it's marginally the other way. GDP for 2015 and 2016 is lower in both, one by three-tenths and one by four-tenths.

MR. ENGLISH. Growth—yes. But measures of slack, at least as captured by the unemployment rate, are a little tighter.

MR. POTTER. I think that's definitely one way that they could take it. Our experience in June was the other way around. That's the issue of what the tendency is, and the tendency might be, a little bit, to read more into the change than is actually there, because we're at the zero bound. And there might be some concern that the policy we'll follow will be a little bit different as things actually do get better. I think that's what we saw in June, and you hear that from people in the market just a little bit—that it's hard to change the forward guidance without sending a slightly hawkish signal, because it's pretty hard to send a dovish signal from changing the forward guidance in the direction that this is going.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Yes—thank you, Madam Chair. I'm going to agree with what Bill English is saying. The question is, how much information do you and the Committee feel is appropriate to reveal? I think one thing you could say is that the median can be very sensitive to the behavior of one or two people near the middle of the distribution because it is at the middle. In fact—and this second part is more uncomfortable to reveal, while the first part is obvious—13 of the 16 respondents moved their fed funds rate in 2016 by less than 25 basis points.

VICE CHAIRMAN DUDLEY. By 25 or less, right?

MR. KOCHERLAKOTA. By 25 or less basis points. Revealing that will pretty much say, “Look, the Committee is not moving very much.” And if people feel comfortable with your saying that, I think that will obviate a lot of the concerns. I agree with President Rosengren, by the way, that we should be rethinking the SEP, but I don’t think tonight’s the night.

VICE CHAIRMAN DUDLEY. Or you don’t think we’ll finish the task by 2:00 tomorrow afternoon.

CHAIR YELLEN. How do people feel about my making such a statement in the press conference? We normally don’t say anything about how individuals have changed their views.

VICE CHAIRMAN DUDLEY. I think it’s okay because you’re characterizing it as a broad group. But, of course, the downside is, then you’re reinforcing that the SEP has meaning. So my personal opinion is that there are two messages. First, don’t overweight the SEP. Pay attention to what the statement is, because the statement is the decision of the Committee. And second, the SEP overstates the degree of change among the members of the Committee. I think you really want to have both messages.

MR. KOCHERLAKOTA. I think the way to say that is, actually, this is a great example of how the median of the SEP is misleading because it’s so sensitive to one or two people, and here we have 13 of the 16 not really changing very much. So that could be a way to tell the story that emphasizes both of the messages.

MR. POTTER. But you might get the question about the person who left. That’s unfortunate in that sense, because that person, I think, was lower than the median.

MR. KOCHERLAKOTA. You can’t answer that question.

CHAIR YELLEN. Well, I’m not going to say anything about that person, but I can point out that it’s not the exact same group of people.

MR. LACKER. Madam Chair?

CHAIR YELLEN. President Lacker.

MR. LACKER. If it's any consolation to the group, the mean moved only 24 basis points by my calculation.

MR. STEIN. Can you say that?

MR. WILLIAMS. That's better.

MR. LACKER. Now, I'd hate to launch you on a practice of cherry-picking the median and mean from press conference to press conference.

CHAIR YELLEN. But maybe that's actually useful.

MR. TARULLO. And, for tomorrow, it's good.

MR. LACKER. I'd caution against backing away from the SEP. It's well enshrined. It's been an institutional practice for a couple of years. Yes, you can complain about what color the dots are and the like and what information isn't in there, but I think Bill had it right. The solid way to stand is to say that this is December to March. Things improved and then they didn't, but this reflects the net reading of various people on the Committee. Almost all of the dots had to move, and, if you assume a similar ordering, all of the dots that didn't move were at the top. This is a broad, central move on the bottom end of the curve here, and I'm not sure that putting a fine touch on it—that it's dependent on one or two people—is going to fly. I'd prefer to see you rest the case on just the net change in the economic outlook. And it would be nice to condition markets—and ourselves, I think—to be less paranoid about a tiny hawkish move in our forward guidance or what's embedded in the SEP. We've been paranoid about that since April 2012, when this came up.

MR. TARULLO. But it did have quite an effect last year.

CHAIR YELLEN. It sure did.

MR. TARULLO. I don't think we can ignore the fact that it did have an effect and that it is in need of remediation of some sort, but I totally agree with everybody else who said we don't remediate it from tonight until tomorrow afternoon.

MR. LACKER. Yes, I disagree about the remediation, but we can talk about that.

CHAIR YELLEN. Vice Chairman Dudley.

VICE CHAIRMAN DUDLEY. I think the other problem is that the SEP puts too much attention on the modal forecast. If you actually had people write down their probability distributions and then solve for what the fed funds rate was, who knows what we would come up with?

The other problem with the SEP is, it basically makes people pay too much attention to what the modal forecast is when, in fact, there's huge uncertainty about what's going to happen two and a half years out. So that's the other problem with it as a device.

MR. LACKER. I'm wondering if we'd have the same discussion if the outlook had marginally improved but the dots had moved down. It just seems as though there's an asymmetry in it, so—

VICE CHAIRMAN DUDLEY. I've been pretty consistent in saying for some time that I want the SEP back in the repair shop as soon as possible.

CHAIR YELLEN. Agreed. Okay. Any further questions for Bill? [No response] Okay. So we stand adjourned until tomorrow morning, and dinner is available. And I have to ask your forgiveness because I am going to skip it, as I am figuratively under the weather. We will resume at 8:30 tomorrow.

[Meeting recess]

March 18 Session

CHAIR YELLEN. Good morning, everybody. I think we're now ready to go directly into the policy round. So let me begin with President Rosengren.

MR. ROSENGREN. Thank you, Madam Chair. I support alternative B. The weak incoming data since December certainly justify a continued measured approach to tapering. There should be a very high hurdle for changing our tapering strategy either up or down. To date, the incoming data have been weaker than I anticipated in my December SEP.

Adding paragraph 7 to alternative B was an important and useful addition. It makes clear that the intent of the language changes is simply to reflect the reality that we could well reach our 6½ percent unemployment threshold within a few months, thus requiring an updating of our forward guidance. However, it is important to be clear that this is an update in language, not a change in the policy content of the forward guidance from our previous meeting. While I would have preferred language that deferred liftoff in short-term rates to when we are within one year of reaching full employment, the language of “a considerable time after the asset purchase program ends” is consistent with my current assessment that liftoff should occur toward the end of 2015. At that time, I expect we will be approximately one year from my estimate of full employment, and we will still be undershooting our inflation target. Thank you.

CHAIR YELLEN. Thank you. President Plosser.

MR. PLOSSER. Thank you, Madam Chair. At this meeting, I'm generally supportive of alternative B today. While I've argued for some speedup in the pace of tapering in the past, I want to acknowledge that we've not laid the groundwork for that. With the weather affecting the data, it's not the right time to initiate such a change unless the forecast begins to change. But, thinking ahead, I believe we ought to consider what our future options might be if the forecasts

play out better than we expect or if the headwinds dissipate faster than, in fact, we anticipate.

And one small correction we can make is to contemplate the idea that, down the road, we change the tapering from \$10 billion a meeting to \$10 billion a month on a regular schedule and continue to review that at each meeting. That would allow us to end the program a few months earlier than in the current schedule, but it's something we might want to keep in mind as a way to tweak the path a little bit should the data suggest we need to do that.

I do think we need to keep in mind that interest rates may need to move up faster than we currently anticipate after purchases end. The drop in the unemployment rate has been much quicker during the recovery than we had been earlier anticipating, and our language needs to suggest that, even though our current anticipation is that rates will rise very gradually, we are prepared to move them up more quickly, if necessary, to achieve our longer-term goals. In part, this leads me to favor the suggestion on the language in paragraph 5 in which we insert “current” before “assessment”—the “current assessment” said that this is what we expect. And that would necessitate changing—to be a little more precise, in paragraph 5, in which we say, “The Committee continues to anticipate, based on its current assessment of these factors, that it likely will be appropriate to maintain the 0 to ¼ percent target range for the federal funds rate for a considerable time after the asset purchase program ends.” So inserting the word “current” before “target range” adds the notion that somehow this is not set in stone, and that this, in fact, can and perhaps will change. So I'm in favor of that. Again, it emphasizes that the path is not immutable in some sense.

I was gratified with the suggested statement language in alternative B that took what I consider to be a more minimalist approach and excluded numerical thresholds, floors, and triggers. I also like that we indicate we're going to “assess progress . . . toward” meeting our

objectives. This begins to give a sense of a policy reaction function and that the policy rate will and should change as we get closer to meeting our goals. However, our communications strategy, I really believe, is a journey. It's not a one-time thing. And we will need to adapt our communications as we go forward.

As I alluded to yesterday, as we get closer to our goals, being more articulate and careful about our reaction function is going to become more important. As I mentioned yesterday in reference to President Williams's remarks, as we get closer, being able to refine our reaction function and give more information about it should be important, and we should continue to try to do that.

Regarding the other revised language that came out on Monday afternoon, I like the simplification of paragraph 7. I find that a better way to say what we intended. I find the first sentence much less confusing than it was as originally written, so I like paragraph 7.

I would prefer one other simplification in the language of alternative B. In particular, I think we should consider dropping the second sentence of paragraph 6, in red. This sentence says that we anticipate keeping short-term rates lower than their normal long-run levels, even after our inflation and employment goals are met. The concern that we've not really fully discussed among ourselves is, what are the reasons that we anticipate this? I think people have different rationales for that, all of them worth considering. And is this because we expect lower-than-normal equilibrium real rates in the long run? That could be, except the SEP doesn't show that we've lowered our long-run neutral rate very much. It's still very high. So perhaps those stories need to be reconciled. Are there headwinds? If so, what are those headwinds, and how will we determine whether they have dissipated or not? Why aren't those headwinds showing up

in the gaps? Or are we simply relying on some estimates of future shocks that we haven't identified that are leading to this particular outcome?

I think there are lots of different stories one can put together about why we believe as a Committee that this is the appropriate path. But I suspect that different participants have different views on these things, and I worry about elevating a feature of the SEP into our statement language. We haven't done that in the past, and the SEP has shown this phenomenon for some time. We've talked a little bit about it. But I think we have to be very careful about elevating features of the SEP into our statement.

I don't mind if Chair Yellen says some of these things in the press conference. I worry about putting them, in fact, in the statement. I worry that what we're doing is misinterpreting the SEP. We're slipping into a mode in which we are wanting to use the SEP as somehow a consensus forecast, and it isn't. It's not a consensus forecast. It's something completely different. And I worry that tripping over ourselves to act or talk as if it's a consensus forecast is perhaps a dangerous place to go, because we may find ourselves subsequently in an awkward position trying to match these two things. So I think we just have to be very careful about where we go here and that we don't find ourselves in a spot that we may regret later. Once we've had further discussions and there is some consensus on the mechanism that we think is driving this lower path, that's fine—then we do it. But I don't think we ought to feel as though we have to do it until we have those kinds of agreements.

My final comment on language is also with regard to paragraph 6. If we include the second sentence of paragraph 6, as most people seem to want to do, I would strongly urge us not to use the language referring to “keeping short-term interest rates below.” I see no reason to say “short-term interest rates.” I think we should say that we should set our targeted federal funds

rate below the neutral rate. That's our instrument. We don't control all short-term interest rates. I don't think we want to convey that, so that's one reason not to do that. The second reason not to do that is, some market participants might be inclined to interpret that statement as foreshadowing something about operating procedures down the road. I don't think we want to risk doing that. We haven't made that decision. I don't think we want to be taking the risk of sending that signal and having markets interpret it that way. We're referring to the federal funds rate as our instrument, so that's what we ought to say. The language should read "The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the targeted federal funds rate below levels the Committee views as normal in the longer run." So I think it ought to be "the targeted federal funds rate," not "short-term interest rates." Those are my comments, Madam Chair. Thank you.

CHAIR YELLEN. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Madam Chair. I support the substance of alternative B, so let me just move to offer some thoughts on how to change the forward guidance, starting with paragraph 5. In my thinking, the tests of changes should be that the new language preserves accommodation at the present level and avoids inadvertent tightening, goes as far as possible to achieve alignment of the FOMC and public expectations, and establishes a durable qualitative framework under the baseline scenario for evolving guidance as needed.

In paragraph 4, I'd support keeping the current "measured steps" and "not on a preset course" verbiage. I can foresee holding to this language for another couple of meetings, but, at some point in the year, I think it will have to be adjusted.

I also support the transition in today's statement to reliance on the phrase "wide range of information" in paragraph 5. Likewise, I would keep the "considerable time after the asset purchase program ends" guidance. I do suggest, however, that the Committee think about the question of how it wants the words "considerable time" interpreted—that is to say, to map to a specific time frame in the understanding of the public and markets. Today, based on various communications about the course of tapering and the liftoff projections inferred from the SEP, in my view, expectations are grounded in an interpretation of "considerable time" as meaning six months. If we want "considerable time" to be more flexible, then this may have to be communicated in some way.

Regarding the guidance on the post-liftoff path of policy in paragraph 6, like President Plosser, I have some reservations—not the same reservations—about the inclusion of the last sentence in today's statement. I think we could hold this piece of guidance in reserve to use if and when the Committee decides that conditions require augmenting or adjusting accommodation. The language has stimulus value, and I'm not sure it's required at this time. I'm also concerned that introducing at this time the subject of the post-liftoff path of the policy rate might encourage an interpretation that our intent is to be less accommodative. I would simply append the first sentence of paragraph 6 to the end of paragraph 5 and drop the second sentence.

Beyond today's statement, I believe that the Committee would be well advised to think ahead a few meetings and envision how guidance might evolve. So let me offer these thoughts. As I've already commented, I can see the Committee changing the "measured steps" and "not on a preset course" guidance to something more concrete and predictive in the July or September meeting. By that time, assuming the economy is conforming to the basic outlook, the Committee

should be able to either accelerate the end of purchases or say something to the effect that the asset purchase program will end in October, November, or December, and will be wound down in steps of \$10 billion.

Regarding the “considerable time” guidance, it will be appropriate to drop the reference to “after the asset purchase program ends” once it’s ended. At that time, the “considerable time” language could be retained as straightforward qualitative guidance about rate policy.

I’m satisfied that today’s alternative B, paragraph 5, language is a sufficiently durable framework within which to make necessary adjustments as time passes. That is to say, I’m satisfied that the new language does not introduce new elements that might turn out to be awkward or troublesome in future months.

Regarding paragraph 7, I was okay with the earlier version, and I support the revised version. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Williams.

MR. WILLIAMS. Thank you, Madam Chair. I strongly support alternative B. Data since our last meeting indicate an ongoing gradual recovery and continuing below-target inflation, and this situation calls for maintaining the path for monetary policy that we’ve laid out. So I support a further measured reduction in the pace of asset purchases, along with forward guidance that signals a highly accommodative future path for the funds rate. Alternative B provides this continuity in policy, while successfully navigating the transition from quantitative to qualitative guidance. Importantly, the new qualitative language in paragraph 5 is completely consistent with our past statements about forward guidance. In addition, the wording is robust enough that it can be used for quite some time, under the likely evolution of the economy.

Paragraph 6 then provides further clarity about our post-liftoff funds rate expectations. I see it as consistent with the views expressed by the Committee, and, importantly, it does not commit us prematurely to a particular path or tie us to a specific rationale. It also makes clear that this is our current assessment, which might change over time.

Paragraph 7 guards against the risk that markets may misinterpret the new statement. Any time we modify language, markets have to infer whether we're signaling a change in policy or simply responding to events. Paragraph 7 takes that inference problem "off the table" by being explicit about continuity in our policy.

In terms of the bracketed language in paragraph 5, in my view, it's not necessary to be explicit that it's our "current" assessment. I think that goes without saying. So I'd omit that word, and then, in the second bracketed choice, we can continue to refer to the "current" target range. But I view this as really an editorial distinction, and I'm actually fine with either way.

In terms of President Plosser's comment about the targeted federal funds rate in paragraph 6, I actually hadn't thought about that carefully before, and I think it's a good point that, instead of saying "keeping short-term interest rates," we should say "keeping the targeted federal funds rate." Now, I recognize that we are going to have a robust and, no doubt, thorough and comprehensive discussion on this issue of what our future policy framework should be. But, at this time, we haven't had that discussion, and we've not expressed to the public what our framework will be. I think that switching to "short-term interest rates" could be a little confusing at this time. If we do decide to go to a framework of not using the federal funds rate as our instrument, then, of course, we can change this language to say "short-term interest rates." I don't think that would be confusing. I actually think that there is a potential here for the question

“What does this mean?” when, really, what we’re trying to do is to calm down uncertainty at this point. Thank you.

CHAIR YELLEN. Thank you. President Evans.

MR. EVANS. Thank you, Madam Chair. I support the \$10 billion taper today. We said it’s a high hurdle for altering that path, and I’m fine with that. My preference today is to retain our January forward guidance with thresholds in paragraph 5 and maintain this policy language until the unemployment rate falls to 6½ percent or inflation rises to 2½ percent. This statement language remains fully serviceable even if unemployment falls quickly, owing to our additional guidance that the funds rate will remain at zero well past the time that unemployment falls below 6½ percent. Since there appears to be perhaps a 50 percent probability that unemployment will remain above 6½ percent at the time of our June meeting, changing this language today as in alternative B prematurely risks an adverse market interpretation, in my opinion.

My biggest concern today is that alternative B, along with the SEP release, looks like a tightening in our monetary policy stance. This round’s SEP median federal funds rate dot in 2016 is 50 basis points higher than in December. From yesterday’s discussion, I accept that the dealers and financial markets are prepared for a change in our forward guidance, but I think the current alternative B language is not enough guidance to validate the dealer survey expectations. The dealer survey implies that markets have priced in a very strong degree of financial accommodation. For example, the dealers envision a funds rate liftoff in the second half of 2015. They also expect the funds rate liftoff to occur four quarters after the end of QE3 purchases. The survey also suggests that the more likely values of the unemployment rate at liftoff are below 6 percent. These observations seem important to me. If our statement is as

vague as alternative B and financial markets see the higher funds rate projections in the SEP, they may price in tighter financial conditions.

Turning to more-specific elements of alternative B, the qualitative language in the second sentence of paragraph 5 is about as weak as one could formulate for forward guidance. It repeats that our goals are to support maximum employment and a 2 percent inflation objective, the third sentence says that we will assess a range of labor and inflation data, and that's pretty much it. Frankly, this formulation is very much like our June 2011 language before we embarked on stronger forward guidance. Maybe that's the choice. Yes, I can believe that markets are expecting us to change our forward guidance today, but I worry a lot that this guidance is too weak to maintain their expectations, especially given the SEP medians that we're going to release.

One way to strengthen the forward guidance would be to include the 2 percent inflation floor from alternative A. In my opinion, this addition would move further toward maintaining our prior stance of accommodation, albeit with a slightly different emphasis on inflation. In adopting this particular inflation floor following a long period of below-target inflation, the Committee would strongly advance the defense of our inflation objective from below. This would help remind the public that we have symmetrical preferences for inflation over the long run.

In terms of post-liftoff guidance, I think paragraph 6 helps because it instills a further expectation that any premature policy tightening will most likely proceed only slowly. Without this paragraph, the risk of a tightening inference by the markets is higher. But I also think the earlier, fuller Tealbook version of paragraph 7 would have helped a lot. I realize that many participants feel that our statement is long and unwieldy, and, sure, making efforts to streamline

the policy description sounds like a good idea if you retain the most important elements. But, look, once you're involved in dressing a pig [laughter], no amount of lipstick is going to change the fact that this is a pig we are working with. The statement is long and ugly, and it will always, almost surely, be that way.

To maintain the link with our prior policy intentions, it seems to me that the important part of paragraph 7 was repeating explicitly our prior commitment that the funds rate would remain at zero well past the time that the unemployment rate goes below 6½ percent. This would have been separate from our linkage with the end of asset purchases later this fall. That additional commentary would prove useful if labor market improvement stalls over the next six months. A labor market stall, combined with a continuation of 1 percent inflation rates, worries me, and hoping that that doesn't happen involves accepting more risk. This meeting is one of those opportunities to meaningfully reinforce that we are pursuing goal-oriented monetary policy to reattain both maximum employment and price stability within a reasonably short period of time.

Madam Chair, as I said at the outset, my preference today is to simply update our January statement for economic developments and the additional \$10 billion reduction beginning in April. In order to strengthen alternative B enough to reduce the risk of an inadvertent policy tightening, two changes could help. One change is to adopt the 2 percent inflation floor from alternative A. This choice would show that we're defending our inflation objective from below. The other change is to revert to the original Tealbook alternative B language for the fuller version of paragraph 7. This choice would include a reference to keeping the funds rate at zero well past the time that unemployment falls below 6½ percent.

In addition, regarding the commentary about the “short-term interest rates” language in paragraph 6, I agree with the suggestion that mentioning the funds rate instead would be better.

After all, that’s what the Committee’s assessment is referring to in the SEP—the funds rate.

Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Madam Chair. I support alternative B, although the SEP results do give me some pause, as they did President Evans. I had thought that, with a set of SEP results that didn’t vary much from last time or from market expectations, the somewhat general language in alternative B would be fine. And I, on balance, think that’s probably still where we should land. But there are going to be more difficulties.

To a considerable extent, this is going to fall on the Chair to make the explanations on paragraph 5 and, to some degree, on paragraph 7. It may be that an explanation or elaboration of paragraph 7 can reinforce the point President Evans made that, at this juncture at least, the guidance we’ve had to date is still operative because we haven’t passed the threshold.

I want to spend most of my comments on paragraph 6, however. I actually think a case can be made to strengthen paragraph 6. But, more important, it’s critical that something along the lines of paragraph 6 be included in this statement. For one thing, without such a provision, we will have identified the factors that will determine when the rate will start to rise, and we’ll have noted some expectations as to how steeply it may rise, but we won’t have identified what we expect the endpoint of that process to be.

Now, one might have said that such a specification would be unnecessary if the shared assumption is that our equilibrium interest rate will be the same as it was supposed to be before the crisis—say, 2 percent above the inflation target, for a total of 4 percent. But such an

assumption would be inconsistent with our own stated expectations. Imperfect as it is, the SEP does communicate something about our individual and aggregated expectations. We've just been talking about the difficulties the current results may create. The results presented yesterday show that the central tendency of the Committee's projections has the economy at or close to both full employment and 2 percent inflation by 2016. And yet, with a couple of exceptions, everyone on the Committee expects the federal funds rate to be below 4 percent and, in most cases, well below 4 percent. So that's something that needs to be explained to markets and to the public. The explanation has got to be that, individually and in the aggregate, we think there are various reasons why the equilibrium rate in 2016, and for at least some period thereafter, will be lower than 4 percent.

There are lots of reasons, as people have already mentioned, why one might believe this to be the case. Some, such as incomplete repair of household balance sheets or the effects of fiscal consolidation, can be understood as shocks, or as the lingering consequences of shocks, that will have a restraining effect on growth for a nontrivial but finite time. In the parlance we've been using, these are headwinds. Other factors—such as demographic change, slowing technological innovation that translates into lower productivity gains, or durable changes in preferences manifested in behavior such as saving rates—are more permanent in nature, though, for that reason, observation of these phenomena would presumably need to continue long enough to convincingly make the case.

There's another explanation, though, which I think falls somewhere between the persistent but ultimately fading character of headwinds and the enduring character of demographics. That's reduction in growth potential. Most, if not all, of us have, over the past several years, marked down potential GDP growth. The Tealbook has, on several occasions,

explained why the staff has done so as well. In some sense, of course, this explanation can draw on several other possible explanations, both secular changes and persistent but ultimately finite factors, but it does capture an important set of expectations on our part. And I'd note that these expectations are also reflected in various survey data and spreads that we see in markets.

Precisely because there seems to be such convergence around this general proposition, even if we differ as to how much potential has decreased, I do think a pretty strong case can be made for the proposition that we don't need to make the language in paragraph 6 as conditional as it now reads. Indeed, a case could be made that the levels the Committee views as normal in the longer run are themselves lower than assumed on the basis of pre-crisis experience.

I do note in the SEP that six of us have already indicated that we believe the longer-term rate to be below 4 percent, and I suspect at least a few others on the Committee might come to that conclusion as well. To be clear, I'm not arguing for such a change in the language in paragraph 6, at least not right now. We would obviously need to analyze and discuss this issue much more before making such a change. But I mention the case for it mostly to show that the position reflected in the proposed language is actually a good deal softer than the position that might be derived from the Committee's own projections and stated assessments of growth potential.

I don't disagree with those who have observed that the current language states the proposition without explaining why—President Plosser made this point today, and I think President Fisher made it in the teleconference meeting. I've just explained why I think we could give such an explanation based on what Committee members currently believe. But my more immediate response is that omission of any particular reason allows a certain optionality for the Committee. If you think headwinds alone justify such guidance, your position is preserved, even

though someone else may feel that the reasons are likely to have greater permanence. While this may not be ideal, it would be far worse to leave markets and the public with no indication that the Committee has even recognized the issue and with no sense of where the upward trajectory of the federal funds rate would end.

I will end by saying I agree with others that Charlie Plosser makes a good point about the federal funds rate as opposed to short-term interest rates. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Madam Chair. With the economy continuing to recover and the outlook little changed since the January meeting, I believe it's clearly appropriate to continue to slow the pace of asset purchases as laid out in alternative B. That's the easy part of today's decision. Changing our forward guidance on the fed funds rate is the more challenging issue.

We face a tradeoff between maximizing clarity and maintaining flexibility in our guidance. I preferred providing more, rather than less, clarity in our guidance. In particular, as I mentioned in the videoconference, I preferred forward guidance that uses an inflation floor, for three reasons. First, inflation forecasts can capture many of the factors that are likely to determine liftoff but which are hard to spell out simply in forward guidance. Second, an inflation floor would refer to the component of our dual mandate for which we have a quantitative goal. And, third, as liftoff draws nearer, the Committee will probably need to provide the public with further clarifications of its intentions in order to manage interest rate expectations.

All of that being said, I recognize that a majority of the Committee does not support including forward guidance with an inflation floor. Many on the Committee place a premium on

maintaining flexibility about which conditions will warrant liftoff of the fed funds rate and when. I appreciate that flexibility does have its benefits, and I have argued for flexibility in other situations.

The more qualitative forward guidance that's laid out in the current alternative B has evolved and has improved considerably since the first draft that we looked at. So today I do support alternative B.

Like President Plosser and others who have already commented, I do have a strong preference for referring to the federal funds rate in paragraph 6 rather than short-term interest rates. At this point, it isn't clear what the future operating framework will be, and referring to short-term interest rates could create confusion among the public and distract from the main message of the statement today. And, obviously, the SEP also provides projections for the federal funds rate rather than other short-term interest rates. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Lacker.

MR. LACKER. Thank you, Madam Chair. I support alternative B, but I do see an opportunity for improvement. First, I like the less heavy-handed version of paragraph 7. I think that, combined with paragraph 5, it does a good job of cementing the notion of continuity in the forward guidance that we're intending to provide.

I join Presidents Plosser and Lockhart, though, with serious concerns about the second sentence in paragraph 6. There are two main reasons. First—and I don't think it's been mentioned—this would muddy our message today. This is a new element of forward guidance. Taken by itself, I think it would be viewed as a downward nudge to the yield curve. But we've strived in paragraphs 5 and 7 to emphasize continuity and that we don't believe we're changing this net stance of our forward guidance at this meeting. So I'm concerned about how readers are

going to interpret this. Does paragraph 6 convey new information or not? Why did we add it now when, in the next paragraph, we're emphasizing that our forward guidance is the same?

Second, more broadly, I think it's ambiguous and treads on ground that the Committee has yet to really thoroughly survey and understand. What time period does this refer to? You look at the language that says "mandate-consistent levels." You look at the SEP for 2016, and it looks as though it lines up near there. But, on the other hand, paragraph 6 seems to refer to something beyond 2016 as well. It says "even after" we get to near mandate-consistent levels. I'd point out that, of course, we haven't said what mandate-consistent levels are for 2016. We have the longer-run projections. We haven't defined that as congruent with "mandate consistent." We never said that. The January 2012 statement explicitly avoids equating the longer-run values with mandate-consistent levels. So we're muddying up that nuance there.

Now, I know there's been discussion, to which Governor Tarullo has alluded, about the possibility that the appropriate intercept term in a Taylor rule—and some people refer to it as the equilibrium real rate—might have fallen. But it was just a stray comment or two at the last meeting, and I'm not sure we've really digested the possibility that that's going to be the case. Besides, a whole lot of us still have the funds rate in the longer run at 4 percent. So I don't think we know enough now, on a sustained basis, about what the trajectory after 2016 is going to look like. I just don't think we've done our homework to be able to put in something of this specificity about the path after the liftoff. For those two reasons, the statement would be much better without the second sentence in paragraph 6.

And I share President Plosser's concern about "short-term interest rates." I think this would be new to speak about our keeping short-term interest rates, as opposed to the funds rate, at any particular level. But, otherwise, I support alternative B. Thank you.

CHAIR YELLEN. Thank you. President Bullard.

MR. BULLARD. Thank you, Madam Chair. Basically, I think we're in good shape for today. We're changing the form but not the substance of our forward guidance. This is an appropriate time to be introducing such a change. It's widely anticipated in financial markets and elsewhere because we're approaching the 6½ percent threshold. This is making that kind of a number largely irrelevant for monetary policy considerations for the future. Any change, I think, that we make carries potential risk in terms of market reaction, but, on the other hand, any market reaction will likely wash out after a few days because the fundamental policy is not really being altered at this meeting.

So I support alternative B for today. I have two remarks on alternative B and then some reactions to some of the previous comments ahead of me here today. The first comment is on the wisdom of paragraph 7, and the second comment is on the wisdom of putting too much time dependence into the statement and into the Committee's thinking. Concerning paragraph 7, this paragraph is meant to reassure markets that nothing has changed in terms of the level of policy accommodation. In general, I think it's not good practice to include paragraphs in the statement that purport to explain the meaning of changes elsewhere in the statement. In effect, we're footnoting the statement. One could imagine footnoting other parts of the statement that contain changes. You could footnote the strength of housing, which is changed in paragraph 1, for example, and you might cite some of the more recent data on housing and indicate why we changed that part of the statement—because the data are a little bit different from what they were. We might also say in that footnote that this doesn't necessarily mean that the Committee had changed its policy because we changed slightly our view of the most recent housing data.

This kind of tactic strikes me as self-referential, and it seems circular and somewhat counterproductive to me.

Having said all of that, I understand what we're trying to do here, and I may be persuaded that, just for today, given the somewhat special circumstances—it being the Chair's first meeting and press conference—it may strengthen our hand. But I think the more appropriate approach would be just to omit paragraph 7 and use the press conference to communicate more fully the meaning of the statement. That's how this is set up, and, for other changes in the statement, we wouldn't include a special provision at the end to say something about the meaning of it.

All right. Let me turn to time dependence. I'm going to refer here to the “considerable time” phrase in paragraph 5 of alternative B, which is meant to convey a waiting period between the end of the asset purchase program and the date of liftoff. I understand that, in principle, this is a state-contingent object, but I do not think that it conveys sufficient state dependence as written. For most market participants and maybe most FOMC participants around this table, it means a fixed amount of time without too much regard for what happens in the economy. In many cases, as President Lockhart noted, it might mean six months. I do not think we can change this today, but I do think the Committee should continually strive to express itself in state-contingent terms. One of the main dangers of calendar-based thinking is that, when the calendar says that it is time to make a move, the economy may be saying something else, and this Committee has, in several circumstances, run into exactly that kind of problem. We had a calendar date circled in our minds. We got to that date, and the circumstances weren't right. And that creates a mismatch between what policy should be doing and what it's actually doing.

The SEP contributes to this problem, especially with the date of liftoff in 2014, 2015, and 2016, a date that receives a laser-like focus in financial markets. I agree completely with Vice

Chairman Dudley's comments yesterday that this needs a revamp. We have looked at it before. It's a difficult issue. I understand that. I do think that there may be a very simple change that we could make in the near term. As we're getting closer to the date of liftoff, it might pay to make the SEP more granular with respect to the date of liftoff. You could have a special question in the SEP that would ask not just "What year are you anticipating liftoff?" but also "What quarter are you anticipating the date of liftoff?" And you could plot that separately. It makes a big difference. I was the one who changed from 2014 to 2015, but it was really 2014, fourth quarter, to 2015, first quarter. So I moved over a bin in the picture, and, the way this gets reported, somebody will say something about that. But it might be more informative as we get closer if we start talking about the quarter of liftoff currently expected based on the data.

That would be a very simple change. It might convey a little bit more. Longer term, I do think we need a more substantial revamp of the SEP. I would urge all of you to consider a renewed attempt at a monetary policy report. I know we tried to do that earlier. It didn't work out, but I think that maybe the perspective has changed. We're a little bit closer to normal policy now, and it might be the time to, again, renew that issue. I know we had thoughts about that at previous meetings, and we probably have plans on the table, but, eventually, I think the future of this Committee is that we're going to have to have a monetary policy report that summarizes, in some way, the view of the Committee so that markets can absorb what we're thinking as a group.

Concerning the 2016 SEP policy rate, which has moved up somewhat, I guess I'm convinced that what we should do on that is just cite lower unemployment. Unemployment has moved down considerably from where it was at the time of the December meeting. So, logically, that's going to cause a few people to adjust slightly the setting they think we're going to have for the policy rate in 2016. I think that's the simplest and cleanest thing to say. We don't have to

talk about changing membership or other things like that. It's true that the growth forecast is actually going in the wrong direction. So I would just cite labor markets and say that that looks better than it did, and that it probably caused some people to move up slightly.

I'm going to react to a few things people have said. In paragraph 6, the second sentence—"keeping . . . rates below"—I agree with President Plosser that the story behind this is not clear. As I have described it here before, there are, in my mind, three explanations for the low policy rate in 2016, which, again, is occurring after output gaps have closed and after inflation has returned to target. These three explanations, which were touched on by Governor Tarullo here, are as follows: First, there's the headwinds explanation, which, in my mind, means that there are some unspecified shocks that are going to hit the economy at this distant date in the future. I think that's a difficult story to tell. How could we, sitting here today, know what these shocks are going to be? I also think it sends a pessimistic signal about our view of the future of the U.S. economy, and it's an unwarranted pessimistic signal. We don't really know what the world is going to be like in 2016. So the headwinds explanation is one possible explanation.

The second is the Woodford explanation, which I see has become less and less popular here. The Woodford explanation would be that we're keeping rates low at that point because we're making up for the time when we were constrained by the zero bound. The Woodford story, even though it's become less popular here, has a great aspect to it, which is that it's an optimistic story. You say that, yes, the economy will be booming at that time and we're still keeping rates low, but there's a good reason why we're doing that. It's because we're following through on our commitment that we made earlier. I know that that one is not being used, and it's not that popular.

The third one is that real interest rates are lower and will continue to be lower in 2016 than they have been historically. I would put a global aspect on that. Global real interest rates are lower than they have been historically, and that's why, when you add the real interest rate to the inflation target, you get a somewhat lower neutral policy rate than you would have when you looked at the 1980s, the 1990s, or the 2000s. Among the three explanations, this one has, I think, the most potential for the Committee to rally around. It has a pessimistic tinge to it if you think that the real rates are lower because of lower potential growth for the U.S. economy. If you told it as a global story, which I think is very plausible—as a global saving glut, let's say, which is keeping real interest rates low—then it would not necessarily have to have a pessimistic signal from the U.S. point of view. It certainly seems to be true that global real interest rates have been uncharacteristically low for quite a while, that that would persist out into the future, and that that might be an important factor as to why the neutral policy rate won't be as high as it has been historically. My own SEP has us back at a 4 percent or 4¼ percent policy rate by that time period because I have output gaps closed, I have inflation back at target, I'm not expecting any special shocks at that time, and I'm not putting that much weight on this story of low global real interest rates persisting that far out into the future.

We're often using the headwinds explanation in public comments, but I do not think it's very effective, and that's why we keep getting a lot of questions about it. It just raises a lot of questions in the minds of market participants. Somehow shocks are going to be hitting the economy at that time, or shocks that are still around today are superpersistent, and yet persistent in a way that's not preventing the output gap from closing and inflation from going back to target. This is a very difficult way to go about telling a story. Why have these shocks not

affected the output or inflation gaps? So I think that the explanation of low global real interest rates is somewhat more effective, and that we should switch to this explanation in the future.

My last comment concerns mentioning “keeping short-term interest rates below”—I guess there’s a lot of agreement on this. I’d be for replacing that with “keeping the federal funds rate below levels the Committee views as normal” in paragraph 6, as noted earlier by President Plosser. So I favor that particular change. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President George.

MS. GEORGE. Thank you, Madam Chair. I generally support alternative B in terms of a further reduction in asset purchases and a pivot from threshold-based forward guidance to a more qualitative approach. I view these changes as appropriate steps toward gradual policy normalization as the economy continues to expand, with meaningful cumulative gains as well as a positive growth outlook. As someone noted yesterday, most of the prescriptions from the policy rules on which the Committee has relied over the past five years also have turned positive, in terms of signaling a shift away from zero interest rates starting in the second quarter of this year. For these reasons, I think paragraph 6, as written, lacks clarity as to why economic conditions warrant keeping rates below normal levels when employment and inflation begin to return to normal. Further explanation of the Committee’s assumptions about economic conditions in 2016 will be needed, in my view, to be credible.

At last September’s press conference, factors such as continued fiscal drag and the slow recovery of the housing sector were offered as explanations. The January 2014 minutes point to lingering effects of the crisis. However, the Tealbook now shows almost no fiscal drag in 2016, with substantial gains in residential construction. So as the Committee alters its forward

guidance, I expect that the public will seek more clarity about the nature of our reaction function, and I look forward to discussing that communication.

That said, I would highlight a few issues that continue to concern me about this policy stance. First, in thinking about the potential challenges that may lie ahead, I believe that the alternative risk scenarios outlined in the Tealbook are useful. In particular, I see the “Supply-Side Damage” scenario as one of the more relevant and difficult scenarios to navigate, primarily because it would necessitate policy tightening faster than currently anticipated. Growth would also likely disappoint in such a scenario, so banks and other financial institutions would be grappling simultaneously with rates that are climbing faster than they had expected and slowing growth. Aspects of this scenario seem plausible, especially given the downward revisions to potential GDP by the Congressional Budget Office and in the Tealbook.

Second, I remain concerned about the side effects of unusually low interest rates for this extended period of time and the incentives they promote for risk-taking and reaching for yield. I continue to hear from contacts about fierce competition among lenders resulting in questionable terms and underwriting standards. And I would note that consumer credit growth is beginning to accelerate, up nearly \$300 billion in the second half of 2013, which does not include student loans. Some of this goes hand in hand with an improving housing market. If you look carefully at the data, it is the least creditworthy households that are more actively increasing their debt burdens.

Finally, I would join others who would prefer that paragraph 6 refer to the target federal funds rate instead of short-term interest rates so that we can continue our discussions about what the policy framework might look like in the future. Thank you.

CHAIR YELLEN. Thank you. President Fisher.

MR. FISHER. Thank you, Madam Chair. I want to add to something I said yesterday and explain why I walked through the stock and bond metrics as I did. The bottom line is that, for those of us who are worried about putting the American people back to work, which is part of our mandate, investment-grade corporate yields have been lower than the S&P's forward-earnings yield. And what that does is to provide an arbitrage opportunity, an incentive to corporations to issue bonds and to use the proceeds to buy back shares—not to invest, as yet, robustly in job-creating cap-ex. I think it's important that we understand that dynamic. That's the only reason I go into it in depth.

I'm quite sympathetic to Governor Stein's sensitivity expressed yesterday. But, in terms of that particular sector of the financial markets—referring, in particular, to junk credits or triple-Cs—you have to remember that the spreads are narrow over historically low nominal rates. And all of these issues that I mentioned and Governor Stein mentioned and so on—I think the key operative word in his intervention yesterday was “tiptoe.” Like him, I was quite hawkish on the upside—meaning I wasn't in favor of QE3. But, having been there, we have to be extremely careful to tiptoe out of this room as we begin to change and provide forward guidance.

I continue to support the easy part, as President Piana mentioned, which is the reduction in LSAPs. In fact, I think it's very important that, as we tiptoe out of that room, we not push much faster than the measured rate at which we're taking it—even though I respect President Plosser enormously in terms of his suggestion. We can take a look at that later, but, at this juncture—and I realize he didn't make the recommendation for now—but just to put it on the table, I would not be in favor of going to more than \$10 billion per month. I like the way we're proceeding presently, even though, again, I was more hawkish on the other side. But, like Governor Stein, I think we have to be very careful here.

In terms of tiptoeing—and remembering that we don't have a whole lot of bullets left in our holster—as you know, I recommended that we take out that second sentence in paragraph 6, and I don't expect us to do so at this meeting. However, I think President Lockhart made the most convincing argument there. I want to have a little bit of ammunition in case things slip to the downside. Presently, as we put your imprimatur as Chair of this Committee on the statement, without that paragraph, we're taking a good first step. It may be that, by including that sentence, we take a step further than we need to take. I don't know. In other words, I may want to put that in my holster and save it, because I think President Lockhart made a very good point, which is, it could help us later on should things slip to the downside. I believe that was your point, President Lockhart. If you're going to keep it the way it is, like everybody who has talked so far, whether it was Governor Tarullo or the various presidents, I do think we need to change the “keeping short-term interest rates” and reference the fed funds rate.

I was somewhat sympathetic to President Plosser's comment on the word “current.” But, if you look at it from an expository writing standpoint, whatever we say is current. Also, we say “likely,” which is the conditionality in that sentence. So I, like President Williams, could go either way. I am getting deeply worried, Madam Chair, that President Williams and I tend to agree almost constantly now.

MR. WILLIAMS. Deeply disturbing. [Laughter]

MR. FISHER. Yes, deeply disturbing. But, otherwise, I fully support alternative B as stated. Thank you for making the changes that were made, and I am in support of alternative B. I would consider that point, though, on the second part of paragraph 6. What's in our holster next?

Here's one last point: I have very strong feelings about shifting from a 2 percent target to a 2 percent floor. I know we're not arguing that at the present juncture, but I expect that to be an interesting argument in the future. And I want to, again, put on the table that I am strongly against thinking of 2 percent as a floor as opposed to a long-term target. Thank you, Madam Chair.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. I see today's FOMC statement as a significant one. Over the past few months, we've had a fulsome discussion about the best way to communicate about the evolution of the fed funds rate target once the unemployment rate falls below 6.5 percent. Thanks in part to your leadership, Madam Chair, this has been a thoughtful and deliberative process, which is culminating today in alternative B. But I have decided to vote against alternative B. I am dissenting because the new forward guidance weakens the credibility of the commitment to return inflation to the 2 percent target from below, and because it fosters policy uncertainty that hinders economic activity. I do strongly endorse the language in paragraph 6, with the emendation that President Plosser offered. But my enthusiasm for that paragraph is not sufficient to change my vote. I'll briefly elaborate on my dissent.

In terms of credibility, the PCE inflation rate has tended downward over the past few years and is currently near 1 percent. Tealbook A does not see the inflation rate returning to 2 percent until 2018. This is six years after we publicly committed to 2 percent as our target. The FOMC should communicate the purposeful steps that are being taken to facilitate a more rapid return of inflation to target. The absence of this kind of communication weakens the credibility of the Committee's inflation target by suggesting that the Committee views inflation persistently below 2 percent as an acceptable outcome.

In terms of uncertainty, most labor market metrics imply that the economy is still well short of maximum employment. In its forward guidance in alternative B, the Committee provides little information about its desired rate of progress toward maximum employment. Indeed, the guidance provides no quantitative measure of what constitutes maximum employment. These omissions foster uncertainty about the extent to which the Committee is willing to use monetary stimulus to foster faster growth, and this uncertainty acts as a drag on economic activity.

What could we have done instead? In my view, over the past 15 months, the Committee's forward guidance about the fed funds rate has been highly effective at managing market expectations. That guidance has relied on an unemployment rate threshold of 6.5 percent and an inflation outlook guardrail of 2½ percent. Because of the effectiveness of this quantitative approach, I would have favored adopting a similar approach for the future. To be even more specific, my preferred language would have been as follows: "The Committee anticipates keeping the fed funds rate in its current range at least until the unemployment rate has fallen below 5.5 percent, as long as the one- to two-year-ahead outlook for PCE inflation remains below 2¼ percent, longer-term inflation expectations remain well anchored, and possible risks to financial stability remain well contained." This alternative guidance communicates a willingness to use monetary policy to push inflation back up to 2 percent. It reduces macroeconomic uncertainty by being clear about the kinds of labor market and inflation conditions that are likely to be associated with an increase in the federal funds rate. Finally, it deals with what I see as the unlikely possibility of risks to financial stability through an explicit escape clause.

Here, I'm going a little bit off my script. A question that occurs to people, I think, is, will we always need quantitative forward guidance? Aren't we back to normal now, so can't we just

get rid of this extraordinary tool that we used during extraordinary times? And here, I think, the problem for us is that we can't go back to normal—as, say, we were doing in 2004 or 2006—because of the fact that we've made a change in what our framework is. We now have an explicit number that operates as our target—2 percent. That means we have to communicate numerically about how we're doing in terms of making progress toward that goal.

If we had a monetary policy report that was communicating on a consistent basis about what the Committee's outlook was, depending on its policy, and that described the Committee's plans on an ongoing basis for how it was planning to ameliorate any gaps between its current outcomes and the target on both the employment and inflation dimensions, we wouldn't have to have all of this in the statement. It would be, instead, in the monetary policy report. Here I'm fully aware that President Bullard probably disagrees with what I would have in the report, but I think having that kind of communication would eliminate the need to have this in the statement. We're not at that stage.

I'll close by noting again that I do strongly endorse paragraph 6, with the particular emendation of replacing “short-term interest rates” with “the target for the federal funds rate.” I think this paragraph provides information about the Committee's intentions for the behavior of the fed funds rate once employment and inflation are near mandate-consistent levels. From an intellectual point of view, I'm sure it's very interesting to try to figure out why we're doing this. That's not something we usually insist on—having agreement among the Committee about why we're doing things. And these meetings will get very long indeed if we try to insist on that. I think this is providing the public with the information they need about the covariance structure of the mandate variables and our policy tool: Employment and inflation are going to be near mandate-consistent levels, and the fed funds rate is going to remain below historical norms.

Those intentions are appropriate, and communicating them should help stimulate economic activity by reducing uncertainty. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Stein.

MR. STEIN. Thank you, Madam Chair. I support alternative B as written. I think the statement is very well crafted and does a nice job of making a smooth transition from our prior, threshold-based guidance.

I have just a couple of observations. One observation is about the second sentence in paragraph 6, which I support. I have to say that I agree with a lot of what Dan said here about keeping an open mind on longer-run secular forces. In that regard, I wanted to draw attention to a slight difference in the current way that the paragraph is written, as opposed to a previous formulation. Now it refers to “below levels the Committee views as normal in the longer run.” A previous iteration of it said “below their historical levels for some time.” I actually think the current formulation ties our hands behind our back in a particular way because, in other words, it’s basically fixing some notion of the longer run. Therefore, really, it’s very headwinds-oriented right now. I basically thought that a lot of what Governor Tarullo said was, it’s not just short-run headwinds. At least in principle, it’s also longer-run, secular forces. President Bullard alluded to saving, productivity, demographics—all of that stuff. I like the previous historical formulation because it left that a little bit more open. I don’t think we’re going to litigate that now, but if we’re going to have the conversation that Dan encouraged us to have and which I think we should have, then the historical formulation just leaves that open. So that’s one point.

A second observation—and it’s just an observation—is that we’ve talked a lot about qualitative versus quantitative guidance. Another dimension is, where does the guidance fall on a spectrum, with one end of the spectrum being “Commitment” and the other end being “Well,

this is kind of my forecast, but don't take it too seriously"? I think we're in the midst of an important evolution on this dimension of the guidance as well. That is to say, the 6.5 percent threshold was a commitment, or it grew to be pretty close to a commitment. Paragraph 5 has, "it likely will be appropriate to maintain . . . for a considerable time after the asset purchase program ends"—it's not a commitment, but it has strong elements of commitment. We could break the glass, but I think that, in signing on to the statement, it would be a big deal to do something before early 2015.

By contrast, paragraph 6 is very different, and it's written artfully, but there are words like "currently anticipates" and "may . . . warrant." Basically, we're saying, "Take the 2015 dot really pretty seriously. Take the 2016 dot as a forecast." Now, to be clear, both of these formulations are roughly appropriate, but they imply a potentially tricky transition as time passes. And we implicitly are not giving the market the same kind of definitive certainty as to what's coming. I just wonder how market participants interpret the dots. We, I think, struggle among ourselves as to how to interpret them. I saw something in the *Financial Times* yesterday that gave me a little bit of pause. Somebody wrote, "Well, the dots are becoming the new thresholds." That's not what we have in mind, but we learned this in the taper episode. Different people make different inferences about what we're doing, and sometimes people who are not necessarily the median person are nevertheless influential for market prices. So I think it's just something on which there's room for heterogeneity. I certainly feel this myself. I feel as though, when I write down my 2015 dot, it feels commitment-like. For the 2016 dot, it's just—whatever. So I wouldn't have a huge amount of qualms about revising the 2016 dot. I don't feel as though I'm committing.

There's a process of weaning market participants off of this, and I don't quite know how we do it. I think, again, the statement does a very good job. It's written very well. And I'm not suggesting that we go out and beat them over the head. I'm not suggesting, Madam Chair, that you go out and say, "Look, 2016 is really an estimate." It's a gradual process, and we've got to evolve there. We might want to take note of some markers along the way and hope that this sinks in over time. In my ideal world, if we're looking at market volatility, it ought to be rising as we move through time. As we move away from giving commitment and we move toward just giving more traditional guidance, I would hope that, in some controlled sense, volatility would be going up. That would be a healthy thing. Beyond that, I don't really think there's anything prescriptive to do about it now. Thank you.

CHAIR YELLEN. Thank you. Governor Powell.

MR. POWELL. Thank you, Madam Chair. I will support alternative B, and I'll come to the statement language in the end.

As Stan Fischer suggested five days ago in our confirmation hearing, the process of returning monetary policy to a normal stance has now begun. Along the way, I expressed a fair amount of concern that the Committee could lose control of the current asset purchase program because of what I saw as the lack of a stopping rule that covered most of the reasonably likely outcomes, and I'm very pleased to note that that didn't happen. Instead, the Committee is going to reduce purchases today for the third consecutive meeting. On net, the market has barely reacted, and market participants seem comfortable with the path. This is a big win, and it's a very good start for the normalization process. But, having been cautious about getting this far in, I'm going to suggest the need for caution on the way out because the process of normalization is

itself an important threat to the recovery, and there's a need to steer a middle course between possible bad outcomes.

Lots of risks are outside our control, but, to control the arguably controllable, I want to talk about two risks in particular. The first is that, for one of two reasons, the market suddenly pulls forward liftoff and drives up rates across the curve in a way that threatens the economy. We've already seen the large effect on housing from a pretty modest increase in mortgage rates. Housing finance is still historically cheap, but, nonetheless, we've seen the housing recovery really affected by it. I think it's important to keep in mind that this is still a fragile recovery, which can be threatened in this way.

Now, the market, of course, is supposed to react to good and bad economic news, and, if that's the source of the surprise and the source of the reaction, then it's one that the Committee can and must manage. I think the way to protect against it is to tie down forward guidance, and that's one of the reasons I support the last sentence in paragraph 6. I'll come to some others later. But, to me, the idea is to build a framework that will be resilient to the kind of events in which the economy strengthens, and so in the period ahead I'd like to see us tie down guidance. It's not going to be perfect, as I'll get to. On the other hand, we need to be very careful not to send a signal that our reaction function has changed. A tightening that's not based on stronger economic news could stop and reverse progress. We could find ourselves having to gear up asset purchases again, and that is not a place that I aspire to be.

The second risk is that, even without a sudden reevaluation of the policy, financial instability emerges in the form of unsustainably exuberant financial conditions and the risk of a sudden reversal that stops the economy in its tracks. I think it's a very real threat, though

perhaps not in the very near term. And, unfortunately, it's one that the Committee is not very well equipped to handle except through monetary policy, a famously blunt instrument.

Just a word on today's conditions. I would call them mixed but trending toward ebullience. On the equity markets, I really think that the level of the equity markets is a function of the debate over the sustainability of profit margins at very high levels, and that's what drives things like valuation-to-GDP, Tobin's q , cyclically adjusted P/E, and valuation-to-sales. As yesterday's staff presentation showed, P/Es are not unsustainably high. On the question of whether profit margins are at an unsustainable level, I not only don't know, but also don't know how to know. I think we'll just have to stick around and find out.

As far as leveraged finance markets are concerned, I thought Jeremy covered it well yesterday. We're not at peak-level ebullience, but we're in the same Zip code, and we have rates that are going to remain low for years ahead. So it's plausible to me that our policy could push the price of financial assets much higher and set up a reaction that could significantly harm the economy. It's not a prediction, but I think it's a real risk. And the policy implications of that are difficult as well.

Let me say what I think success would look like. A successful middle course between those two risks will obviously involve rates moving up and volatility returning to normal levels as the economy improves. The process is almost guaranteed to be bumpy and jagged and not smooth, and we need to accept and embrace the messiness. In a way, the kinds of increases in volatility that come with a stronger economy should be welcomed. If we have the right framework in place—and the markets always overshoot, except when you expect them to overshoot, so we need to embrace that if it happens and let the market get comfortable. And we need to avoid self-inflicted wounds.

The third potential risk—that of an overheating economy, as I suggested yesterday—seems to me remote. The economy may very well prove tighter than it appears and tighter than I think it is, but, given the pace at which it’s moving, it’s really hard to see the economy sneaking up on us on this. It’s a risk that, if it emerges, can be addressed with the standard playbook. In the meantime, the strategy should be as transparent and predictable as possible to move at a stately pace, and, yes, I’m happy to join Jeremy and Richard in tiptoeing through the tulips and off the field.

In closing, let me say a couple of things about the statement. I like paragraph 6 for a bunch of reasons. First, I guess I’d start with the fact that longer-term rates in the SEP are all at 4 and 4¼, so the Committee has, in fact, projected its impression of long-term rates. But 13 of the 16 participants have rates more than 100 basis points below that in 2016. So I think the second sentence of paragraph 6 is true on its face. I also think the analysis that Governor Tarullo and many others have gone through is pretty persuasive. So I’m comfortable with it as written. I’m happy to have “short-term interest rates” changed to “the federal funds rate.”

I’m going to take some risk with this, but I’m going to go ahead and say it, and that is, I think a dovish dissent at this meeting does increase the risk of a perception in the market that this is a hawkish surprise. Therefore, it’s on the Chair even more to hit these points, maybe even harder than you otherwise would, and then lean into that. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Madam Chair. Well, I support alternative B. I think it’s important to revamp the statement before the unemployment rate reaches the 6½ percent threshold, for several reasons. First of all, it allows us to preempt the question of what happens when the threshold is actually reached. If we kept the threshold in today’s

statement and then the unemployment rate declined, that would raise all sorts of questions about what would happen at the subsequent meeting, and we might not have the press conference scheduled as a vehicle to explain ourselves. So, doing it preemptively, I think, makes a lot of sense because it just takes it off the table.

Second, I don't think the 6½ percent unemployment rate threshold adds much value currently. If you look at the SEP numbers or you look at the market expectations, everyone thinks that we're going to wait long past the time when the unemployment rate gets below 6½ percent. So it's not as though there's a lot of information content in that. I recognize that removing it does create the question of whether that threshold still applies in terms of our behavior, but I think that's taken care of by paragraph 7.

I also think it's essential to add the language in both sentences of paragraph 6. Financial conditions are determined in large part not just by the timing of liftoff, but also by the trajectory of short-term interest rates after that. So if you omitted the second sentence in paragraph 6, you're basically not telling people what you think is likely to happen after liftoff, and that's a very important component of what drives financial conditions. If you don't provide that guidance, that implies greater uncertainty, greater volatility, and higher risk premiums, which go against what we're trying to accomplish.

That said, I think it's very important not to oversell paragraph 6, and my view here is very close to Governor Stein's. Our expectations may not be realized. So there's still plenty of residual uncertainty about the outlook. We can't eliminate the underlying uncertainty about the economic outlook and the path of short-term rates that's consistent with that outlook, but we certainly can eliminate that portion of uncertainty about our own current thinking about what we're expecting to do. We should share our current thinking, recognizing that what we think and

how this will translate into our actions will evolve over time. There's not much pre-commitment here at all, in my opinion.

I also think adding paragraph 6 today has the benefit of getting the post-liftoff forward guidance into the statement at an early enough stage that it's not going to be taken as a signal of impending liftoff. If we didn't do it today, taking advantage of Chair Yellen's first meeting as the head of the Committee and the fact that we're close to 6½ percent on the unemployment rate, then we'd have these questions of when we would add it and how the market would take it as a signal at that time. Looking at the statement, I think that, if we didn't have the SEP problem, the markets could actually digest paragraph 6 quite easily, especially with paragraph 7 emphasizing that a revamp of the statement does not change the guidance. The problem is not the statement. The problem is the SEP dots in 2016.

What about the substance of paragraph 6—that the neutral level of interest rates is likely to be below the historical average for some time? That can be justified in many ways. First, if the equilibrium real rate were really close to the historical average of 2 percent, then I would think we'd be growing a lot more rapidly than we actually have been growing, given that the current real interest rate is minus 1 percent. Second, on the headwinds side, it's probably important for us to talk a little bit more about this. What exactly are these headwinds? I see two broad sets of headwinds. On the investment side, I see lots of reasons why investment is weak—for example, homeowners who don't have much equity in their houses or are even underwater on their mortgages, so they can't get new mortgages, they can't refinance, and they can't move. Also, in the mortgage market, you see sharp differentiation on the availability of mortgage credit based on FICO scores, which is very different than what's applied historically. I think there are still constraints on credit to small business start-ups. So a whole bunch of things are constraining

the investment side. On the saving side, there are lots of reasons to think that the crisis has caused a shift in the saving function to greater precautionary saving. When I started to think of it conceptually, I thought of it as, the IS curve has shifted to the left—you basically have less investment and more saving, and so that's really pulling down the equilibrium real rate for a period of time. It would be good for us to try to articulate that a little bit more fully.

The third thing I want to talk about a little bit is something that hasn't been discussed. I really do think the effect of monetary policy on economic activity depends on both the level of interest rates and the change in the level of interest rates, and I don't think we've had any discussion about that. We saw over the last year what the effects of the increase in mortgage rates were on the housing market—we saw a pretty significant slowing in the housing market. I would encourage the staff to look at this question—that is, as interest rates rise, how much of a restraint will that change in financial conditions exert on the economy, even if we're still at an accommodative monetary policy setting? This is something that, when I worked in the private sector, we really struggled with. Is it the level of financial conditions, or is it the change of financial conditions, that actually affects economic growth? I'd like to see more work done on this so we could understand that a little bit. It's relevant now because we're just so far away from the equilibrium real rate that we think is going to apply over the longer term. Normally, you're in the vicinity, and so this distinction doesn't really matter very much. But when you're really far away from where you want to end up, it could actually be quite important.

What's missing from the statement? Frankly, it would still be nice to get a little bit more guidance about the trajectory of our balance sheet. I still think there are two issues there. The first is the timing of when the reinvestment process ends. Simon talked yesterday about how there was quite a broad range of views about when reinvestment is going to end. Most people

probably think it's close to the time of liftoff, but the fact that there's still that uncertainty—that's something that we could clarify and eliminate. So I'd like to take care of that. The second thing is, I'd like to be a little bit clearer about not selling agency MBS. I think that's what the market expectation is, but it would be nice to just nail that down a little bit more. What's happening to the trajectory of the balance sheet over time is also important as a factor influencing financial conditions. So providing greater clarity about that would be good.

I'm still unhappy about the SEP. I think we remain overly reliant on it to communicate our forecast expectations. It's flawed. It needs a lot of work, and we have a particular problem today in that the statement signals no change in guidance, but the SEP for 2016 shows an increase of 50 basis points. And that's going to be really hard for the Chair to reconcile. So I, not being the person presiding over the press conference, would offer this advice to the Chair: We need to emphasize the statement because the statement is the action of the Committee, while the SEP is just a collection of forecasts with different assumptions embedded in it. I would emphasize that we should just keep coming back to the statement as the driving thing in trying to discuss the SEP. But I do expect that the market will react a little bit negatively to what's in the SEP, and that they will note the tension between the statement and the SEP.

Regarding language, I don't see the change in paragraph 5 in terms of the second "current" as doing very much, so I guess I feel as though, if you make the change, people are going to note the change and they're going to wonder what the change means. I just don't feel as though you've quite gotten over the threshold to motivate that change.

In terms of paragraph 6, on "short-term interest rates," my personal view is that "short-term interest rates" is a big tent, and that big tent means it includes a lot of different things and gives us complete optionality about where we're going to go. If we go to "the federal funds

rate,” then, at some future date, we may have to make a change potentially. But I think the consensus of the Committee is “the federal funds rate.” So I’m happy to accede to that. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Williams.

MR. WILLIAMS. I want to go back to this issue about the second sentence in paragraph 6. In describing it, the Vice Chairman did mention, actually, the earlier language, which referred to historical averages. It doesn’t currently say that, and I think this is a point that relates to Governor Tarullo’s point, too. So I want to emphasize that the language in the statement, which I do support, says “warrant keeping short-term interest rates below levels the Committee views as normal in the longer run.” I think the only way you can interpret this is, looking at the 2016 numbers versus the long-run numbers. It’s not really about the long-run numbers. A number of the arguments that have been discussed at the table, including Governor Tarullo’s, probably affect the long run more than the difference between 2016 and the long run. Demographic factors, productivity growth—those are all going to show up, presumably, in people’s estimates of the long run.

I’m bringing this up because I think you have to be a little bit careful in talking about what this sentence actually says. It is talking about the fact that we expect real interest rates to essentially be zero at the end of 2016, even though we think that, in the long run, real interest rates are between 1½ and 2 percent. I wanted to bring that up because I think there is maybe a little bit of mixing up two ideas here in terms of what the statement’s actually referring to.

CHAIR YELLEN. Vice Chairman.

VICE CHAIRMAN DUDLEY. I think you’re right. There are two ideas here. One is that there are these temporary factors that may last a long time because of this extended crisis

and that are going to push you down for a while. We're not sure how long, but we think several years. And then there are more persistent factors—demographics, potential GDP growth—that are going to last for a very, very long time, as they're pretty much baked in the cake. Those are two separate—

MR. WILLIAMS. Right. In our previous language, the one you referred to actually covered both of those. The current language refers only to the difference between “for some time” and “the longer run.” I'm just bringing that up.

MR. TARULLO. John, you would favor going back to “historical”?

MR. WILLIAMS. No, I got a little worried that the discussion here was including things like long-run productivity growth or demographics. Those wouldn't actually fit into this paragraph 6 explanation.

MR. TARULLO. As written.

MR. WILLIAMS. As written.

MR. TARULLO. No, I agree with that.

MR. STEIN. So do I. I agree with that.

MR. WILLIAMS. I was just trying to point that out because it seemed as though it may have been getting a little mixed up.

CHAIR YELLEN. Well, does that suggest we should go back to “historical”?

MR. WILLIAMS. Well, I think “historical averages” actually allows us to talk about both of these issues—

MR. TARULLO. I agree.

MR. WILLIAMS. —the 2016 issue, which I agree could be thought of as an IS curve shift or an equilibrium real rate thing. It also allows us to talk about longer-run issues that we

also seem to agree on. If you look at, again, the SEP, flawed as it is, it's pretty clear there's a consensus that the long-run value of the real interest rate is significantly below its historical average of about 2½ percent.

CHAIR YELLEN. President Evans.

MR. EVANS. Could somebody give us a table of what the historical real interest rates are? Every time I've looked, there's an enormous disagreement as to exactly how low they are.

CHAIR YELLEN. That was part of the reason for getting rid of that language, as we would immediately be asked "What period? What historical average?" It's very different over different periods. If we leave the language as is, it is consistent with what you see in the SEP, and it doesn't prevent us from, over time, if we decide it's appropriate, writing down our views as to what is normal in the longer run if demographics and productivity growth end up being important. But I think it does point more in the direction of headwinds as what this is about.

Okay. Well, thanks. I appreciate all of the effort and thought that all of you have put into this. This is not an easy transition. I agree that this is something we ought to do today. While I understand we're not at 6½ percent—and, as President Evans indicated, one could make the case for waiting—I think it's broadly expected. And the fact that we are approaching 6½ percent, to me, seems like a compelling reason to move forward today. I know that what we have here is not perfect as revised forward guidance, but it really does bridge a lot of different views on the Committee.

I think the most controversial piece of this is the second sentence of paragraph 6. I've listened very carefully to what all of you have had to say about it in the go-round this morning. As I counted, there are certainly a significant number of people who would be more comfortable not including paragraph 6. If I count numbers, since almost all of you weighed in on this, I

would say the “keep it in” camp outnumbered slightly the “take it out” camp. And I would say that my own personal preference is, I would like to weigh in in favor of keeping it in, for the reasons that many of you have explained, especially since we have the dot plot. If we don’t speak to this as a Committee, the dot plot will basically be what the world has to interpret our views on this. I’d prefer it if the Committee, when it has a view, articulates that view in the statement. I don’t think the SEP was ever meant to be a statement of this Committee’s policy views. And, while I agree, I think we have had some analysis of this issue. The staff prepared a very thoughtful memo—I believe that it was for the meeting before last—looking at alternative reasons why we are projecting low rates for a time, even after the economy is back at mandate-consistent levels.

We include quite a few statements about our collective beliefs. We believe that inflation is going to be heading back up to 2 percent. We feel some sense of confidence that the labor market will improve over time, and we don’t exactly agree on precisely what the reasons are. So, to me, this is a broadly enough shared view that I would like to see it expressed in the statement as a forecast. Clearly, it is something. It doesn’t have the same status as the thresholds, which, I agree, were more like commitments. This is a forecast, and I think it’s stated quite conditionally as such. So, with your permission, I would like to stick with paragraph 6 and ask us to vote on that.

With respect to wording, I heard a great deal of support in paragraph 6 to change “short-term interest rates” to “the federal funds rate.” Is there anybody who would be opposed to doing that? I did hear a considerable amount of interest in changing it. Anybody who would have—yes.

MR. LACKER. Madam Chair, I think some people expressed the preference for “target federal funds rate.”

CHAIR YELLEN. Yes. Let’s try some wording here. “The Committee currently anticipates that, even after employment and inflation are near mandate-consistent levels, economic conditions may, for some time, warrant keeping the target federal funds rate below levels the Committee views as normal in the longer run.” Is that okay?

PARTICIPANT. Yes.

CHAIR YELLEN. Then I think the only other open issue here in terms of wording was in paragraph 5. Did we want to include the bracketed “current”? Not everyone weighed in on that. President Plosser, I know, supports that. I heard a couple of no’s. Are there other people who would like to support including the bracketed language “current”? Okay. Seeing no overwhelming support, I propose we stick with the original language: “The Committee continues to anticipate, based on its assessment of these factors, that it likely will be appropriate to maintain the current target range for the federal funds rate,” et cetera.

Okay. I think those were the major issues. So if people are ready, Matt, do you want to read the statement?

MR. LUECKE. Yes. This vote will cover the statement as written on pages 6 and 7 of the monetary policy briefing package, with the changes to the sentences read by Chair Yellen. And it will encompass the directive on page 12 of the monetary policy briefing package.

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|------------------------|-----|
| Chair Yellen | Yes |
| Vice Chairman Dudley | Yes |
| President Fisher | Yes |
| President Kocherlakota | No |
| President Pianalto | Yes |
| President Plosser | Yes |
| Governor Powell | Yes |
| Governor Stein | Yes |

