

**Meeting of the Federal Open Market Committee on
September 16–17, 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, September 16, 2014, at 11:00 a.m. and continued on Wednesday, September 17, 2014, at 9:00 a.m. Those present were the following:

Janet L. Yellen, Chair
William C. Dudley, Vice Chairman
Lael Brainard
Stanley Fischer
Richard W. Fisher
Narayana Kocherlakota
Loretta J. Mester
Charles I. Plosser
Jerome H. Powell
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
Steven B. Kamin, Economist
David W. Wilcox, Economist

James A. Clouse, Evan F. Koenig, Thomas Laubach, Michael P. Leahy, Mark E. Schweitzer, and William Wascher, Associate Economists

Simon Potter, Manager, System Open Market Account

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

Robert deV. Frierson,¹ Secretary of the Board, Office of the Secretary, Board of Governors

Michael S. Gibson,² Director, Division of Banking Supervision and Regulation, Board of Governors

¹ Attended the joint session of the Federal Open Market Committee and the Board of Governors.

² Attended Wednesday's session only.

Matthew J. Eichner,¹ Deputy Director, Division of Research and Statistics, Board of Governors; Stephen A. Meyer and William R. Nelson, Deputy Directors, Division of Monetary Affairs, Board of Governors; Mark E. Van Der Weide,³ Deputy Director, Division of Banking Supervision and Regulation, Board of Governors
Andreas Lehnert, Deputy Director, Office of Financial Stability Policy and Research, Board of Governors

Andrew Figura, David Reifschneider, and Stacey Tevlin, Special Advisers 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

Linda Robertson, Assistant to the Board, Office of Board Members, Board of Governors

Christopher J. Erceg, Senior Associate Director, Division of International Finance, Board of Governors

Michael T. Kiley⁴ and Jeremy B. Rudd,⁴ Senior Advisers, Division of Research and Statistics, Board of Governors; Joyce K. Zickler, Senior Adviser, Division of Monetary Affairs, Board of Governors

Eric M. Engen and Michael G. Palumbo, Associate Directors, Division of Research and Statistics, Board of Governors; Fabio M. Natalucci, Associate Director, Division of Monetary Affairs, Board of Governors

Marnie Gillis DeBoer, Deputy Associate Director, Division of Monetary Affairs, Board of Governors; Joshua Gallin, Deputy Associate Director, Division of Research and Statistics, Board of Governors

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

Patrick E. McCabe,¹ Adviser, Division of Research and Statistics, Board of Governors

Penelope A. Beattie,¹ Assistant to the Secretary, Office of the Secretary, Board of Governors

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

Katie Ross,¹ Manager, Office of the Secretary, Board of Governors

¹ Attended the joint session of the Federal Open Market Committee and the Board of Governors.

³ Attended Tuesday's session only.

⁴ Attended the portion of the meeting following the joint session of the Federal Open Market Committee and the Board of Governors.

Valerie Hinojosa, Records Project Manager, Division of Monetary Affairs, Board of Governors

Marie Gooding, First Vice President, Federal Reserve Bank of Atlanta

David Altig, Alberto G. Musalem, and Daniel G. Sullivan, Executive Vice Presidents, Federal Reserve Banks of Atlanta, New York, and Chicago, respectively

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

Sylvain Leduc, Jonathan P. McCarthy, and Douglas Tillet, Vice Presidents, Federal Reserve Banks of San Francisco, New York, and Chicago, respectively

Kei-Mu Yi, Special Policy Advisor to the President, Federal Reserve Bank of Minneapolis

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September 16 Session

CHAIR YELLEN. Good morning, everybody.

Our first two items this morning will be conducted in a joint meeting between the FOMC and the Board. I need a motion to close the Board meeting.

MR. FISCHER. So moved.

CHAIR YELLEN. Thank you. Without objection. Our first topic is financial developments and open market operations. I'm going to turn it over to Simon.

MR. POTTER.¹ Thank you, Madam Chair. Domestic economic data over the intermeeting period were mixed but viewed as consistent with a gradually improving economy. Meanwhile, Federal Reserve communications were, on balance, interpreted as signaling a slightly less accommodative policy stance. The ECB surprised markets at its September meeting by cutting its policy rates by 10 basis points while also announcing additional asset purchase programs. Growing expectations for a divergence of the stance of monetary policy in the United States from that of other countries led to a broad appreciation of the dollar.

Across financial markets, the main themes that have been in focus over recent months endured, most notably low volatility and declines in long-dated forward rates.

Another ongoing theme this year has been the relative stability of short-dated interest rates in the United States. As shown in the top-left panel, the market-implied federal funds rate path through 2017 has increased only slightly since just prior to the December 2013 FOMC meeting, at which the initial reduction in the pace of asset purchases was announced. As I've highlighted in prior briefings, this relative stability is partly attributable to limited changes in market views of the broad economic outlook despite a faster-than-expected decline in the unemployment rate. The market-implied path did shift up modestly last week as commentary focused on the prospects for a change to the Committee's forward guidance. Five out of 22 respondents to the Desk's dealer survey expect a change at this meeting, while others cited a change in forward guidance as a risk to their Fed outlook. Since the survey was received, 5 additional dealers now expect a change in forward guidance at this meeting.

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

The recent slight shift up in the market-implied path has been accompanied by a coalescing of views for liftoff to occur during the middle of 2015, as reflected in recent Desk and private-sector surveys. Averaging across respondents, the Desk's dealer and buy-side surveys now show respondents attach a probability of a bit more than 50 percent to liftoff occurring in the second or third quarter of next year.

The market-implied pace of tightening after liftoff appears slower than measures constructed from either the median SEP dots or expectations of the target rate from the Desk's surveys, and this divergence has been the focus of some market commentary. However, one important reason for the divergence is that the market path and SEP participant and Desk survey paths reflect different concepts. In particular, the market path reflects the risk-neutral expectation across a variety of different potential outcomes for rates and the economy, whereas the SEP and Desk surveys most likely reflect modal paths built on the modal economic outlook.

To better understand expectations for the path of tightening following liftoff, the Desk asked survey respondents to provide probability distributions for the pace of tightening in the first and second years after liftoff, conditional on *not* returning to the zero lower bound. These distributions, pooled across both surveys, are shown in the top-right panel. Averaging the results across respondents, the density-implied mean pace of tightening during the first and second years of normalization are approximately 110 basis points and 125 basis points, respectively. As can be seen in the chart, in the first year there is something of a negative skew to the probability assessment relative to the second year. Further, the 200 basis point per year pace of tightening seen in the last cycle from 2004 to 2006 is not given much probability weight.

On average, respondents also assigned a 20 percent probability to returning to the zero lower bound within the first two years after liftoff. If market participants generally share this view, the expected pace of tightening indicated by the surveys is broadly in line with measures taken from market prices. These results tentatively suggest that current market pricing may not, in fact, be difficult to square with the median SEP dots or surveys. We will need more experience with the results of this question to move this assessment up from the tentative level.

Looking further out on the yield curve, the nominal five-year, five-year-forward rate in the United States and other advanced foreign economies declined for most of the period, as shown in the middle-left panel, but retraced toward the end. The declines in longer-dated U.S. forward rates were attributed by market participants to a continuation of factors discussed in prior Desk briefings, including flight-to-quality flows driven by geopolitical tensions, spillover from declines in euro-area yields, and lowered expectations for longer-run economic growth. Respondents to the Desk's surveys attribute most of the decline in the five-year, five-year-forward Treasury rate over recent months to the usual culprit of term premiums, but also to a 25 basis point decrease in the expected average real policy rate, to about 1 percent. Declines in the expected average inflation rate were seen as comprising only a very small portion of the move.

That said, spot and forward market-based measures of inflation compensation fell over the intermeeting period, as shown in the middle-right panel. Declines in spot five-year inflation compensation were largely due to a slight moderation in recent CPI readings and lower energy prices. Over the period, crude oil and gasoline futures declined 8 and 12 percent, respectively, mostly because of higher-than-expected output from OPEC nations and U.S. refineries.

Shifting to international developments, euro-area and U.K. short rates declined notably over the period, as shown in the bottom-left panel. The declines in euro-area rates were due to expected and actual ECB policy easing, while the declines in U.K. rates were due to shifting Bank of England commentary, some mixed economic data, and concerns over the referendum in Scotland. Specifically, in the United Kingdom, the quarterly *Inflation Report* suggested that there may be more labor market slack and thus more subdued wage pressure than previously assessed by the BOE. Even so, market expectations are for the BOE to begin normalizing policy early to mid next year, similar to expectations for the start of normalization in the United States. This contrasts with the ECB and the Bank of Japan, which are either expected to leave policy unchanged or further ease over the near-to-medium term.

The effects of this divergence in monetary policy outlooks have been apparent in currency markets. As shown in the bottom-right panel, the U.S. dollar appreciated broadly against major and emerging market currencies over the period. Taking into account moves since early May, when ECB President Draghi indicated that the Governing Council was open to taking further policy action, the U.S. dollar has appreciated most against the euro and yen. At the end of the period, sterling depreciated against the dollar, driven by perceptions that the likelihood of a “yes” vote on Scottish independence had increased.

Another theme in markets in the past few months has been the low level of both implied and realized volatility despite a seemingly high level of geopolitical uncertainty and amid the prospect of diverging policy stances in major economies. Uncertainty related to the pending Scottish vote, as well as the ECB’s policy actions, has contributed to a sharp increase in implied volatility across major currency pairs in recent weeks, as shown in the top-left panel of your next exhibit. Outside currency markets, extremely low levels of interest rate and equity-implied volatility have persisted.

Focusing more closely on the performance of the euro since the May ECB meeting, expectations for additional ECB easing have been building steadily over this period. As shown in the top-right panel, the euro has gradually depreciated against the U.S. dollar, with the most recent sharp declines occurring in the wake of President Draghi’s remarks at the Jackson Hole symposium and the September ECB meeting. At the September meeting, the ECB surprised the market by reducing its benchmark policy and deposit rates by 10 basis points each, to 5 basis points and negative 20 basis points, respectively. In addition, the ECB pledged to begin purchasing private nonfinancial asset-backed securities and covered bonds starting in October.

According to the ECB, its actions were taken with a view to anchoring medium-to-long-term inflation expectations. As shown in the middle-left panel, measures of near-dated euro-area inflation compensation began to decline sharply in early August, while the five-year, five-year-forward inflation swap rate dipped below the key 2 percent inflation level later that month. These declines followed some weaker-than-expected euro-area economic data and increased risks to the economic growth outlook from tensions in Ukraine. The declines in 5-year, 5-year forward inflation compensation troughed around the time of President Draghi's speech at the Jackson Hole symposium as market expectations for more aggressive policy action increased.

During the September ECB meeting press conference, President Draghi stated that the ECB hopes to expand its balance sheet toward levels prevailing at the beginning of 2012 through the previously announced targeted LTROs, or TLTROs, and purchases of asset-backed securities and covered bonds. As shown in the middle-right panel, the ECB balance sheet has declined by roughly 1 trillion euros since the first quarter of 2012, largely because of LTRO repayments.

Some market participants question how easily the ECB will be able to expand its balance sheet back toward this level because of uncertainty regarding ultimate take-up for the TLTROs, projected paydowns on the earlier LTROs, and skepticism that the supply of ABS and covered bonds readily available for purchase is adequate to make up the difference.

Dealer estimates for the ultimate size of the TLTRO program range from 300 billion euros to 850 billion euros, as shown in the left side of the bottom-left panel. Assuming that total TLTRO take-up is at the midpoint of dealer estimates, simple estimates of other balance sheet factors suggest that ABS and covered bond purchases would need to total around 600 billion euros in order to return the ECB's balance sheet to early 2012 levels, though there is considerable uncertainty surrounding this figure. As shown in the right side of the panel, asset purchases of this magnitude would represent approximately 35 percent of the 1.7 trillion euros of ABS and covered bonds that are not retained on originator balance sheets.

Many market participants are skeptical that the ECB will achieve its aim through purchasing these private-sector assets alone. As such, many have increased the odds placed on additional easing measures, including through a sovereign debt purchase program, though they view this as dependent on the evolution of broader euro-area growth and inflation indicators.

In contrast, few in the market doubt the continued success of the ECB in pushing short rates lower by charging negative rates for central banks deposits. The surprising lowering of the deposit rate to negative 20 basis points further pressured spot and forward overnight EONIA rates lower, continuing the trend since the May ECB meeting, as shown in the bottom-right panel. The expected effect from the upcoming TLTROs and purchases of private-sector assets has further pressured forward EONIA rates into solidly negative territory, and these rates could decline further if the balance

sheet expands more than expected. Additionally, the ECB policy actions have prompted German sovereign rates to trade negative at tenors out to three years.

Negative euro-area rates continue to complicate the management of our euro foreign reserves portfolio. To minimize the effect of negative rates, the Desk has extended the duration of the portfolio to very close to the internal limit of 12 months, as shown in the top-left panel of your next exhibit, though it remains well below the FOMC-authorized limit of 18 months. Depending on the evolution of market rates, however, the Desk may seek the Committee's approval to extend the public 18-month duration limit to further minimize the effect of negative interest rates. Recall that the six-month gap between the internal and authorized limits is intended to prevent the duration of the portfolio from increasing to an unauthorized level during an FX intervention.

I want to also provide a brief update on liquidity swaps operations. The Bank of England, Bank of Japan, ECB, and Swiss National Bank announced that their routine seven-day dollar auctions would continue for another month beyond October 31. The central banks' current plans are to evaluate on a monthly basis whether to announce further extensions of the scheduled auctions. Recall that, as shown in the top-right panel, recent use of the liquidity swap lines has been minimal. Lorie will now continue the Desk report.

MS. LOGAN. Thank you, Simon. I will provide an update on domestic operations and present a staff proposal for further testing of overnight RRP.

I'll turn first to asset purchases. The continued decreases in the pace of Treasury and agency MBS purchases have generally proceeded smoothly. Nearly all respondents to the Desk's surveys expect the Committee to decrease the pace of purchases further at this meeting and end purchases at the October meeting. If the Committee directs the Desk to continue purchases into October, we will plan to complete the directed amounts for October by the date of the meeting. Accordingly, if the Committee chooses to end asset purchases at the October meeting, the Desk would conduct no further purchases thereafter.

Unless otherwise directed, we would, however, continue to reinvest principal payments on agency holdings into agency MBS and to roll over maturing Treasury securities. As shown in the left-middle panel, the median respondent to the Desk surveys currently expects reinvestments to end six months after liftoff, and the range of views around that median expectation is relatively narrow. As has been the case in recent surveys, no dealer explicitly indicated in qualitative comments an expectation for asset sales, and only two volunteered expectations for partial reinvestments of maturing SOMA holdings. Thus, the dispersion in expectations for the path of SOMA holdings shown in the middle-left panel primarily reflects differences in assumptions regarding prepayments on agency MBS.

If the Committee does change the pace of Treasury or MBS purchases at this meeting, we would release a Desk statement at the same time as the Committee statement, and we will have copies available for review tomorrow.

In early October, the Desk, acting as fiscal agent for the U.S. Treasury Department, will also conduct a small-value buyback operation to extinguish Treasury securities. As announced at its most recent quarterly refunding, the Treasury believes it is prudent to test this capability given the technological systems changes that have occurred since the Treasury buybacks were last conducted in April 2002. While buybacks could potentially be used for debt management purposes, the Treasury's announcement indicated that the operations should not be viewed as a signal of any change in policy regarding the use of buybacks in their debt management strategy.

In money markets, overnight secured rates generally remained above the rate on the overnight RRP but declined slightly over the intermeeting period, as shown in the middle-right panel. This occurred despite a modest increase in the Treasury bill supply, which might have been expected to increase rates. Consistent with marginally lower general collateral repo rates, usage of overnight RRP increased slightly, on average, as shown in the bottom-left panel, largely because of an increase in take-up from government-only money market funds.

We also continued to see temporary increases in take-up of overnight RRP on month-end dates, particularly from prime money market funds, as some foreign banking organizations reportedly decrease their money market borrowing activity on these regulatory reporting dates. This is similar to the dynamic over quarter-end dates, though much less pronounced.

Last week, the staff circulated to the Committee a background memo that provides insight into federal funds market activity using the new FR-2420 data. That analysis confirms that federal funds borrowing is dominated by a relatively small number of foreign banking organizations, most of which are likely engaging in IOER arbitrage with FHLBs. It also confirms anecdotal reports from market participants of the sharp contraction in most FBOs' federal funds borrowing activity over June quarter-end and, to a lesser extent, month-end dates, as also shown in the bottom-right panel.

Looking forward, market participants' expectations for the framework for normalization of monetary policy have evolved in response to the discussion in the minutes from June and July. Pooling across the Desk surveys, we find that most respondents now expect the Committee to initially target a range for the federal funds rate that is 25 basis points wide, with the IOER rate at the top of the range and the overnight RRP rate at the bottom of the range. Consequently, the median expected spread between IOER and overnight RRP rates has widened from 10 basis points in June to 20 basis points in the most recent surveys.

As shown in the top-left panel of your final exhibit, alongside the shift in expectations for this rate spread, expectations for take-up of an overnight RRP facility at liftoff have declined notably, though remain somewhat dispersed. As shown in the top-right panel, focusing on those respondents in the surveys who expect the IOER–RRP spread to remain at 25 basis points through the period, the dispersion in expectations for take-up increases as we move further from liftoff.

The surveys also asked respondents to provide their expected paths of administered rates and other money market rates. The vast majority of respondents expect the effective federal funds rate to print between the IOER and overnight RRP rates at liftoff, as shown in the middle-left panel.

Most respondents expect that, at liftoff, the effective federal funds rate will print in the lower half of the range formed by these administered rates, with the median respondent expecting the effective rate to be 5 basis points above the overnight RRP rate.

As shown in the middle-right panel, among respondents that expect the IOER–RRP spread to remain at 25 basis points, most anticipate that the effective federal funds rate will continue to print with the same spread to the IOER rate throughout the first years of the normalization process. Those respondents who believe there will be a change tend to expect the effective federal funds rate will print modestly closer to the IOER rate over time as the level of excess reserves declines.

Finally, I'll discuss additional testing of some of the Committee's potential tools, starting first with the overnight RRP exercise. At the July meeting, many FOMC participants expressed support for testing possible design features that could help limit potential risks associated with an overnight RRP facility. Consistent with the July discussion, the staff proposes some changes in the testing of the overnight RRP that could further the Committee's understanding of how an overnight RRP facility might best be structured to help control the federal funds rate, while limiting the potential for unintended effects in financial markets.

The proposed testing was described in the memo you received before the meeting. As outlined in the bottom-left panel, it would involve leaving the overnight RRP rate at 5 basis points, while raising the counterparty-specific limit from \$10 billion to \$30 billion, limiting the overall size of the operations to \$300 billion, and introducing an auction process that would be used to allocate take-up if aggregate bids exceed the overall size limit of \$300 billion. These proposed revisions to the exercise would begin on September 22 and extend at least through the October meeting. Because take-up has remained well below the \$300 billion aggregate cap, on most days it is likely that the overall size limit would not be binding. However, the \$339 billion in take-up observed at the end of the second quarter suggests that the overall limit could bind on the September quarter-end.

As noted in the memo, this testing could allow both the Desk and our counterparties to get used to an auction mechanism incorporated into the design of the

facility, and it would let us see if the introduction of the overall limit has any effect on the efficacy of the overnight RRP in providing a floor for market rates.

A draft of a resolution to authorize the revisions of the exercise and a draft of the related Desk statement that would be released along with the FOMC statement tomorrow are provided in a separate handout labeled “Overnight Reverse Repurchase Agreement Resolution and Related Desk Statement.”²

If the Committee approves this proposal today, the staff would provide an assessment of this testing at the October meeting and could propose further revisions to the exercise that might be helpful. Some additional features that the Committee could consider incorporating into the exercise after the October meeting were noted in the staff memo and are also listed in the bottom-left panel.

First, the staff could incorporate a circuit-breaker cap that adjusts with average prior take-up, which would be intended to limit sudden surges in take-up. While a circuit-breaker cap might be deemed unnecessary in the presence of a low overall size limit or be seen as complicated to communicate, it could be useful to test such a cap to understand its effects and to support the option to employ it later if that seemed appropriate. Second, the staff could test small changes in the overnight RRP rate. Such tests could include symmetrical increases and decreases in the rate in order to reduce the risk of having the tests misunderstood as a signal about a change in the stance of policy or a change in the Committee’s intentions with respect to the size of the spread between the IOER and overnight RRP rates. Third, the staff could incorporate moderate adjustments up and down in the overall size limit to obtain more information on the tradeoff between interest-rate control and the overnight RRP facility’s potential footprint in financial markets.

A specific proposal for further revisions to the exercise after the October meeting could incorporate some of these features, either independently or in combination, or the Committee may decide to test other possible features at that time. The Committee may have concerns about potential misinterpretation by market participants about the implications of testing some of these features for the Committee’s intentions with respect to an overnight RRP facility as a tool in the normalization process. In outlining a specific proposal, we look to the Committee for guidance on how to balance those concerns against the possible benefits of additional testing.

Finally, the staff will also be conducting tests of the Term Deposit Facility. These tests, which were announced over the intermeeting period, will incorporate an early withdrawal feature that allows banks to withdraw funds before the specified maturity date. Market participants broadly expect that the early withdrawal feature, which will allow banks to include TDF deposits as high-quality liquid assets in their liquidity coverage ratio, to result in increased take-up relative to prior operations. The results of these prior operations are shown in the bottom-right panel.

² The materials used by Ms. Logan are appended to this transcript (appendix 2).

Under the current testing plan, the staff will conduct eight consecutive seven-day TDF operations beginning in mid-October. Over the first four operations, the maximum award amount will be increased gradually to an amount not to exceed \$20 billion; the interest rate paid on these initial four operations will be maintained at 26 basis points. Over the subsequent four operations, the interest rate paid would be increased in small steps to a level not to exceed 30 basis points.

Thank you, Madam Chair. That concludes our prepared remarks.

CHAIR YELLEN. Thank you very much. What I'd like to do now is, first, have Q&A pertaining to financial market developments, and then after that, Bill indicated there would be time this morning to discuss the overnight RRP testing plans. But let's first take questions pertaining to financial markets. President Fisher.

MR. FISHER. May I ask a question on the federal funds market and the FBO arbitrage for the FHLBs that you mentioned? You may have put this in a memo—and we've noted the arbitrage—but are we talking about a significant number? What is the dollar amount that we're talking about? The reason I raise this is because in the back of my head I'm just thinking of the politics of this. Is this something that really is significant, or is it insignificant?

MR. POTTER. It's hard for us to know the marginal profit they earn for the reserves.

MR. FISHER. They wouldn't be doing it if they weren't earning something.

MR. POTTER. If it is \$50 billion and it is 10 basis points, that is not a large number.

MR. FISHER. Right, and that's roughly what we're talking about.

MR. POTTER. I'm just making an assumption there, I think. Their balance sheet costs right now are a little bit lower than U.S. banks, which is why you see them hold more reserves through this type of transaction. Those balance sheets will go up, and it might not be profitable at that point for someone to hold it.

MR. FISHER. So this is not likely to attract much attention.

MR. POTTER. Probably not.

MR. FISHER. Thank you.

CHAIR YELLEN. Thank you. Governor Powell.

MR. POWELL. I understand that the SEP is measuring more of a modal outcome, and so, frankly, are a lot of the surveys, and that markets are more risk-neutral, as you put it. If you account for that, I'm still trying to work out how closely in alignment they are, particularly at the short end where I think it matters, between now and the liftoff. Intuitively, it seems like there's not a big disconnect there, but I wonder how you think about that.

MR. POTTER. The evidence we have suggests that you can reconcile the difference you see in the first chart. I don't think we want to try too hard to come up with special reasons as to why there might be a gap, though, because there clearly is a gap. We were most interested in the most obvious one. Either you don't lift off, or you do lift off and you come back down to zero. There's a reasonable probability of 20 percent that you don't successfully lift off. Then you should look at some of the market pricing as being moved up by about a factor of 1.2 to capture that, relative to some of the paths that the people around this room and other participants give, in which you successfully lift off because the economic outlook they're basing it on doesn't have the economy getting weaker, the economy gets stronger.

There's also some differences to do with the SEP talking about ranges for the federal funds rate, and we took the midpoint of that. There's a little bit of discrepancy between where the federal funds rate would actually trade as well as where LIBOR would be and these types of charts, and that can explain some of that as well.

MR. POWELL. Bottom line?

MR. POTTER. Bottom line, I'm less concerned than I was at the last meeting, seeing the results of this survey. However, we can't just take one question and feel that this is simply

resolved. The change in the last week of people's views on the forward guidance was reasonably substantial. And, interestingly, you've seen some moves in the market path, but not substantial moves. That would also be consistent with the distribution of the types of paths, which would make the average look different from the mode.

MR. POWELL. Thanks.

CHAIR YELLEN. President Kocherlakota, did you have a two-hander?

MR. KOCHERLAKOTA. No, I had a one-hander.

CHAIR YELLEN. Okay. President Bullard.

MR. BULLARD. Thank you, Madam Chair. I just wanted to follow up on this a little bit. You're saying that, in the SEP, participants are not putting some probability on the idea that you go back to the zero bound?

MR. POTTER. I carefully said, "most likely reflects the modal path based on the modal outlook." I don't actually know how you put it together. It is possible that some of you allow for that, and yours is more of an expectation. Instead of being risk-neutral, it would take out that risk premium. Then the adjustment would be what is the risk premium embedded in market prices, which you don't have in your forecast. That's the adjustment.

MR. BULLARD. Well, I mean, if you're using an empirical model and there's some tail of the probability distribution that's going to draw some shocks that'll send you back to the zero bound, then that should be incorporated in the typical person's thinking.

MR. POTTER. If the reporting from the people around this table is the mathematical expectation from those models, it should correspond more closely to the market path. The instructions are to base it, I believe, on the most likely outcomes for the economy.

MR. BULLARD. Just one more question on this. Have we had gaps like this in the past?

MR. POTTER. Yes.

MR. BULLARD. What has been the explanation in the past?

MR. POTTER. I haven't done detailed work on this recently. Frequently, it depends—at this point, when we're entering into a tightening cycle, perhaps, it's not uncommon for the market to be underpricing the path that policy would actually take. That's a common feature that we found. When you're entering the point of a loosening cycle, it tends to be the other way around. The market is more in front—they expect more to happen.

CHAIR YELLEN. Vice Chairman Dudley, a question.

VICE CHAIRMAN DUDLEY. Isn't it true that the market participants have pulled in their expectations of the timing of the initial tightening?

MR. POTTER. They have moved that in a way consistent with the economic data, clearly. The mystery has been the lines in chart 1. The market pricings haven't moved as much.

VICE CHAIRMAN DUDLEY. Yes.

MR. POTTER. We are searching for explanations as to why they have not moved as much.

VICE CHAIRMAN DUDLEY. Isn't it true, too, that if you actually tried to write down what the confidence intervals were around those future paths, that maybe the Committee would be at 50 percent and the market would be at 40 percent?

MR. POTTER. You can do that. That is certainly one thing. If you look at the implied volatilities or you look at model-based estimates, this kind of discrepancy between the red dots here and the lines is not really worth that much.

VICE CHAIRMAN DUDLEY. I have so much uncertainty about 2016 and 2017, I don't view the difference in my view and the market view as meaningful relative to the uncertainty associated with my view.

MR. POTTER. The only thing I'd say is, chart 2 does put a rather low weight on a tightening cycle that looks like 2004 to 2006. That's probably driven by the fact that people's view of the long-run neutral rate has come down a lot since 2004. There's not that far you can actually go over two years.

VICE CHAIRMAN DUDLEY. Thank you.

CHAIR YELLEN. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. Actually, my questions are about the same chart. I guess I have a comment and a question. One comment is on whether or not we should be thinking about using risk-neutral expectations or mathematical statistical expectations to engage in these things. I think the risk-neutral expectations actually embody variations in state prices that reflect how households and businesses actually are weighting the value of resources across different states. If we're going back to the zero lower bound, that's probably not good news, and resources are going to be relatively expensive. I actually think there's an argument to be made to be thinking about the risk-neutral expectation as being of use. That's the comment.

My question is, you say that the discrepancy can be rationalized by embedding a probability of returning to the zero lower bound. What duration of stay?

MR. POTTER. Well, this was within the two years after liftoff. It's a complicated question to ask. We asked, "What is the probability that within two years after liftoff"—so, any

time—“that you return to the zero bound?” Conditional on not returning to the zero bound, what did you think the path and timing would look like over those two years?

MR. KOCHERLAKOTA. I see. To fill in the gap, didn't you have to make an assumption about how long?

VICE CHAIRMAN DUDLEY. Oh, yes, there are a lot of unspecified things there.

MR. POTTER. Yes, we thought the results were sensible. However, there are a lot of paths you could take. The way you were supposed to answer this, if any of those paths after liftoff within two years hit the zero bound again, throw them out and just look at the set of paths in your head that didn't hit the zero bound again.

MR. KOCHERLAKOTA. But, Simon, you offered the possibility that this discrepancy is responsible for the gap between the SEP rate forecasts and market assessments. To do that, you had to fill in that 20 percent somehow explicitly, and I was trying to get at how you filled it in, in terms of duration.

MR. POTTER. Nothing too complicated. I took this line and scaled it by about 1.2. [Laughter] We could try and do something more complicated than that, and we could think of different ways. But if it was the case that they were 100 percent confident that you wouldn't be returning to the zero bound over this period, then there is a substantial discrepancy because markets are just saying you're going to behave differently than the way you think they're going to behave along that path.

MR. KOCHERLAKOTA. Thank you.

CHAIR YELLEN. President Williams.

MR. WILLIAMS. Thank you, Madam Chair. I'm actually going to switch gears a little bit to the euro-area questions or issues raised in charts 10 and 11, which I really found helpful in

thinking through this. The way I read this is that Mario Draghi has made these public statements. You've surveyed market participants or the primary dealers around their views on this, and this is based on what's currently in the market and market pricing around everything. If you thought about a downside risk, in which disinflationary or deflationary pressures were more severe or the euro area fell, the economy stagnated even more, what are the tools that could be coming into play here, in terms of thinking about what their options are?

MR. POTTER. I'll let Steve go first on that one.

MR. KAMIN. Well, only because I'll be covering that in my remarks.

MR. WILLIAMS. Okay. I'll defer the question.

MR. KAMIN. The short answer is, buying government bonds.

MR. POTTER. You can easily buy government bonds really quickly—as we've shown, the Bank of Japan, the Bank of England. It's harder to buy some of these private-sector assets, particularly in the euro area, because you have to think about individual countries. Some of them are retained on the bank's balance sheet. Whether lifting their triple-A off the bank's balance sheet gives you any relief at all is not clear, because there are a lot of operational challenges to get to this number.

MR. WILLIAMS. To make my question more precise, within the items on chart 11, there's not a lot of scope beyond what they have already announced or talked about to do more there. It really has to move to this other tool. Is that right?

MR. POTTER. The previous public bond program was supposed to be quite large, and they got nowhere close to the limit there. The ABS, they all have to use that. Asset managers are supposed to buy this. It's unlikely to get there quickly. That means if we do see inflation expectations falling or further weakness, they've really said that they've got some gain from

saying their balance sheet is going to get bigger. They'll have to find a way of getting it bigger. They can do it through other financing operations, perhaps.

MR. WILLIAMS. Thank you.

CHAIR YELLEN. President Lacker.

MR. LACKER. Thank you, Madam Chair. I want to follow up on the tail-end of the exchange with Vice Chairman Dudley. You remarked on how the longer-run expectations for the short rate are pretty soft relative to the SEP numbers. To what extent do you have any evidence or any sense that that's connected to the last sentence of our statement?

MR. POTTER. We've talked about this previously. I'd say that the last sentence has been reasonably powerful in combination with some statements the previous Chairman made and some large asset managers, in terms of the market's view. What's happened over the past few months with the decline in long forwards has confirmed those viewpoints.

MR. LACKER. Interesting. Thank you.

CHAIR YELLEN. Any further questions for Simon? [No response] Okay. Let's next turn to the overnight RRP program. We will need to vote today on the resolution that's been distributed. But before we do that, any questions and comments concerning that? Governor Powell.

MR. POWELL. Am I reading chart number 20 correctly, that the expected size after liftoff is somewhere between \$500 billion and \$600 billion? That's the average. Can you unpack that a little bit?

MS. LOGAN. Right. Chart 20 shows the evolution of expected overnight RRP usage for those who expect the 25 basis point spread to remain over that time period, and that is about 15 of our total respondents. As you see, the average moves around. The median comes down a

little bit three years following liftoff, but the dispersion is quite a bit wider three years out.

There's just less certainty across the respondents about what that would look like.

MR. POWELL. That's a mean, not a median?

MR. POTTER. The diamond is the mean. The line is the median. The guys who have these very high numbers are driving up the mean relative to median.

MS. LOGAN. If you look at the full population, not controlling for the spread, the medians look similar. The averages are a bit lower.

MR. POWELL. I mean, it looks like people are not taking seriously the idea that this is a \$300 billion exercise.

MR. POTTER. Well, the \$300 billion is the number they don't know.

MR. POWELL. Was it in the minutes?

MR. POTTER. No.

MR. POWELL. Ah, okay. It wasn't in the minutes. I thought it was.

MR. POTTER. The conversations that we've had recently, the number of people who expect it to be a trillion has definitely dropped, and you can see that a little bit in chart 19. We took out some outliers to form that one. For us, the interesting thing is why, a year after liftoff, did it tend to look a little bit larger? Some of the uncertainties you're going to have to deal with are regulatory changes, and whether the zero bound is providing some protection right now. As you get further away from zero, you have less protection from the zero bound. So you need more support for the magnet from interest on excess reserves to achieve interest rate control.

MR. POWELL. Thank you.

CHAIR YELLEN. Further comments or questions? Vice Chairman Dudley.

VICE CHAIRMAN DUDLEY. I just wanted to talk a little bit about the testing program. I think what the staff proposes, of doing it in two stages, makes sense. Governor Tarullo and Governor Powell circulated a memo that maybe suggested that you could do it in one stage, but I think that two stages is actually a little bit better because you don't overwhelm participants with a whole bunch of potential changes all at once. It is easier to discern what each change does in terms of the testing process. I also think that if you have the testing in phases, you get the advantage of the first phase informing what you want to test in the second phase, which you maybe don't have to quite the same degree if you do it all in one phase. At the end of the day, I don't think it's really consequential if you do it in one big test or you do it in two tests. But I would say I prefer the staff's approach of doing it in two phases.

There was one item, though, in the Tarullo–Powell memo that I don't agree with, which was the idea of not ruling out moving the program up or down in size from the \$300 billion mark. The reason why I think that you actually do want to move the program size up and down symmetrically around \$300 billion is you really don't know whether the amount of headroom—in other words, the difference between the bids and the cap—actually matters in terms of how people bid. You don't know whether the amount of headroom that they perceive is going to affect the size of the bids, or whether the floor is more solid with more headroom or less headroom. I think that, by moving the size of a facility up and down, you are going to actually affect the amount of headroom up and down, and you are going to see whether headroom actually affects the behavior of people who are bidding in the auctions.

I also think that moving the size of the facility up or down has some benefit of underscoring that, while size is important to us, we want the facility to be as small as possible, subject to monetary policy control, but size is not the primary objective. The primary objective

is monetary policy control. If you think monetary control is the most important issue, then I think you don't want people to be overinvested in \$300 billion. If people really thought that \$300 billion was it, and that was what we were going to do no matter what, the program might not work very well. It would also contaminate the findings of the test. Let's imagine that, in fact, we were willing to vary the size ultimately, if it turned out we didn't have sufficient monetary control, but the market thought that the size was fixed at \$300 billion. Then the test would actually be contaminated by a false set of expectations.

I would much prefer when we move to that second stage at the end of October that we vary the size of the program up or down around \$300 billion symmetrically, because I think we will get some information from that, and I think we will also make it clear to people that monetary policy control is really our first objective and the size is slightly less important than that. I don't think they are going to raise their expectations of size necessarily because we are varying the size, but I just think it means that size is not immutable as we take this program forward.

MR. ENGLISH. Just one point on that, Vice Chairman Dudley. Assuming that we go forward with the planned test for this intermeeting period, we'll see what happens when you put in the \$300 billion overall limit. As I think Lorie said in her briefing, it will be interesting to see if that affects the efficacy of the overnight RRP.

VICE CHAIRMAN DUDLEY. It will be interesting to see what it does to people's expectations of how big the facility is going to be over time. I would imagine that number is going to come down, too, as a consequence.

MR. ENGLISH. The other thing is, if we go ahead with the test of the circuit-breaker cap after the October meeting, it will presumably come in below the \$300 billion. It will give us a

test, at least in the downward direction, of whether further reduction in headroom would matter for the efficacy of the program.

VICE CHAIRMAN DUDLEY. Yes, although the one-day circuit-breaker cap is sort of a different thing in terms of how you think about the facility. You might not be able to get in the facility for one day, but then the cap lessens again. I think it is a little different than knowing that there is a firm cap that exists over the long run. I think they are slightly “apples and oranges,” in my opinion.

CHAIR YELLEN. Governor Tarullo?

MR. TARULLO. Thank you, Madam Chair. Could I first ask the Vice Chairman why he says that Governor Powell and I were opposed to the two-phase approach? I thought we were pretty clear in the memo that we were fine with going forward with this, and we just thought it was useful to have a conversation now about the broader approach that we would take.

VICE CHAIRMAN DUDLEY. Well, number one, Governor Tarullo, is that it says, “Commitment to full program of testing, with results to be reviewed at the December FOMC meeting.”

MR. TARULLO. Right.

VICE CHAIRMAN DUDLEY. That seems different from doing a stage of testing, finishing up, coming back in October, and then doing a second phase.

MR. TARULLO “We have no objection to undertaking this phase through a discrete resolution at this meeting.” I thought that was about as explicit as we could get.

VICE CHAIRMAN DUDLEY. Well, I read number one, “with results to be reviewed at the December FOMC meeting,” as implying one longer phase rather than two phases. Maybe I misinterpreted the memo. But, as I said, I don’t think the issue of one phase versus two phases is

that significant. I think it is really a question of, what is the best way to roll this out to market participants so they can digest it and understand what is happening? I don't feel that strongly about that. I do feel more strongly about the idea that size is off limits in terms of a parameter value that we can vary.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. Thank you, Madam Chair. This has been a really helpful conversation. I think it is going to flow into questions that I imagine will emerge shortly after the release of our normalization principles. I think the Vice Chairman said it well, that the focus of the intended use of this facility, if it indeed gets used, is monetary policy control. I think people are going to be seeking information about exactly what those three words mean. Is what we mean by that 25 basis points? Is it as large as 50? And I think that will be a very important guidepost as we move forward. I think this is very clear in the principles. We want it to be as small as possible in order to achieve monetary policy control. Then, importantly, market participants are going to be seeking guidance about what we mean by that. I think that the normalization principles should offer protection against some of the adverse signaling effects of various testing protocols that Governors Tarullo and Powell referenced in their memo. But I think the principles, as written, are very strong about what the intentions are in terms of the use of the facility. It is to achieve monetary policy control, and the duration and size of it are going to be dictated by that.

I am sure, Madam Chair, when you speak on Wednesday, you will be talking about that when you talk about what we are saying in the principles. I think that message would be further enhanced if it was underscored in future speeches by the Vice Chairman, by the managers of the markets group. This is a way to underscore that the principles really are going to be guiding our

thinking about this, and it is about monetary policy control, as the Vice Chairman said. But I do think people are going to want to have more clarity about those three words very shortly.

MR. FISCHER. Which three words?

MR. KOCHERLAKOTA. Monetary policy control.

MR. FISCHER. MPC.

MR. KOCHERLAKOTA. MPC, yes.

CHAIR YELLEN. President Fisher.

MR. FISHER. Well, Madam Chair, Narayana summarized what I think is the main issue here. It's the final sentence in the normalization principles, and you don't even use the term "monetary policy control." We just say we are going to use it to the extent necessary, and we will phase it out when it is no longer needed. I do think Governor Tarullo and Governor Powell have some very good points in their memo. I think the purpose of the exercise, though, is, first, we have to understand how we use this little muscle. And then we are making it clear that in testing it and putting it out there, we obviously do so in a way that doesn't belie this last sentence. I do think it's very important that you stress this in your press conference. I know you will.

CHAIR YELLEN. I plan to.

MR. FISHER. No further comment, Madam Chair.

CHAIR YELLEN. President Mester.

MS. MESTER. I guess I thought when I read Governor Tarullo and Powell's memo that they were suggesting announcing at this meeting that we had a plan to test other aspects, not necessarily doing it or being against doing it in two phases. But we would tell the public that we

are going to be testing this operation in different phases and laying it all out there. I don't think that would be that confusing, but maybe you would know better.

But I do have a question about the size limit, the \$300 billion. As I read the memo, it seemed to suggest that you think that will bind at the end of the third quarter, which is why you chose that level. But it only bound once, one day at the end of the second quarter. You also have in the memo that on 95 percent of the days since the January FOMC meeting, the take-up was \$55 billion to \$210 billion. My question is, why wouldn't you want to lower that limit so that you are assured that it will bind, so that you can actually test the auction? Because if it doesn't bind at the end of the third quarter, you miss an opportunity of the test. I guess size matters here, maybe, for this test.

MS. LOGAN. I think one thing we're testing is whether the change in the perceived headroom will affect the market participants' behavior. Even if the auction process isn't binding, we will see whether this more limited program changes their behavior, their willingness to leave other counterparties for the overnight RRP facility. I think it does help us to test that aspect of it.

MS. MESTER. Why wouldn't you want to have a lower one, so you could actually have the auction work and see how that works?

MS. LOGAN. I think we were interested in two different aspects. One is potentially the operational aspects of an auction, which we have tested before in other elements, and the second is the concept of headroom, and does lower headroom and less certainty about the headroom—right now, they have full certainty of the \$10 billion amount at the end of the day, and now there is just less certainty about what they have available at the end of the day.

VICE CHAIRMAN DUDLEY. You also have year-end, and I'm sure year-end will be binding, no matter what.

MS. MESTER. Yes. But I thought the idea was that we would try to do it and learn something over this first phase of the test.

MR. ENGLISH. Well, I think Lorie has it about right. I think we are moving a little slowly, but imposing a \$300 billion limit will provide us information about the extent to which headroom matters for the efficacy of this program. As she suggested, we could subsequently test either a dynamic circuit-breaker cap or just adjust the overall limit up and down. That would generate more days when there would be a binding cap and more days when the auction would be in play.

I guess I am hesitant to push too quickly to a very low number that would bind relatively often, just because I'm not sure we would get a good read on at least what I have in mind for how this would work when we're actually doing this after normalization, which would be to have a limit that doesn't bind a whole lot, but binds only rarely. I want to try to see what that looks like, if we can, in the month of October and then come back.

On your issue of getting out to the public more information about subsequent testing after the October meeting, this discussion will be described in the minutes. We will provide some information on what sorts of testing might be done in October and some of the views around those sorts of tests. That information will get out in three weeks.

MS. MESTER. You don't want to put in the announcement just that other testing will be done?

MR. ENGLISH. I guess I don't see a need to. We are going to be providing a lot of information tomorrow. I would like this piece of information to be relatively simple, so it will be understood well. The normalization principles will come out, there is a press conference, there is

a statement. This is something we thought a fair amount about, and thought that the way we'd prefer it at this stage was something that was relatively simple and easily understood.

CHAIR YELLEN. Two-hander?

MR. FISCHER. Two-hander, yes. What is the point of the current discussion? Is it about whether we are going to declare a \$300 billion number and review it at the next meeting? Or is it, are we going to go into one long program? I'm not quite sure what we are discussing at the moment.

VICE CHAIRMAN DUDLEY. Well, there are two separate issues. There is one issue about how much information you want to announce in your testing program. Do you want to announce a whole bunch of parameters that are going to change or just a subset of the parameters that are going to change in the initial phase of the test? As I said, you could do it either way, but I am supportive of what Bill said, in the sense that I think it is easier; the market is going to have a lot of information to digest on Wednesday. I would prefer to give it to them in stages, but you could give them more information than that.

The second issue is, do you want to commit today that we're not going to change the size of the program in the testing process? I think that is not a good idea. We should be willing to change the size of the test, because changing the size of the headroom will give us some information about how this program operates. I would personally like that information. Those are the two issues.

MR. ENGLISH. Well, and more broadly on the second issue, what are the tests that people around this table think would be most useful to do after October?

VICE CHAIRMAN DUDLEY. Presumably, we will have more information then to make a better judgment on that.

CHAIR YELLEN. President Lacker.

MR. LACKER. Thank you, Madam Chair. I generally trust the staff when it brings me recommendations about how we should proceed about things, but I find myself a bit skeptical about the need for a flurry of further testing activity here. I am really confident in the computer code and the technical infrastructure. Over the past 12 months, the Markets Group has demonstrated great skill and competence and capability of running a facility of this size that is envisioned by the Committee. I don't see the auction facility as posing any—and you alluded to this, Lorie—novel challenges. You have done auctions before. You have been doing them for decades in the RP market.

On changing the amount of the cap to see whether the headroom matters, I think the use of this as a tool is sort of predicated on us setting the size so the headroom generally doesn't matter. How would headroom matter? They'd have to look at the data and figure, all right, usage on a day like today is typically \$200 billion. There is \$300 billion headroom. What are the odds of it stopping out? How badly do I want it? Should I put in a bid at four instead of five? That's what we are going to find out, right? Now, I don't think we are going to run it if when we run it people are putting in four or three rather than five, because it just weakens the effect. If it's binding, it is just going to mean a lower RRP rate. My sense is that if it is binding and the headroom matters, we are going to increase the cap so that it doesn't matter. This is consistent with Bill's description of the philosophy about the cap. Now, sure, it is going to bind on quarter-end. Absolutely. But people are going to look at quarter-ends and they are going to say, "Well, it is going to bind today. I'd better bid two if I really want to put the money there."

I don't think varying the RP rate is going to generate a lot of useful data. Given the magnitude of fluctuations of other things that affect the demand for the usage of this facility,

essentially, I'm not convinced we are going to have much statistical power to estimate some demand curve. I mean, we are only doing this for a set of days over the rest of the year. And I think the downside is something that Governors Tarullo and Powell were articulate about. I think we, arguably, generated expectations of the market running ahead of our expectations, clearly over the summer, to the point at which we heard information about people building business models around it. I think we are likely to do that again with another burst of testing activity. I'm just really skeptical about the need for this. Maybe you can help me understand the precise information that is going to be revealed here and how useful it is going to be for our use of the facility as we go forward.

MR. ENGLISH. Can I try, and then Simon or Lorie will add? On the auction issue, I agree. I think the machinery will run, but, nonetheless, I think it's useful to have the staff as well as the counterparties actually do an auction that matters. This is a slightly unusual auction mechanism that we're setting up. People haven't thought about it much, I think, because at the moment they write down just a 5 basis point rate. It may well be that it's absolutely fine. I'd like to see that and see people try that out.

On the headroom issue, you may well be right that if there is insufficient headroom and the efficacy of the program is impaired, the Committee will want to increase the size of the program to provide the additional headroom. What I've heard around the table is some discomfort with increasing the size of the program, but I would be interested to know how much headroom we actually need to make this thing operate properly. That's why I am interested in trying a test with \$300 billion and maybe later on with a dynamic circuit-breaker cap or with a lower number—to see how much headroom we need for this thing to work properly. I'm not sure we know that right now.

Finally, in terms of the public reaction, by announcing these tests now would we lead people to think that this is going to be a larger, more durable program, which I think is the Committee's concern? I really don't think so. I think announcing the \$300 billion cap and the \$5 billion rate and then subsequently coming back and maybe introducing a circuit-breaker cap is going to make clear to the public, along with the normalization principles, that the Committee really does intend for this thing to be small and temporary, and that the Committee's concerns about possible financial-stability risks are real and are leading them to take steps to try to limit those risks. Maybe I'm just being a very risk-averse staff person, but there you have it. That's what I am. [Laughter]

VICE CHAIRMAN DUDLEY. And we're glad you are.

MR. ENGLISH. But I like the idea of doing something like these tests.

MR. LACKER. Can I follow up on the "headroom" question? If you came to us and said, "Let's permanently implement a \$300 billion cap," I'd say, "Great." This stuff about the fluctuations in the RRP rate and the headroom issue, we're not going to get much—I mean, how well are we going to be able to extrapolate to a situation in which we're pretty far away from the zero bound?

MR. ENGLISH. Well, I agree. We're going to learn more over time, and life is complicated, but I think we will learn by doing this test and perhaps, depending on what the Committee wants to do, additional testing after October. We'll learn whether having a limit, and a limit that is potentially not that far from where usage is, affects how the competition plays out in these markets and how people are judging their confidence in their ability to place money with us, and how that passes through to market rates. I don't know how that works out. My sense is that having a \$300 billion cap now when average usage is around \$150 billion will be essentially

irrelevant. I think that's what you were saying earlier, and it should not affect the efficacy of the program, but I guess I'd like to see that. I'd like to be sure that's right, and potentially later on, by using either a circuit-breaker cap or varying the overall limit, get a better sense for how much headroom we need for this thing to work.

MS. LOGAN. We are getting some useful data, and we will be getting more useful data from the triparty banks about the individual transactions. And so we can see that the counterparties are willing to take lower rates than the overnight RRP facility even when they're not hitting the cap for a portion of their trading activity because—what we hear from them as anecdotal evidence—they don't want to lose access to dealer balance sheets. They're willing to accept a lower rate to maintain those relationships. I think we will be able to see if they're willing to accept even more at that lower rate, because the idea that the cap is going to limit the total size makes them even more reluctant to leave dealer balance sheets. I recognize that money market rate fluctuations are very difficult to disentangle, but I do think we will be able to learn a little bit on the margin about their change in behavior from the more limited program.

MR. POTTER. Another thing is, the notional limit right now is \$1.4 trillion. The effect of it is about \$1 trillion because of the \$10 billion per counterparty. This could be spun as a substantial change in the headroom if people wanted to do it that way, which is, I think, what the Committee wanted to do with the \$300 billion limit. Bill was trying to say the same thing.

MR. LACKER. Can I follow up?

CHAIR YELLEN. Go ahead.

MR. LACKER. I wonder, given the discussion, whether we ought to be thinking about the transition path after that. Do we keep \$300 billion as the cap and sail into 2015 with that cap

there, or are we going to lift it—maybe this is in the memo—at the end of the experiment, the testing phase, or how are we going to handle that transition at the end?

MR. ENGLISH. As Governor Powell said last time, I think we'll learn some from the testing and from additional experience with the program, and when the time comes to actually normalize, the Committee will have some decisions to make about what the parameters are that it wants to set at that time. I don't want to write those down now.

VICE CHAIRMAN DUDLEY. Bill, wasn't the idea, though, that we're going to try to test the program under parameters that were similar to where we thought we might ultimately land to get the best quality information we could, recognizing that we might find things that we don't want to find that could affect what those parameter values are? But, my presumption is that the \$300 billion is somehow our initial guess of where we might want to end up.

MR. POTTER. We need to explain it that way. Otherwise it looks quite strange.

CHAIR YELLEN. I had a two-hander from Governor Tarullo some time ago.

MR. TARULLO. Oh, no, I'm a one-hander.

CHAIR YELLEN. Oh, okay. Sorry about that. President Kocherlakota, did you have a two-hander?

MR. KOCHERLAKOTA. I did. I was going to follow up on President Lacker's intervention. I find that the staff are in the best position to understand the benefits of further testing. They are much closer to the problem than I am. But I want to speak on the issue, the downside risk that President Lacker pointed to, which is the signaling effect. I think we're going to be in a much different position with respect to that once we release the normalization principles than we were before we released the normalization principles. I think the Committee will have made a very clear and concrete statement about what we intend this facility to be used

for. As I indicated in my earlier remarks, that can be bolstered, I think, through speeches from the Vice Chairman and from the director of the Markets Group and from the Chair and from you, President Lacker, as well. I mean, we can all have the opportunity to speak to what this facility means. We didn't have that opportunity before when we hadn't expressed a collective view on that. I think the statement is going to really help protect us against the downside risks that you pointed to. Thanks.

CHAIR YELLEN. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Madam Chair. As should be apparent from the memo that Jay and I sent around, we actually are for testing and think it's important for a lot of the reasons that Bill English explained.

I'm going to just speak for myself now—Governor Powell can speak for himself. My concern about the staff memo is similar to the concerns I had about some of the stuff that circulated earlier, and I think it was underscored a bit by the way in which Vice Chairman Dudley explained his position, which is—getting back to Narayana's observation—monetary policy control is the aim, and then, once that is achieved, we can look at financial-stability considerations. I would say my concern is it has to be a bit more balanced along the way. That is, if monetary policy control, getting to a precise point or closer to a precise point, comes only at the cost of substantial financial-stability concerns or a substantial alteration of the financial services industry, then I think the tradeoff is somewhat different, and that's the way I've looked at it from the outset.

To a considerable extent, I think what a lot of us wanted to do in the past few meetings was push back in the box some of these expectations that had arisen in markets as to the scope and potential duration of this thing. I think President Kocherlakota has hit the nail on the head in

trying to elicit from us collectively a little bit more of a sense of what our calculus is in the relationship between monetary policy control and what that means and potential implications for financial stability and for the impact on the financial services industry.

With respect to what's before us today, as Governor Powell and I said in the memo, we're fine with going ahead in this first phase. We have accomplished some of what I hoped to, which is to get some of these broader issues out in front of us, but I would end by saying that I think between now and October, there's an opportunity for the staff and others to reformulate a bit how the additional testing and the overall program of testing can be both characterized and executed so as to continue to push back against the sense that as long as there's enough demand or as long as it might possibly be necessary, we're going to go down that road and increase the size of the facility. The single line in the staff memo that drew my attention the most was in the proposal to increase the overall size limit, which was justified in part on the grounds that that would signal to the public that we would increase the ultimate size limit. I think we're just going to have to be very conscious of maintaining a form of ambiguity here so that we can do the testing that most of us, at least, think is warranted without allowing expectations to get away from us a bit.

For today, Madam Chair, I, at least, am fine with ratifying the resolution that has been put in front of us. I think there's been a useful identification of some issues, and I don't see any need to try to wrap any of this up until October, although that is going to be a pretty full meeting.

CHAIR YELLEN. We will have a lot to do in October. Are there any further comments?

MR. ENGLISH. Can I just follow up on what Governor Tarullo just said? I completely agree, and we've tried, I think, in the memos but evidently failed to be clear: In the end, the

Committee is going to have a tradeoff, a balancing act, between, on the one hand, getting better or worse control over rates, which has some benefits and costs, and, on the other hand, having a program that's bigger or smaller and, therefore, has bigger or smaller risks and costs associated with footprint and with financial-stability risks. I think that's exactly where we're going to end up—thinking about what the parameters we are going to want to write down ultimately when we are ready to actually try to normalize. I completely agree with the thought that this isn't, in some sense, how much do we need to have control and leave the other stuff aside. It's going to be a balancing act.

CHAIR YELLEN. Okay. Further comments?

VICE CHAIRMAN DUDLEY. I agree with that. Really, the reason why I reacted to keeping the size fixed is that seemed to say that there wasn't a balancing act, that the size was somehow independent of full monetary control, and I think the balance is exactly what we're trying to see. That's why the Committee is committed to trying to keep the facility as small as possible, because I think we recognize that there are financial-stability issues.

CHAIR YELLEN. Governor Powell.

MR. POWELL. Let me just add two things. One, I do take personally and very seriously the idea that we need to have monetary control, and by that I have a fairly old-school understanding of what that is, which is, I want the federal funds rate to be in the band, predictably so, and if it gets out over the quarter-end, that's okay for a day or so. That's not a big deal. But I do see that as critical, and I think if we do that at the beginning, our work is going to be a lot easier later on. If we don't do it at the beginning, it's going to make what's already going to be a challenging process more difficult.

The second thing is, it comes down to the issue of, do you test the size? I certainly personally think—and our memo says—that if a facility needs to be somewhat larger to have monetary policy control, then I would put that on the table with all the other tools and absolutely use it. The question I've been struggling with is, if you're willing to do that in real time, is that not a sufficient answer? Do you still need to test now? Vice Chairman Dudley's given us a couple of reasons why that might be the case and said things I hadn't really thought about, so I would like the opportunity to consider that further.

CHAIR YELLEN. Very good. Okay. We need to vote on the resolution that is in front of all of you. Do I have a motion?

MR. FISCHER. So moved.

CHAIR YELLEN. All in favor. [Chorus of ayes] Any opposed? [No response] Okay, great. The motion passes, and we will return in October. We now also need to vote to ratify open market operations since the July meeting. Do I have a motion?

VICE CHAIRMAN DUDLEY. So moved.

CHAIR YELLEN. All in favor. [Chorus of ayes] Without objection. Okay, great. Our next topic is monetary policy normalization principles, and let me just make a couple of opening comments if I might, and then we'll go to discussion.³

First of all, I want to again express my appreciation to all of you for the productive discussions we have had over the past several meetings and for your thoughtful and constructive comments on the various drafts. I think we all know the effectiveness of this Committee depends on a spirit of cooperation and a willingness to compromise, and I'm pleased that these

³ The materials used by Chair Yellen are appended to this transcript (appendix 3).

traits have characterized our deliberations on the many complex issues related to policy normalization.

I think we've settled on a set of normalization principles and plans that can be released tomorrow with widespread support from Committee participants. I recognize that, as individuals, we may still differ on some particular elements, but I consider it important for us as a Committee to confidently and clearly articulate our normalization plans at this time. To get a clear sense of your support, what I plan to do is to ask for a show of hands for all participants on the version of the normalization principles and plans that you have before you. But before I do that, I want to say just a few words about how I intend to communicate about our approach to normalization both in tomorrow's press conference and in other venues.

First, I intend to emphasize that the release of our normalization principles and plans is in no way intended to signal a change in the stance of monetary policy, a point the Committee has repeatedly emphasized.

Second, I think it's important to convey a willingness on the part of the Committee to be flexible and pragmatic in its approach to normalization in a manner that is consistent with the principles. As written, the principles afford us a good deal of latitude to change the parameters of our tools to achieve our desired stance of policy in a wide range of scenarios. I don't intend to get into technical details, such as the exact configuration of our administered rates or the specific design features of the overnight RRP facility, some of which, as we've discussed, may evolve over time or have yet to be determined. Of course, we will communicate these details to the public at the appropriate time. Additionally, I would like to emphasize that the final bullet of our principles is not merely boilerplate. I believe we should convey a readiness to change our approach if economic and financial conditions evolve in unforeseen ways, and, in fact, I think the

revisions we're making to our normalization principles that change what we issued in 2011 is evidence of just that.

Finally, I intend to convey our high degree of confidence in our ability to deliver the stance of policy that we deem appropriate to promote our dual mandate.

I will ask for a show of hands, but before I do so, I would like to ask if anyone has comments or questions. President Lacker.

MR. LACKER. Thank you, Madam Chair. I have a couple of words I'd like to share. I know I spoke at length at the previous meeting, but the statement has been revised and there have been a couple of further observations I would like to share. I will try not to be repetitive.

I do support the idea of publishing an updated set of principles regarding our normalization, but I can't support this version. I continue to believe it would be a mistake to retreat from asset sales. The statement goes further than just disavowing asset sales, though. It singles out, somewhat oddly, agency MBS as an asset class that we don't anticipate selling. It does so, almost in passing, without explanation in a subbullet. I know we haven't provided any rationale for this change from our 2011 exit strategy principles in public, including in the minutes of the previous meeting. Doing so, singling out agency MBS to hold on to, makes more glaring the conflict with the statement that immediately follows that in the principles about our interest in minimizing the effect of Federal Reserve holdings on the allocation of credit across sectors of the economy. As I noted in August, I don't see how to reconcile holding on to Fannie and Freddie securities with that or with the March 23, 2009, Treasury–Federal Reserve joint statement or with our historical opposition to this type of central bank credit allocation. I also mentioned at our previous meeting that if our holdings of agency MBS are having any effect on interest rates, they are simultaneously raising the interest rates for borrowers outside the

mortgage markets when compared with us holding an identical amount of Treasuries. I haven't heard and I don't see a case for that kind of favoritism.

I have two points to make that I haven't made before. One is that I recognize the normal conduct of monetary policy via movements in interest rates unavoidably generates distributional effects. I recognize that central bankers long ago accustomed themselves to those necessary side effects. Such policy actions, however, worked by adding or draining reserves—a liability of ours—and they can be accomplished quite well with a portfolio consisting only of Treasury securities. Holding assets other than Treasuries goes beyond what is required for the normal conduct of policy, so I see a fairly sharp categorical distinction between the unavoidable distributional consequences of the normal conduct of policy via interest rate movements and the distributional effects of gratuitously altering the composition of our portfolio.

The second point—one factor that appears to loom large in thinking about whether to sell long-term assets is that it is likely to generate losses large enough to wipe out the possibility of remittances to the Treasury at a time when we will be paying large dollar amounts to banks as interest on reserves. Even though this is of no economic consequence, one can imagine it generating a good deal of carping by public commentators and politicians.

I'd point out that if we don't sell assets, we will generate substantial unrealized losses in a couple of years. Page 45 of Book B of the Tealbook reports the staff's projections of our balance sheet and income. At the end of last year, unrealized losses were \$53 billion, just shy of our paid-in capital and surplus of \$55 billion. This did actually spawn a bit of media commentary, even though we still showed positive fair-value net worth of just under \$2 billion. The Tealbook is projecting that unrealized losses will peak at \$325 billion at the end of 2016, and our capital then is likely to be around \$75 billion. At that point, it will look as if our fair-

value net worth is about negative \$250 billion, and it would be pretty easy, I think, for someone to write a story portraying the Federal Reserve as effectively bankrupt. Unrealized losses are projected to be close to \$300 billion at the end of 2015, and so it is likely to get a lot of attention when these financial statements are released in early 2016. It is a year and a half away when we are going to face this. At that point, we are going to have to explain why it is of no consequence that we have effectively gone bankrupt while paying out large sums of money to large banks. This strikes me as just as difficult as explaining why zero remittances are of no economic consequence. It is not obvious to me that we would be in much better shape avoiding asset sales in order to continue making remittances to the Treasury. The point is, we have signed up for some very adverse “optics,” no matter which way we go. Zero remittances may be hard to explain, but negative fair-value net worth seems just as hard to explain. To me, this argues for doing what we agreed is the right thing to do and selling long-term assets as we originally planned. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. I just want to say that I very much support the principles as written. I think they are clear and sensible. I want to thank the Chair in particular for doing this in the iterative process that she set out on, so that she got a tremendous amount of feedback from everyone on the Committee. I know everyone probably isn't fully accommodated, and probably people, if they had to write their principles, would write them slightly differently. But I think that by doing it the way you did it, Madam Chair, I think you have gotten something that the broad Committee can support. I think you acted in very good faith.

CHAIR YELLEN. Thank you. President Plosser.

MR. PLOSSER. Thank you. First of all, I would like to echo Vice Chairman Dudley's comments about the process and listening to everybody. I think you were very positive in expressing in a memo some of the concerns that I had and listened to the response, and I appreciate that very much. I also appreciate the fact that it led to some changes that were adopted in the statement.

However, I would just like to say, for the record, that I remain uncomfortable with the subbullet that refers to sales of agency and mortgage-backed securities and linking those to reducing residual holdings. The second main bullet makes clear our intention to reduce the balance sheet primarily through ending repurchases. I just don't believe we need to communicate additional reticence over the outright sale of agency debt securities and mortgage-backed securities as part of the normalization process. While no outright sales may be feasible, given the significant uncertainty surrounding normalization—uncertainty, by the way, that was made abundantly clear in the background memos we received from the staff—it seems to me imprudent and unnecessary to signal such decisions at this point. It may transpire that adequate control of the funds rate may require us to shrink the balance sheet faster than we now anticipate. If that were to happen, I would want all potential tools available to proceed under those circumstances. Further, I remain uncomfortable, as President Lacker so eloquently put it, with the credit allocation policy that this bullet signals.

These broad concerns about the balance sheet also lead me to prefer ending reinvestment earlier. President Lacker just made a very good point, indicating that there are a number of changes we have made from the 2011 principles, and we have done so without much, if any, thorough explanation to the public about why they are being changed. This suggests we should be reluctant, I think, to insert such tactical considerations in our statement.

Now, the escape clause that the Chair referred to at the end in the final bullet does leave us with our options open. I will not withhold my assent to these principles as written. But I continue to believe that we are once again being overly tactical in our messaging on this issue. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Bullard.

MR. BULLARD. Thank you, Madam Chair. I am generally supportive of these normalization principles. As you all know, I have advocated keeping the feature from the 2011 principles that the first step in normalization should be to end reinvestment. The version we are ratifying today does not have that feature. My understanding is that the Committee intends to end reinvestment in a reasonable time-frame after liftoff of the policy rate. I think that will be an important step to get the balance sheet moving in the right direction. With that understanding, I am happy to support the current normalization principles. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Fisher.

MR. FISHER. Well, you thanked us for our thoughtful input, Madam Chair. I want to thank you, as well as Vice Chairman Dudley, for your thoughtful and receptive ear, because changes were made. Obviously, as Vice Chairman Dudley said, not everybody got what they wanted. I have been advocating, banging my head against the table, to start the process of tapering reinvestments. I am delighted with your comment emphasizing the very last bullet. I think that is important.

I take note of the fact that, as President Lacker said, there are unrealized losses. If we were to sell these securities, we would realize those losses, and I am sympathetic to that. I do support this, and I want to emphasize what Vice Chairman Dudley said. The way you went about this is a great example of leadership, and I thank you for it.

CHAIR YELLEN. Thank you very much. I appreciate that.

MR. FISHER. Emphasize that last point, though, in your press conference.

CHAIR YELLEN. Governor Fischer.

MR. FISCHER. Thanks, Madam Chair. I have been abroad a bit lately, and everybody wants to know what we are going to do to normalize, and the statement is timely. I believe it is also appropriate, and it's admirably concise.

We face two problems. The first is to return the interest rate to more normal levels, something that is essential if the economy is to be declared to be operating in a normal manner, so we can say the crisis is behind us. We explain how we are going to do that, by raising the federal funds rate, and then we explain how we are going to raise the federal funds rate, primarily through the use of IOER, and, second, to the extent needed, using the overnight reverse repo agreement, something which we state we plan to phase out when it is no longer needed. I actually see a very close connection between this discussion and the one we have just had, because until we've got control of the interest rate, whether we want to call it "monetary control" or something else, we aren't operating in a normal manner, and that is primary, and that is why the last sentence is so critical.

The second problem is to return our balance sheet to a more normal size, and we define that. Although it doesn't give much idea of the required size, it says that the Federal Reserve "will, in the longer run, hold no more securities than necessary to implement monetary policy efficiently and effectively." Well, by "efficiently and effectively," we mean in a manner that enables us to attain the goals set out in our dual mandate without creating serious distortions or distortions that are greater than necessary in the allocation of resources. We plan to do that primarily by returning to holding only Treasury securities.

Now, I understand the things that President Lacker has said. He also remarked that, in fact, any open market operation has distributional consequences. We know that monetary policy operates primarily through affecting interest rates, and, therefore, through affecting the purchases of interest-sensitive goods—usually durables, but capital goods as well. We always do that, and we just have to get people to accept those consequences.

It is not impossible for a central bank to operate with negative capital. I did it for a long time. [Laughter] Central banks that are highly regarded, like the Chilean central bank, have negative capital. In fact, any central bank of an emerging market country that initially acquired assets by buying foreign exchange is going to be in that position because of the appreciation that accompanies the process of development, and so you see that problem in other places.

How does one think about this? Well, I think in the case of the Federal Reserve, it is pretty simple. There was a massive crisis. It was particularly intense in the real estate sector. We intervened in order to try to do what we could to mitigate the extent of that crisis, and what we are seeing now is the consequences of that intervention. I don't think that the consequences that we face now would have justified our not intervening then. Furthermore, we look forward. The Federal Reserve is very lucky in this regard. We look forward to generating profits again, and we have an accounting method that says how we are going to pay for this out of future profits. I think of it as a consequence—one would prefer not to have it, but we have it—that is being dealt with in a very rational way, in a way that to my mind doesn't distort our well-directed interventions in the markets a few years ago in a crisis. I don't see any conflict between that and not interfering in the optimal allocation of resources.

Finally, we have these two things: getting the interest rate mechanism operating and reducing the balance sheet. And we need to be practical. If at this, my third meeting, there is

one thing I have learned, it is that this is an entirely practical and pragmatic Committee. We have principles, but we also want to get things done. If we fail on getting the interest rate mechanism working, we are going to have a lot of trouble—far more than if our capital turns out to be negative for some time. We need to recognize that we may have failed to identify some problems, and, hence, the final sentence, which is that the Committee is prepared to adjust the details of its approach to policy normalization in light of economic and financial developments. That is entirely appropriate. It is almost always appropriate. I don't think central banks want to get themselves into corners and holes that they can't get out of, but it is particularly appropriate now.

I believe, Madam Chair, that this is an excellent statement. I also think that the way in which it was developed, as you have heard from several members of the Committee and presidents of Reserve Banks, was really remarkably good and an example of leadership. I believe the Committee really should support this very concise, very clear statement.

CHAIR YELLEN. Thank you very much. Seeing no further comments, I would like to ask all participants who can support these principles to raise their hands. [Show of hands] Thank you. All those who cannot support the principles, please raise your hands. [Show of hands] Okay.

Let me note that the last sentence in the preamble will read, “All FOMC participants but one have agreed on . . .” Okay, we have adopted the normalization principles. Now, I think, as a reward [laughter], the Board meeting is over, and we should eat lunch.

[Lunch break]

CHAIR YELLEN. Okay, folks. It looks as though we're ready to get started, so we're going to begin the economic round. Let me turn to David Wilcox to discuss the forecast.

MR. WILCOX.⁴ Thank you, Madam Chair. Before I knew how the timing of the meeting would work out, I composed a little opening *bon mot* that refers to Rip Van Winkle. Now, given that you all have a heavy lunch in your stomach, I'm a little loath to proceed with that. But, being a man of risk-taking, I'm going to do so despite the fact that it might become a self-fulfilling prophecy.

If you had taken a leaf out of Rip Van Winkle's playbook and gone to sleep after the June meeting, only to wake up with last week's edition of the Tealbook splayed across your chest, there probably would have been two main consequences: First, you'd be feeling much better rested than you are right now and perhaps more favorably inclined to see the virtues of meeting only four times per year rather than eight. [Laughter] Second, you probably would not be very surprised by what you found in the September Tealbook. Relative to June—the last time you submitted SEP numbers—our outlook for inflation is essentially unrevised. Our assessment of the medium-term outlook for real GDP growth and the labor market is more guarded than in June, but only modestly so. And, correspondingly, because these differences in the forecasts of your goal variables are small, the path of the funds rate—taken straight from an inertial version of the Taylor (1999) rule starting in the second quarter of 2015—is close to the one that we posited in June.

The changes since the July Tealbook in our forecast for aggregate demand and the labor market have been more substantial, however, and I will take just a moment to try to illuminate why that's so.

In the near term, we downgraded our assessment in light of the July and August employment reports—the first of which was only a little softer than we had expected, but the second more decidedly disappointing, especially with respect to employment growth. Consumer spending also appears to be on a somewhat weaker trajectory in the second half of the year than we had anticipated in July, even after taking into account the recent strength in auto sales and the information on retail sales and services spending that we received after the September projection was closed.

Turning to the particulars and beginning with the first panel of your “Forecast Summary” exhibit, if you have a pair of magnifier glasses like the ones my dentist wears, you might be able to see that the plunge in GDP growth in the first quarter is now estimated to have been a little less steep, and the rebound in the second quarter a bit more robust, than we estimated in the July Tealbook. Nonetheless, real GDP growth over the first half of the year still looks puzzlingly weak relative to other indicators, most notably the labor market data and industrial production. As you know, we've treated most of this divergence as statistical noise and have continued the practice—which we started in the July round—of adjusting our estimate of potential output so as to keep our assessment of recent product market slack roughly in line with what we think the labor market is telling us about resource utilization.

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

Despite the somewhat less anemic profile of GDP growth over the first half of the year, we've nonetheless revised our projection for the second half down by a little. The main contributor to the downward revision in the second half was the weaker-than-expected July report on consumer spending and our reaction to it. In light of a string of negative residuals in household spending relative to our models, we extrapolated forward some of the disappointment from the July PCE report. A secondary contributor to the downward revision in GDP growth over the second half was the dynamics of inventory investment. Stronger-than-expected inventory investment accounted for a sizable portion of the upward revision to first-half GDP growth. And we unwound some of this surprise in the second half on the grounds that businesses will probably not opt for permanently higher inventory-to-sales ratios. In other words, while the overall growth figure for the first half was revised up significantly, an important source of that upward revision occurred in a category that doesn't normally imply additional momentum for future aggregate demand.

I noted earlier that the medium-term projection for real GDP in the September Tealbook is modestly more guarded than we had estimated in June; the same is true relative to July, only more so. Much of the downward revision to the growth of GDP over the medium term is attributable to a higher expected exchange value of the dollar. A small additional revision reflects a more subdued projected path for house prices in this forecast, and the balance reflects a smattering of other factors.

The next three panels in your summary exhibit show recent and prospective labor market conditions. Relative to our July projection, the progress in labor market improvement has been a little slower than we had expected. On the household side, the unemployment rate—shown in panel 2—was 6.1 percent in August, a tenth and a half higher than in our July projection. Moreover, the weaker profile of GDP growth that I mentioned earlier yields a slower decline in the unemployment rate from here forward. By the end of the medium-term projection in 2017, the trajectory of the unemployment rate is 0.4 percentage point higher than in the July Tealbook. Nonetheless, as before, we still have the unemployment rate moving a little below its natural rate toward the end of the projection period, albeit to a smaller degree. And, as you can see from the thin red line, our latest projection is back very close to where we were in June, with the unemployment rate reaching its natural rate in mid-2016.

On the establishment side, the level of total payrolls in August—panel 3—was about 170,000 lower than our previous projection. We think the weakness in the August payroll report was probably exaggerated for several reasons, but, even so, we see the news as having been a little worse than expected. And, as you can see in panel 3, our latest forecast for payroll employment is a little softer than in both June and July, but still well above the trajectory we anticipated in September 2012, when you first tied your asset purchase decisions to an improvement in the labor market outlook. In fact, the projected level of total payrolls in the fourth quarter of this year remains 1¾ million above our September 2012 projection.

As one way of broadly summarizing the current state of the labor market, panel 4 plots the latest estimate from our labor market conditions index, or LMCI. Even

taking the recent payroll numbers at face value, as the statistical apparatus does, the LMCI slowed noticeably, on average, over the past two months but still managed to eke out a small gain.

The last two panels of the exhibit summarize the inflation outlook. As shown in panel 5, our projection for total PCE inflation in the second half of this year is lower now than it was at the time of your last meeting, largely as a result of a lower projected path for consumer energy prices. In addition, the data on core PCE inflation—panel 6—have come in a little lower than expected since the July round. Tomorrow morning, the BLS will provide one more last bit of information for you to take into account, when they publish their estimate of August CPI prices. In 2015 and beyond, the core inflation forecast is just a touch lower than we had it in July, mostly reflecting the wider margin of labor and product market slack in this projection. As in previous Tealbooks, therefore, we expect core inflation to increase slowly over the projection period, rising from 1.5 percent this year to 1.8 percent in 2017. Headline PCE inflation is expected to run about one-tenth below the core over the medium term, reflecting a relatively flat projected path for consumer energy prices.

Finally, I would draw your attention to my favorite section of the Tealbook—namely, the alternative scenarios that we provided in the back of the book—and I'd like to highlight two of those scenarios in particular. The first, which we labeled “No Room to Grow,” contemplates a more pessimistic constellation of circumstances on the supply side of the economy, not altogether dissimilar to the view that Robert Gordon has been articulating lately. In particular, we contemplate the possibility that the natural rate of unemployment is 1 percentage point higher than in the baseline, and that potential GDP growth is $\frac{3}{4}$ to 1 percentage point slower than in the baseline. To be sure, this is not a pleasant world in which to be a policymaker, but the implications are manageable: The unemployment rate—which is therefore already a little below its natural rate—drifts down a little further before turning back up. Inflation rises to $2\frac{1}{4}$ percent over the next several years. In all, the deviations from your goal variables are roughly similar to the ones that we project in the baseline—but with the opposite signs.

A happier scenario, labeled “Higher Trend Labor Force Participation Rate,” assesses the possibility that there may be more cyclical weakness in the LFPR than we've allowed for in the baseline. This view is not the central estimate of the research presented at the Brookings Institution by our labor team but is reminiscent of the possibility pointed out in a research paper last year by Erceg and Levin. In this case, the unemployment rate runs a bit above baseline as the unanticipated reflow of participants swells the workforce. GDP grows more quickly than in the baseline, and monetary policy can afford to be more accommodative to crowd in the aggregate demand necessary to absorb the larger workforce.

Both of these alternative scenarios strike me as quite plausible possibilities. And, following the advice of the ancients, we've tried to steer a middle course between these two outcomes. Steve will now continue our presentation.

MR. KAMIN.⁵ As you know, the upcoming Scottish referendum has roiled international markets and given impetus to independence movements around the world. In fact, staff members in the International Finance Division are agitating to split off their write-up of the international outlook into its own separate Tealbook, as well as to replace the toadying director the Board has foisted on them with a democratically elected leader of their own choosing. [Laughter] Fortunately, the breakaway sections of the division have continued to comply with their forecasting obligations despite these distractions, and our forecast of the foreign economies is shown on panel 1 of your exhibit in the handout labeled “Material for the Foreign Outlook.”

We estimate that total foreign economic growth, the black line, edged up to an annual rate of 2¼ percent in the second quarter and jumped to a 3 percent rate, near its historical trend pace, in the current quarter. This path is little changed from the July Tealbook—the dashed red line—but it reflects some large offsetting surprises. Starting with the emerging market economies, the blue line, back in July, we already had data pointing to a sharp rebound from the first-quarter pothole, with Chinese GDP surging to near an 8 percent rate in the second quarter. Since then, second-quarter growth for Mexico has printed at 4¼ percent, well above our expectations, and more recent indicators confirm our view that Mexico has finally broken out from more than a year of subpar performance. However, this good news has been marred by data for Brazil, where GDP now appears to have fallen through the first half of the year. Moreover, data that came in over the weekend suggest that Chinese growth will slow to around a 7 percent rate in the second half of the year, below the 7½ percent number we wrote down last Wednesday in the Tealbook.

Data for the advanced foreign economies (AFEs), the solid green line, have also been a mixed bag. In response to the April consumption tax hike, Japanese GDP tanked at an annual rate of 7.1 percent in the second quarter, much steeper than we were expecting. The subsequent resumption of Japanese growth explains why both AFE growth and total foreign economic growth shift up in the current quarter, but, even so, recent indicators suggest that the rebound in Japanese GDP has been tepid. More worrisomely, as indicated in panel 2, euro-area GDP stalled in the second quarter. Some transitory factors were at work here, but the underlying momentum of the economy looks disturbingly weak. All told, we would have marked down the near-term path of AFE growth considerably in this round, except that second-quarter Canadian growth proved stronger than expected, and Canada has a large share in our trade-weighted foreign aggregate.

Looking ahead, foreign growth edges up just a bit further over the forecast period. The emerging market economies benefit from strengthening activity in the United States and Europe, although this is tempered somewhat by a mild deceleration in China. Growth in the AFEs is fairly stable over the period as improvement in the euro area is offset by a moderation to a more sustainable pace of expansion in Canada

⁵ The materials used by Mr. Kamin are appended to this transcript (appendix 5).

and the United Kingdom. Nevertheless, even a 2 percent pace of economic growth is enough to substantially erode remaining economic slack in the AFEs.

The litany of risks attending this reasonably benign forecast is well known to you: renewed stresses in EMEs, financial disruptions in China, and escalation of the crisis in Ukraine. Today I'd like to focus on another risk that has captured our attention and, notably, that of the ECB as well: the risk of the euro area entering a protracted period of further disinflation and stagnant economic activity. To be sure, as described in the Tealbook, we don't consider this to be the most likely scenario. First, as shown in panel 3, although headline inflation in the euro area, the black line, plunged to only 0.3 percent in August, this primarily reflects declines in food and energy prices; core inflation has moved sideways for the past year, albeit at a low level. Second, much of the fall in food and energy prices actually took place last year but is still showing through to the 12-month headline inflation rate. Measured on a quarter-to-quarter basis, as shown in panel 4, headline inflation has already been picking up for several quarters. In consequence, food and energy prices merely need to stay flat in the coming quarters for headline inflation on a 12-month basis to start rising, and that impetus should be reinforced as waning fiscal drag and more stimulative monetary policy support a resumption of economic growth.

Nevertheless, we cannot discount the possibility that the disinflation observed to date has already done damage by pushing down inflation expectations, the blue line in panel 5, helping to undermine business confidence, the red line, and contributing to startling declines in nominal bond yields, the green line. These developments appear to have shaken the ECB's confidence, leading it at its June and September meetings to announce the rate cuts, longer-term loans (TLTROs) to banks, and private asset purchases discussed by Simon this morning. These steps have already helped depreciate the euro and should encourage some additional lending at the margin, but their overall effect will likely be limited. This can be seen by comparing the solid lines in panels 2 and 4, which show our baseline projections of output and inflation taking the recently announced measures into account, with the dashed blue lines, which represent our view of how these variables would evolve in the absence of these measures.

Accordingly, were the economy and prices to come under significant further pressure, the ECB would have to reach for the most obvious remaining tool in its arsenal, large-scale sovereign bond purchases. As indicated by the dotted red lines in panels 2 and 4, if the ECB added €1 trillion in sovereign bond purchases to its already announced measures, this would appreciably boost GDP growth without pushing inflation above target. However, due to the institution's doctrinal concerns about financing government deficits, the "big bazooka" will most likely be used only if the economy substantially underperforms our baseline projection.

Compared with the ECB, the Bank of England's quandary is enviable—when to start normalizing policy in response to robust growth. Like the Fed, the Bank of England is struggling to assess how much slack remains when unemployment is falling rapidly, as shown in panel 6, but wage growth has been subdued, panel 7. For

the Bank of England, this assessment is especially complicated because productivity, shown in panel 8, has remained so depressed. Low productivity growth could be the explanation for low wage growth, implying there may be less slack in labor markets than some might believe. Conversely, depressed productivity may give rise to a future rebound, in which case the economy may have more running room before inflationary pressures emerge. Splitting the difference between these alternatives, the Bank of England's latest forecast, which is predicated on a market path of expected interest rates that lifts off early next year and rises gradually thereafter, shows continued solid output growth and a rise in inflation toward its 2 percent target. We think it likely that, if the economy evolves as projected, the Bank's policy rate will indeed follow the market's expected path.

Of course, the bank's monetary policy strategy could well be upset by Thursday's Scottish independence referendum. A "yes" vote would mean disruptions to British financial markets, confidence, and spending. This probably wouldn't substantially affect the aggregate foreign outlook, but it would certainly mean protracted negotiations on a host of difficult issues, including the choice of currency, provision of a lender-of-last-resort facility for Scotland's large banks, and the disposition of responsibility for the U.K.'s public debt.

Turning to panel 1 of your second and last exhibit, as Simon has discussed, the Scottish referendum, prospects for more monetary accommodation abroad, and heightened market focus on policy normalization in the United States have all pushed up the dollar in recent months, especially against the currencies of the AFEs. For the period ahead, as shown in panel 2, we expect the dollar to rise a bit further against the AFEs as U.S. interest rates rise a bit faster than markets currently expect. However, a depreciation of the dollar against EME currencies, especially China's, leads the broad dollar index to decline over the forecast period, providing support to U.S. exports. Marnie will now continue our presentation.

MS. DEBOER.⁶ I'll be referring to the packet labeled "Material for Briefing on the Summary of Economic Projections."

Exhibit 1 shows the broad trajectories of your forecasts for key economic variables under your individual assessments of appropriate monetary policy. As shown in the top panel of the figure, you project slower GDP growth this year than in 2013. Of course, that projection reflects the sharp drop in the level of real GDP in the first quarter of this year. All of you project faster growth of real GDP during the second half of 2014 (not shown) and in 2015 than your estimates of the economy's longer-run normal growth rate. You then see real growth moving back toward its longer-run growth rate in 2016 and 2017. Your projections for the unemployment rate, shown in the second panel, decline gradually over the forecast period, and, by the fourth quarter of 2017, all of you project that the unemployment rate will be at or below your individual judgments of its longer-run normal rate. The bottom two panels indicate that almost all of you see inflation rising gradually over the next few

⁶ The materials used by Ms. DeBoer are appended to this transcript (appendix 6).

years and approaching the Committee's 2 percent target in 2016 and 2017; only three of you expect inflation to rise above 2 percent during the forecast period.

Exhibit 2 compares your current projections with those you prepared in June. With regard to GDP growth, shown in the top panel, many of you marked down your projections but generally by small amounts. The most noticeable changes are in 2015, as indicated by the somewhat lower central tendency for real GDP growth in that year. Your projected paths for the unemployment rate, shown in the second panel, are very slightly lower than in June; your estimates of its longer-run normal level were generally unchanged. Moving to the bottom two panels, your projections for inflation changed little since June. The staff's updated Tealbook forecasts for real GDP growth are within your central tendencies, with the staff's projections for 2014 and 2016 at the top of your central tendencies. The Tealbook projections for unemployment and inflation are at or below the lower end of your central tendencies throughout the projection period.

Exhibits 3 and 4 provide an overview of your assessments of the appropriate path for the federal funds rate. As shown in exhibit 3, all but a few of you continue to think it will be appropriate to begin raising the target range for the federal funds rate in 2015. The top panel of exhibit 4 provides your current assessments of the appropriate level of the federal funds rate at the end of each year of the forecast period and over the longer run. (As you know, if you projected a target range for the federal funds rate, the exhibit shows the midpoint of that range.) Most of you raised, at least somewhat, your assessments of the appropriate level of the funds rate at the end of 2016. The six of you who raised your assessments by 25 basis points or more attributed the change to a number of factors, including the recent firming in inflation; a greater anticipated responsiveness of inflation to slack than assumed in the Tealbook baseline; and an expectation that the FOMC will have greater confidence in its central forecast and policy strategy in 2016, allowing it to proceed with the normalization of monetary policy a little bit more quickly.

The median funds rate projection now stands at 1.38 percent at the end of 2015 and 2.88 percent at the end of 2016, compared with 1.13 percent and 2.5 percent, respectively, in your June projections. All of you project levels of the federal funds rate over the next few years that are below the prescriptions of a noninertial Taylor (1999) rule, given your economic projections. However, the revisions to your projections for the federal funds rate in 2015 and 2016 are broadly consistent with the prescriptions of that rule, given the revisions to your economic projections.

The funds rate projections for the end of 2017, which you provided for the first time in this SEP, have a median of 3.75 percent, equal to the median of your expected values over the longer run. That said, 11 of you judged that the federal funds rate would still be below its longer-run normal level at the end of 2017; while 5 judged that it would reach that level by the end of 2017, only 1 of you thought it would be above that benchmark.

Participants provided a number of reasons why they thought it would be appropriate for the federal funds rate to remain below its longer-run normal level even once the unemployment rate and inflation are near mandate-consistent levels. These reasons included an assessment that inflation is likely to move back to its 2 percent target only gradually, that the headwinds holding back the recovery will continue to exert restraint on economic activity, and that the risks to the economic outlook are asymmetric as a result of the constraints on monetary policy at the zero lower bound.

With regard to securities purchases, all of you indicated that your assessments were in line with the assumption in the Tealbook baseline forecast, which has purchases concluding by the end of October. Three of you indicated that the size of the balance sheet should be reduced more quickly than in the Tealbook baseline, with two judging that the reinvestment of funds from maturing or prepaying securities should cease or be reduced promptly rather than six months after liftoff as assumed in the Tealbook.

Exhibit 5 depicts the economic conditions that you anticipate at the end of the year in which you judge it will be appropriate to raise the target range for the federal funds rate from its current level. Because liftoff likely will not occur at year-end, the chart shown is only illustrative of the economic conditions around the time of liftoff. Your projections for the unemployment rate at the end of the year of liftoff are grouped mainly between 5.2 and 5.6 percent, while your inflation projections are mostly clustered between 1.5 and 2 percent.

The final exhibit reviews your assessment of the uncertainty and risks surrounding your economic projections. As shown in the figures to the left, most of you continue to judge the level of uncertainty attached to your individual projections of GDP growth, the unemployment rate, and inflation as broadly similar to the average level over the past 20 years, with a few of you seeing it as higher. Turning to the top two panels on the right, most of you judge the risks to your forecasts for real GDP growth and the unemployment rate to be broadly balanced. As in June, four participants see the risks to their economic growth projections as weighted to the downside, though none of you views the risks to your unemployment projections as weighted to the upside. The bottom-right panels indicate that a substantial majority of you continue to see the risks to your individual forecasts for inflation to be broadly balanced as well, although five of you now judge that those risks are weighted to the downside, one more than in June.

Thank you. That concludes our presentations.

CHAIR YELLEN. Thank you. Are there questions for any of the presenters? President Evans.

MR. EVANS. Thank you, Madam Chair. Steve, I'd like to ask if you could expand and speculate on your "big bazooka" comment about the ECB asset purchases. Could you provide any type of commentary on the uncertainty about the size of that? I might have hoped that there would be more firmness in the expectation.

MR. KAMIN. First, as Simon mentioned earlier, the ECB would certainly face a host of operational issues in terms of buying, say, €1 trillion, which works out to about 10 percent of euro-area GDP, in sovereign bonds, given that every country issues in different ways, in different markets, and with different degrees of liquidity. So while there are a number of operational issues, I don't think that they represent the main obstacle to the ECB doing that. The main obstacle is the fact that they are enjoined specifically not to finance government deficits, and at least some countries, particularly Germany, would view that activity as indeed violating that doctrine. So that's clearly something that they want to use as a very last resort. I would guess that some members of the Governing Council are already there, and they're waiting for other people to catch up. They're also waiting to determine whether the outlook actually ends up being significantly worse than right now.

Our sense right now is that, if the economy and inflation proceed according to our baseline, which has gradual, albeit lackluster, improvement in economic growth and gradual, albeit subdued, recovery of the 12-month inflation rate that they look at—if those things all transpire, then they will basically be willing to call it quits in the sense of just implementing the measures they've already taken. In that case, they're probably not going to get the political support to move further. Conversely, if there's a further shock or a further shortfall, with the growth rate staying around zero and maybe inflation moving even lower, then, at that point, there will be quite a few folks on the Governing Council of the ECB who will be pushing for this.

And if things got bad enough, they would lose the German vote and perhaps several other Northern European votes, and they would actually go ahead and start the process of larger-scale asset purchases. Maybe Simon has something to add.

MR. POTTER. There was a poll before the ECB meeting showing a 40 percent probability of sovereign debt purchases by March of next year; that has probably gone up. They can easily buy sovereign debt relative to the private assets. That's one of the attractive things for them. But trying to get agreement across the Governing Council will be quite difficult, although they have had two asset purchase programs. One was this Securities Markets Programme to stabilize rates. And they had the most successful program without ever purchasing anything, called the Outright Monetary Transactions program, which is also in sovereign debt. But this would be different in the sense that you'd probably be buying across the capital markets.

MR. EVANS. What's the size of the OMT program?

MR. POTTER. Zero.

MR. EVANS. Yes.

MR. POTTER. But it's a very effective idea.

MR. WILLIAMS. Infinite elasticity.

MR. FISHER. May I ask a question, Madam Chair, based purely on ignorance?

CHAIR YELLEN. Yes.

MR. FISHER. Are these jointly and severally guaranteed—the sovereign debt?

MR. POTTER. No. That would have helped a little bit.

MR. FISHER. Got it.

MR. LACKER. No, it's credit allocation.

MR. ENGLISH. They like it.

CHAIR YELLEN. President Plosser.

MR. PLOSSER. Thank you, Madam Chair. David, I have a question. It's a purely hypothetical question. It's not entirely fair, but I'm going to ask it anyway.

MR. WILCOX. I'm quite used to the question.

MR. PLOSSER. I just wanted you to understand that before I get into it further. After the Tealbook came out, you gave us a short memo on the revisions to retail sales and how they were higher than what you anticipated and what you thought the implications of those might be. You also mentioned in the Tealbook—and, I think, in the briefing—the observation that, over the past perhaps 10 years, the first print of the August employment numbers has, on average, been low by 60,000 jobs or something to that effect. So the hypothetical question I'd like to ask you is that, given that this is the first print of the employment numbers, suppose the revision came in—I'll just pick the 60,000—at 200,000. I'm not suggesting that I believe that's going to be the case, but let's take that as a given. Combining that with the higher retail sales numbers than you had in the Tealbook, I guess my question is, how might that affect the tone and shape of your forecast? I realize that you mentioned there were other things going on—the higher value of the dollar and so forth. Can you give me a sense of how much of an effect another 60,000 in employment would have through its effects on income and other things?

MR. WILCOX. It wouldn't have a large effect. Two hundred thousand for payroll employment in September would be a little disappointing relative to what we have penciled in. For what it's worth, we've got penciled in 220,000 for the next several months.

MR. PLOSSER. Well, I'm assuming a change to August now.

MR. WILCOX. Oh—yes, that's, I think, close to what we had in mind notionally, and that's how we got assumptions in the neighborhood of 210,000 or 220,000 over the next four

months for payroll employment—very much on the theory that probably a better number for August is something in the 175,000 to 200,000 range. Now, I’ve got to say, this 60,000 thing is pretty darn speculative.

MR. PLOSSER. Sure, I understand.

MR. WILCOX. There’s a “cocktail party” attractiveness to being able to say, “Well, 8 times out of the past 11, there’s been an upward revision, and those upward revisions have averaged 60,000.” But that doesn’t pass the standard of proof that we normally apply.

MR. PLOSSER. I prefaced my question.

MR. WILCOX. I know, but I’m taking it seriously. That’s not inside the normal kind of confidence interval that we would apply. We think it’s a good possibility. We think there’s a tendency in that direction, but we have got a lot less than definitive proof. But I’d say that, in marking down our assumption for payroll employment gains in light of that report, we marked them down less than we would have if we’d applied zero weight to that possibility.

MR. PLOSSER. What about—just to follow up quickly—on your labor market index, in terms of the two-month change?

MR. WILCOX. That’s a good question, and I don’t have an answer to what the counterfactual increase would have been in the LMCI if there had been an increase of 200,000 in payroll employment.

MR. PLOSSER. Thank you.

CHAIR YELLEN. President Williams.

MR. WILLIAMS. Thank you, Madam Chair. After hearing what David said about cocktail party conversation around the employment report, I realized why many of us are not invited to cocktail parties. [Laughter]

MR. WILCOX. Maybe this has to do with why he gets a few invitations.

MR. WILLIAMS. I have a couple of questions around the Tealbook and the forecast. I'm trying to understand a couple of issues a little bit better. One is on fiscal impetus. The reason I ask is, we still do have in our FOMC statement—and I think we'll continue to have—a sentence that says, "Fiscal policy is restraining economic growth, although the extent of restraint is diminishing," which I'm sure is factually correct. I did do a little bit of careful reading of the Tealbook because there's this wonderful box that goes through that, and it was very helpful. And then if you go to the Greensheets, there's actually a line there, quarter by quarter, on federal fiscal impetus. But I was curious about what the quarterly pattern of total fiscal impetus is, because, at least based on my calculations, we're probably down to minus a tenth or two in the second half of this year. So my question is, is that roughly right, and is that really a major factor in thinking about holding back the economy now relative to early this year, when it clearly was?

MR. ENGEN. Yes, that is certainly the case. The follow-up memo on the forecast noted that federal spending came in a little bit stronger in the third quarter. We're now down to roughly minus one tenth percent on total fiscal impetus in the second half. Now, one thing that would tend to make that a little more negative is that there are still some multiplier effects going on, so you could lower it another tenth for the second half to account for that. But, clearly, with the data we have in hand on both federal and state and local purchases over the first half of the year and into the third quarter, we are seeing it decelerate, and it is getting small. As you noted, the projection we reported in the box is that total fiscal impetus will be about zero for next year. So I think it is the case that not only is it diminishing, but it's also really becoming less of a factor for the overall forecast.

MR. WILLIAMS. Thank you. My second question is on “The Foreign Economic Outlook,” chart 2, in which the red dotted line shows the effect of the €1 trillion LSAP on economic growth and then in chart 4 its effect on inflation. Could you remind me how you viewed the effects of a euro-area, trillion-euro LSAP relative to all of the analysis we saw around U.S. LSAPs—the effects on financial conditions and how that feeds through the economy? Are these bigger or smaller effects in terms of bang for the buck in the euro area versus what we assume for the United States?

MR. KAMIN. Well, we certainly followed on the analysis of U.S. LSAPs when we did these estimates. We, in fact, started with the estimates in your article with Dave Reifschneider, Hess Chung, and Jean-Philippe Laforte.

MR. WILLIAMS. I’ve got my citation. I’m okay now. [Laughter]

MR. KAMIN. It’s also got the website, which you can just click on. We started with those estimates, and, frankly, we thought they might be a little bit high for the euro area for a couple of reasons: first of all, greater uncertainty surrounding both the prospects and implementation of the program; and, second, the fact that the euro area is perhaps more bank driven than the United States. So, for various reasons, we basically halved those estimates, and then we used those to apply to the 10-percent-of-GDP LSAP for the euro area that we’re assuming. The rest of it just followed through our SIGMA perfect foresight model.

MR. WILLIAMS. Great. Thank you.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. I have a couple of questions. One question is on the unemployment rate in the forecast for the domestic economy. When does it come back, in the staff’s forecast, to the natural rate? I should be more specific, I guess. It

comes back originally around mid-2016, I think, continues to go down, and then returns eventually to stabilize at some point in the next decade.

MR. WILCOX. It's a long time. The last figure I have printed is 5.0 in 2019.

MR. KOCHERLAKOTA. Okay. So the forecast anticipates several years below the natural rate.

MR. WILCOX. Yes, but the margin is pretty small and this time is considerably smaller than it was in the July Tealbook.

MR. KOCHERLAKOTA. That's right. Thanks for reminding me of that. I have a question about the European situation. I probably should know this, and I just don't. The nominal bond yields, even on long-term bonds, have gotten very low in Europe. If we were to try to do a decomposition, what would term premiums look like for, say, German bonds?

MR. KAMIN. We have some estimates of that. We're not, obviously, perfectly certain of them. Let me dig that up for a second.

MR. POTTER. We're probably pretty sure on the sign.

MR. KAMIN. Well, okay—yes. Well, my recollection is that it's actually straddling the zero line a little bit. For Germany, looking at this, our latest estimate for a decomposition of the 10-year bond yield is, in fact, a term premium that's very slightly below zero, with the rest of it being the average expected interest rate.

MR. KOCHERLAKOTA. I ask the question because, when Governor Stein was here, he offered some thoughts about how the level of the term premium could interact with the effectiveness of an LSAP program.

MR. KAMIN. Certainly. Following on our earlier discussion, LSAPs for the euro area would, in principle, push down that term premium into more negative territory.

MR. KOCHERLAKOTA. Right. Thanks. Then I had a question, and I think I did the calculation right: Regarding the number of participants who, in their SEP submissions, had the unemployment rate going below their long-run estimate of the natural rate, it looked to me as though 12 out of the 17 had that feature. Is that correct?

MS. DEBOER. That sounds about right.

MR. KOCHERLAKOTA. Okay. Thank you.

CHAIR YELLEN. Governor Fischer.

MR. FISCHER. This is a question for Steve. You said that you have a forecast that the dollar is going to weaken at some point. Now, in the abstract, yes, it'll happen one day. But what causes you to say that, and when will it happen?

MR. KAMIN. I'm not just saying it—it's our forecast. But I don't know if that should give it more weight or not. [Laughter] I guess what I'd say is, we have an established methodology.

MR. FISCHER. It's getting clearer and clearer.

MR. KAMIN. I would stop now, but I don't think I've even begun to answer your question. First of all, in terms of the "when," it's shown in your exhibit 2, in the second panel. Against the emerging market economies, we have the dollar starting to fall beginning in the next few quarters and moving forward. We have further appreciation over the next quarters and next several years against the advanced foreign economies. Now, as to why that is, let me start with the more standard example of the advanced foreign economies. The way we project the dollar against those currencies is, we basically look at anticipations of both U.S. interest rates and foreign interest rates, and we assume that the current level of the exchange rate incorporates the market's expectations of these future trajectories, but that, if the market down the road is going

to be surprised by either U.S. rates or foreign rates, then the currency will move commensurately. So in our projection, we think that the markets will be surprised by how quickly U.S. interest rates lift off, and, as a result, the dollar will rise further against those currencies. And that accounts for the upward trajectory against them.

Turning to the emerging market economies, we think that a key factor here is going to be China's exchange rate choices. In particular, as they move toward continued rebalancing of their economy, they will allow their currency—which, we believe, still remains somewhat undervalued—to appreciate over time. As they do that, their Asian neighbors will also allow their currencies to appreciate, albeit somewhat more slowly, and that's what accounts for the downward slope in the dollar against the EMEs in our forecast.

MR. FISCHER. You've got one going down and one going up, and the net is negative?

MR. KAMIN. The net is negative because the emerging market economies represent a progressively larger share of our trade—it now exceeds 50 percent—and because we have steeper depreciation against the emerging markets than we have appreciation against the advanced foreign economies.

MR. FISCHER. Do you have growth factors in this as well? Is the balance of payments also in this?

MR. KAMIN. Well, let's put it this way: We take that into account, let's say, more judgmentally. For example, the real value of the dollar against the Latin American currencies actually appreciates slightly over the forecast period because, in the aggregate, we think that their current account deficits are somewhat greater than the market is satisfied with. The opposite, of course, is true for the Asian currencies, and so that, along with their rebalancing motives, leads to the appreciation of their currencies in our forecast.

MR. FISCHER. How much does 1 percent on, let's say, your broad index give us on the price level in the United States?

MR. KAMIN. Let me check that. I think the answer is, not a huge amount. What I'm going to do is to provide you with some estimates based on our SIGMA model, and then perhaps David could elaborate. Basically, the way we have it now is that a 1 percent appreciation of the dollar would lead to an almost minimal reduction in both core and headline inflation. Maybe it would be easier to talk about these numbers in terms of a 10 percent fall in the dollar. A 10 percent fall in the dollar, for example, would boost our core inflation by maybe 0.2 percentage point and headline inflation by about the same amount—not a great effect. Does that work for you?

MR. WILCOX. Works for me.

MR. FISCHER. I heard a different message yesterday.

MR. WILCOX. The message you heard yesterday pertained to real activity, not to inflation. There's a fairly substantial effect on the terms of trade and on real activity, which is quantitatively, I think, much more important than the figures that Steve just cited with respect to inflation.

VICE CHAIRMAN DUDLEY. Steve, are these just the direct first-round effects, though? Are you assuming that there's a macro GDP effect that also feeds in?

MR. KAMIN. The numbers that I cited—this might be useful to talk about—are actually the full general-equilibrium effects. Among other things, they take into account some offsetting monetary policy responses that you would expect under these circumstances.

CHAIR YELLEN. President Bullard.

MR. BULLARD. Thank you, Madam Chair. I want to ask about exhibit 1, “The Foreign Economic Outlook,” and the €1 trillion LSAP. I’m looking at these figures, and I’m interpreting you to be saying that these are conditional. The red dotted line is conditional on the ECB entering into further LSAPs that are sovereign debt based. My question is, if you look at the German 10-year yield in figure 5 here, it has fallen about 100 basis points since the beginning of the year. Some of that could be interpreted as anticipatory effects that have already occurred. So isn’t some of the LSAP effect already in the European data? Some of the effects should be showing up in the European data over the forecast horizon even though they haven’t actually done a program.

MR. KAMIN. Yes, I think that, as a matter of logic, that’s certainly possible—how much of it is very difficult to parse.

MR. BULLARD. I think we sometimes found with our own program that the actual adoption of the program was greeted with a yawn. The anticipation of the program was where all of the action occurred, at least in financial markets.

MR. KAMIN. Right. Exactly. Just to be clear, some of our LSAP programs have been well telegraphed in advance and thus, when they were actually instituted, not hugely market moving. It is certainly possible that some portion of market moves over the past few months has been anticipation of an eventual LSAP focus on sovereign debt purchases. But, certainly, as of a few months ago or April, that was remote in most people’s appraisal, and even right now, it’s certainly not the likeliest outcome. Simon, you were citing a 40 percent probability?

MR. POTTER. Yes, it was a Reuters poll before the last meeting. It was 40 percent, which surprised me at how high it was, and I assume that went up.

MR. KAMIN. I would say that the lion's share of this estimated effect probably would go through if they announced the program right now, because it would be extremely unexpected to all market participants if they actually started this program—for example, announced it at their October meeting.

MR. BULLARD. Thank you.

CHAIR YELLEN. Further questions? [No response] Okay. Seeing none, why don't we begin our economic go-round? We'll start with President Rosengren.

MR. ROSENGREN. Thank you, Madam Chair. My forecast is broadly consistent with the Tealbook forecast. I expect economic growth above potential, but my unemployment rate forecast does not reach full employment of 5¼ percent until the second half of 2016. This forecast reflects analysis that suggests U-3 is underestimating the degree of slack in the labor market. As the labor market continues to improve, I am still optimistic about both the number of workers who will return to the labor force and movement of part-time workers to full-time employment. As in the Tealbook, my PCE inflation rate does not reach the 2 percent inflation target during the forecast horizon, resulting in a continuation of our persistent undershooting of the inflation target we set. Because I do not expect to reach full employment until the second half of 2016 and don't anticipate attaining our inflation target until after that, I expect to delay liftoff until we are within one year of attaining full employment—in essence, a patient monetary policy.

The determination of the degree of labor market slack is an important determinant of when I think liftoff should begin. Comparing state labor market indicators with pre-recession levels makes clear that there is significant slack in many local markets. For example, the share of workers working part time for economic reasons remains more than 1 percentage point above

pre-recession levels in 37 states, including most of the states badly impacted by the financial crisis, many of which have significant populations.

While I expect that real GDP will grow faster than potential through the forecast horizon, there is noticeable downside risk to this forecast. Residential investment poses one downside risk. Although residential investment is an important driver of economic growth above potential in my outlook, it has recently been weaker than one might have expected given still-low interest rates, rising housing prices, and improvements in wealth. Some of this weakness might reflect long-lived behavioral changes that have arisen in the wake of the financial crisis. For example, credit remains scarce for individuals with FICO scores below 640, something that no doubt reduces the number of potential first-time homebuyers. Credit for many of these potential buyers has been impaired by the weak economy, large student loan debt, and the diminished job prospects that many graduating from school have faced during or after the financial crisis. This may be one reason why models that the Federal Reserve Bank of Boston staff typically use continue to overpredict household formation and residential investment.

In addition to the lingering concerns about how domestic households and firms might change behavior in response to the recent recession, international concerns provide additional downside risks. The movement to partition in several existing European countries could reduce economic vibrancy in the area. Whether that partition occurs through possible democratic means in the United Kingdom, Belgium, and Spain or by force, as in several of the former members of the Soviet Union, we need to realize that Europe could remain a drag on the global economy for several years. The increased conflict in the Middle East also adds downside risk to the outlook.

With the uncertain geopolitical situation, it is not surprising that too low an inflation rate is the primary concern of many of our major trading partners. To a lesser extent, this is an

important concern for the United States as well. With Europe experiencing a very low rate of inflation, weak economic growth, and thus a tendency of the euro to devalue to expand exports to the United States, U.S. inflation may be lower than we expect. With the ECI indicating little wage pressure, significant slack still remaining in labor markets, and disinflationary global forces, my forecast suggests very slow progress to our 2 percent inflation target will continue for several more years, consistent with the persistent undershooting of our inflation target that has occurred since 2008. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. We met with a number of banking contacts in the intermeeting period in Montana and Minnesota. These states are relatively healthy economically. They both have unemployment rates around 4.5 percent. Nonetheless, the information from our contacts remained mixed. We did hear about some signs of life in loan demand. In particular, for the first time in years, contacts reported that borrowers were expanding their usage of existing lines of credit. At the same time, though, many contacts continue to be concerned about downside risks to the U.S. macroeconomy, like persistent low economic growth. We tried to dig into the possibility that the low interest rate environment was creating irresponsible lending practices. We heard nothing like that—in fact, quite the contrary. Banks reported that they and their competitors viewed relatively few loans as being creditworthy. There was intense competition for those few loans, and that competition has resulted in relaxed terms and conditions, but our contacts did not see that relaxation as resulting in excessively risky loans because of the underlying quality of the credit involved.

This is obviously only a small snapshot of a small portion of the economy, although I should say that some of the banks we talked to do have national footprints. But, in the past, I've

emphasized that possible financial instability should matter for monetary policy only insofar as that instability is creating sufficiently large risks to our dual-mandate outcomes. The evidence in Carmen Reinhart's work and elsewhere suggests to me that, if instability is to be relevant for our macroeconomic goals, it should, in fact, engage wide swaths of the economy, not just narrow slices of financial markets. In particular, for financial instability to be macroeconomically relevant, we should see at least some imprint of it in Main Street lending practices. So far, we're not seeing that imprint in Montana and Minnesota, despite their strong economies.

Let me turn now to the national economy. The big change in my SEP submission since June is that I have taken on board the staff's assessment that the underlying rate of inflation in the economy is 1.75 percent. To be precise, this means that the inflation rate will converge to 1.75 percent in the absence of further shocks and if slack converges to zero. Hence, the inflation rate returns to target in the Tealbook's modal outlook only because the outlook is for the unemployment rate to fall below the natural rate temporarily, although, as I just discussed with David in our exchange, "temporarily" is actually a fairly long time. Similarly, under appropriate monetary policy, my modal outlook is for the unemployment rate to fall below the natural rate, which I currently gauge to be 5 percent, for some period of time. Now, as I mentioned to Marnie, I noted with interest in the SEP that 12 out of 17 participants have submitted projections that have the same property of the unemployment rate going below their estimates of the longer-run natural rate, at least for some period of time.

This aspect of our outlooks and the Tealbook's raises an important communication issue for us as a Committee. The July statement and our draft alternatives for this meeting do not communicate that the Committee expects that the unemployment rate will fall below longer-run levels consistent with its dual mandate. Indeed, I would argue that the statement, in fact, implies

the exact opposite. The Committee’s modal outlook is that the unemployment rate will not fall below a level consistent with the longer-run estimates of maximum employment. Because of our outlooks and the outlook in the Tealbook, I would say it would be highly desirable for the statement to say explicitly that the Committee anticipates that the unemployment rate will fall for some time below the natural rate of unemployment. This kind of transparency about our collective assessment of the economy would boost households’ expectations about future macroeconomic outcomes and thereby facilitate faster progress toward our macroeconomic goals.

To sum up what I am trying to say here, the Tealbook outlook and two-thirds of SEP participants expect the unemployment rate to fall below their estimates of the natural rate. The FOMC statement seems to imply the opposite—that the unemployment rate will simply converge to the longer-run natural rate from above. I think this lack of transparency about our collective outlook is robbing the economy of useful near-term stimulus, and, Madam Chair, I hope that we can find a way to fix this gap in our communications in the near future. Thank you.

CHAIR YELLEN. Governor Fischer, do you want to make a two-handed intervention?

MR. FISCHER. Yes.

CHAIR YELLEN. You may.

MR. FISCHER. I don’t think you can make that statement without saying that there’s a probability of 45 percent that it will not fall below its longer-run level. The ranges of uncertainty are so massive that sending strong messages about what’s going to happen three years from now seems to me to be potentially misleading.

MR. KOCHERLAKOTA. Governor Fischer, I take your point. I think we should be careful to communicate uncertainty about our forecasts on an ongoing basis. The Chair did that

wonderfully in her March press conference, and that's a point we should always be making. That said, I believe that the verbal communication I'm pointing to would give the public a better sense of our reaction function to economic conditions and how we're thinking about the path for appropriate monetary policy. What kinds of conditions do we want to try to achieve through the arc of our appropriate monetary policy? I think it's very informative about what the Committee is trying to get to in terms of macroeconomic outcomes. But I take your point, and I agree with you completely that it's appropriate for us to be clearer, perhaps, than we always are about the level of uncertainty associated with those forecasts.

CHAIR YELLEN. Thank you. President Plosser.

MR. PLOSSER. Thank you, Madam Chair. Economic activity in the Third District continues to grow moderately, and expectations of future activity are bordering on effusive. Over the three months ending in July, employment increased at an annual rate of 1.7 percent. The unemployment rate remained at 6 percent, pretty much in line with that of the nation as a whole. Our Business Outlook Survey's current activity index for September, which is embargoed until Thursday at 10:00 a.m., slipped slightly to 22.5 after posting a robust 28 in August. However, that reading, even at 22.5, is very high and considerably above its nonrecession average of 9.9 percent. The indexes for new orders and shipments both increased in September and are both at very strong levels relative to their nonrecessionary averages. The indexes for both prices received and prices paid increased as well. Growth was broadly based across a wide range of manufacturing goods. Our current employment index stands at a very strong 21.2, well above its nonrecession average of 2.7.

The only area in which the unemployment rate is rising is Atlantic City. The recent closing of three casinos has resulted, just this month, in the loss of 7,800 jobs in that community,

particularly in the gaming industry, shrinking local employment in that sector by almost 25 percent. Those losses alone were mostly what showed up in the early September numbers on unemployment insurance claims and, according to my staff, will account for almost half of the increase in new claims that was reported in the most recent week.

With respect to future expectations, the future general activity index in our BOS came in at 56—once again, a very high number—slightly below the 66 it was in August. The August number, at 66, was the highest reading since 1993. Also, both the indexes for future shipments and future new orders remained at very elevated levels, indicating high optimism regarding future economic activity.

Our bankers in the District, unlike those in Minnesota, have actually seen growth in loans, both personal and C&I loans. In fact, they were very specific in noting that, for the first time in several years, their loan growth was organic and coming from an increased demand for loans. They weren't just stealing loans from other banks through competitive pricing.

In the region, we're also beginning to see a bit of improvement in real estate, with continued modest price increases and a rise in permits, although in our District the increase in permits is almost totally driven by an increase in the multifamily sector. Nonresidential construction activity is showing improvement, but it's definitely going to accelerate. Comcast's new \$1.2 billion building will be showing up in the new construction numbers in coming months, and it'll have a significant effect, at least in our District, on nonresidential activity. Indeed, the new Comcast building and its employment will probably add 1 percent to the work force in the region.

With respect to the behavior of housing in the economy as a whole, we are witnessing a return of markups in new home prices to pre-recession levels. In the past, this measure of

markups has tracked residential investment quite well. But that relationship does not appear to be holding in the current recovery. This may be due to a number of factors. Vacancy rates that include housing that is being held off the market remain high, suggesting a substantial overhang of preexisting housing stock. Further, household formation tends to be very low by historical standards. That and the financial drag from high student debt levels may be depressing a recovery in this sector but are likely to continue to do so. These features are consistent with data I reported at our last meeting, in which I noted the significant decline in homeownership, particularly among those between 25 and 39 years of age. This group seems to be staying out of the housing market in large numbers and increasing their reliance on multifamily instead of single-family homes.

For the national outlook, my view is still fairly upbeat, and I pretty much discounted the latest employment report. Many analysts saw August payrolls as inconsistent with many other labor market indicators, including the ISM surveys, regional Fed surveys, data on claims, and the ADP numbers. Moreover, even in this labor report, long-duration unemployment and U-6 continued to decline. Readings on vacancy and quit rates were indicative of a more healthy labor market, as was the initial level of unemployment claims. Thus, I have not taken too much signal from this first estimate of the employment report. But even if this number is unrevised and stays where it is, the fact remains that the labor market has been on a very healthy run over the past year, especially in the past seven months. Up until August, we saw six consecutive months of more than 200,000 jobs created. The last time that happened was 1997. The accumulated progress in the labor market is significant. We should be cautious in allowing one month's noisy first estimate to shape our medium-term policy outlook.

I'm also a bit more bullish than the Tealbook concerning the consumer. Household net worth continues to increase. Debt-to-income ratios continue to decline. Delinquency rates remain low, leading me to anticipate more favorable credit conditions. And employment growth is still solid. The latest retail sales report adds support to my expectations of improved growth in consumer spending. I am a bit puzzled, however, by the near-term slowdown in business fixed investment expected by the staff in the Tealbook. The information I'm receiving from my contacts, at least in the District, is not consistent with such a slowdown.

Overall, my medium-term outlook for the national economy anticipates economic growth of about 3 percent over the remainder of this year and next, with growth gradually falling toward 2½ percent in 2017, which is my longer-run trend. This should lead to a continued fall in the unemployment rate to 5.7 percent by the end of this year, and then I anticipate that the unemployment rate will continue to fall, reaching 5.3 percent, which is slightly below my estimate of the natural rate. I also expect that inflation will gradually approach the Committee's goals in 2015, somewhat more quickly than anticipated by others. Nothing in the data I've seen since the last meeting has changed my forecast. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Fisher.

MR. FISHER. Thank you, Madam Chair. First, I want to thank President Bullard for joining me in the Ice Bucket Challenge that we put out for Lou Gehrig's disease. One of my interlocutors is Mr. Zuckerberg, and he pointed out that this phenomenon has actually changed the way that people upload video. And one of the little cocktail statistics that might be useful, because we are not ordinarily given to being fun people at cocktail parties, is that network volume now is basically 60 percent Netflix and YouTube; that's what is being loaded up.

Currently, this exercise—thanks to you, President Bullard, because you took 7½ minutes to say what I did in 2—accounts for that activity. [Laughter]

I would like to change the way I walk through things. I want to talk a little bit about my concern about the balance of how we present our views on economic developments, and then I want to talk very quickly about financial markets, Madam Chair, if I may.

It's very clear to me that the economy is on much firmer footing than it was a year ago, despite the geopolitical risks that we all talk about and, of course, despite our diminishing LSAPs. Labor market slack continues to decline. The line in Steve Kamin's exhibit 1, panel 6, for the United States versus the United Kingdom is very impressive and extremely radical in terms of its rundown from 2011 to now. I think we have a reasonable probability of reaching full employment before the end of 2016, which is what we have in the SEP as the most likely outcome. I heavily discount the August nonfarm jobs report, as others have mentioned, in part because it's an odd number, and it's often significantly revised, as was mentioned earlier. But even if it's not significantly revised, I'm not dismayed. It was mentioned, I think, by President Plosser—one has to go all the way back to the period from January through July of 1997 to find seven straight months with nonfarm increases in excess of 200,000. So it's hardly earthshaking to me that we saw only 142,000 jobs reported in August. If that number holds, that will still be six straight months of pretty strong gains.

Regarding the revisions to the Tealbook that took place that David walked us through, particularly noteworthy for me is the downward revision from the July Tealbook for the second half of this year from a rate of 3.4 to 3.1 percent. That doesn't dismay me, because that's where I was in July, and I haven't changed my forecast significantly. From a standpoint of economic growth and the most important variable we are focused on now, unemployment, I believe the

movement is—and I'll come back to this in just a second—not insignificant and moving at a pace that, as I indicated in my comments at the last meeting, made me uncomfortable with the way we state it ourselves. I'll get to that tomorrow when we talk about it in the policy round.

On the inflation front, we, frankly—at least we at the Dallas Fed—do not find compelling the research that suggests that the unemployment rate has lost its usefulness as an indicator of near-term wage and price pressures, with great respect for the LMCI. The modest increase we've seen in nominal wage growth for the United States as a whole so far is completely consistent with past experience. The higher rate of nominal wage growth that we're experiencing in the robust economy of the 11th Federal Reserve District, at 3.6 percent, with unemployment at 5.1 percent, is, too. And we believe that you can expect significantly faster rates of nominal wage growth as the unemployment rate moves down. I want to talk about that for a second. I want to come back, if you'll give me forbearance here, to talk about what we're seeing in my District. Here's what we're seeing: payroll survey data saying that, on average, our hourly earnings rose 3.6 percent in 2013. That's versus, I think, 1.7 percent for the United States as a whole. Texas wages in manufacturing have risen 5.5 percent year over year, and we estimate that the CPI for Texas—again, I say “Texas” because it's 96 percent or 97 percent of my District—is running at 2½ percent. That's for both headline and core.

This is interesting to me because we have workers streaming into our District. In other words, the numerator is growing, and yet the unemployment rate remains at 5.1 percent. Our employment is growing at a blistering pace. It grew 4.5 percent month over month in July. It's up more than 3½ percent year to date despite declines in state and federal government employment. And our job growth in the second quarter was the highest since 1997. We even

have reports that armed guards are being stationed on construction sites so that workers cannot be stolen from those construction sites. So we're running at full steam.

I asked my staff to go back and analyze state-by-state data from 1982 to 2013. Here's what they found, which I think is something that we should note, Madam Chair: First, the Phillips curve is convex and nonlinear. That is, employers find it relatively easier to raise wages when the economy is expanding and unemployment is low than to cut wages when unemployment is high. Declines in the unemployment rate below 6.1 percent exert significantly higher wage pressure than if the rate is above 6.1 percent. Second, short-term unemployment has a strong relationship with nominal wage growth, but long-term unemployment does not exert significant pressures on nominal wage growth. I just wanted to make those two points, and we'd be happy to share that research with the Board's staff.

With regard to my interlocutors, I won't bore you except to mention a couple of things that have already been noted. We talked about energy a bit. Everybody knows what's happened to the price of WTI and Brent. The "oilies" I speak to, from the biggest company to the medium and small operators, definitely expect these levels to maintain themselves for quite some time. Very importantly, "mogas"—or motor gas—as it's known in the business, is very affordable even as refineries go through the transition, which is typical at this time of year, from summer-grade to winter-grade processing. The rig count, incidentally, rose to 907 in Texas even with natural gas prices coming off a tiny bit. New Mexico is running the highest rig count since 2006.

In terms of food prices, I spoke about this last time. Soybeans, corn, and following through to the quickest converters to animal protein from plant protein—chickens, et cetera—are now at their lowest prices in four years. Every food supplier that I speak to expects this to continue. Here's my point: This is a good thing. This is not a bad thing. It dampens inflation

but in the right kind of way. It is supply driven, and it's not a result of demand shocks. I wanted just to register those two points.

With regard to housing—which President Rosengren and President Plosser mentioned—the real driving force in terms of housing prices is the cost of labor and the unavailability of lots. You literally cannot find skilled labor, and it has much to do with immigration policy, whether it's a roofer or a plumber or whatever you might need. According to the homebuilders that I speak to, which are most of the major housing companies, that really is one of the constraints in terms of housing activity. In addition, qualifying for credit is a key driving issue, particularly in terms of the credit ratings for the younger people coming in. Homebuilders do not talk about the shortage of skilled labor, because many of them are worried about how it might affect the stock prices or their views of management. But those are factors that every homebuilder I speak to says are more of a governing consideration than the level of mortgage rates.

With regard to wages, I'm hearing constantly from my interlocutors that the real problem is the division between those who are college-educated and those who are not college-educated. Wage pressures in a degreed field are significantly increasing—not so with regular labor. And we see some, of course, some upward shift in the quits ratio in the last two reports; people are feeling more comfortable leaving for jobs. What I'm hearing from my interlocutors, particularly with the degreed area, is that they're able to leave now much more quickly and for higher-paying jobs. Those are just points to take into consideration.

I'd like to turn quickly to the financial markets. The S&P index is 1 percent off the record high. The same is true for equity prices in Canada. London is 2 percent off. Shanghai is at a 52-week high. India is 1 percent off its all-time high. Even Argentina is trading at record levels. After-tax profit margins are running at 9.8 percent. That's the highest in 20 years.

That's good, but old investors like me look at these numbers and interpret them with a concern that it's unlikely to get much better. The S&P is trading at 19 times trailing 12-months' earnings—pretty healthy. The average, if memory serves, is 15½ times.

If you look at M&A activity, it's up 60 percent from the pace last year. That's \$1.2 trillion as closed through last weekend, the highest volume since 2001. And if you look at the Dealogic data, they show that the average U.S. closing takes only 57 days after the announcement and, for deals over \$1 billion, 87 days. That's the quickest—at least in my memory. Looking at that data, which have only been collected since 1995, M&A in the heady days of 2006 and 2007 took 100 days, on average, to close, and those over \$1 billion, 136 days. Moreover, the percentage of all-cash deals is running at its lowest level since 2001. The currency for M&A is equity, but the clever are still piling up cash.

My favorite story is told by one of my interlocutors. He owns a very large company, and it's completely owned by Buffett. He calls Buffett and asks for permission to borrow \$1 billion, which he only needs two years out. The answer that comes back is, "Borrow \$10 billion." Then he says, "I don't need \$10 billion. I don't even need the \$1 billion for another two years. Why would I want to borrow it?" Buffett says, "Just put it in cash and go out as long as 50 years and borrow it. We'll never see interest rates this low again. It's a gift—take it." This is the attitude that I still think is pervasive in the corporate world, at least according to the people I speak to.

Corporations bought back \$338 billion of stock in the first half of the year. They're spending 31 percent of their cash flow on stock buybacks, not on hiring people and not on putting it to work in cap-ex. It's the largest volume of any six-month period since 2007, and, at the end of August, 740 companies had authorized repurchases.

What does this tell us? Why do I mention it? First, this is good. Corporate America is muscular and in great shape, and we've helped make that possible. Stocks are richly priced. That's all good. But if you look at it through the prisms of an investor—and this is why I mention it—it makes you nervous when prices are so rich and activity is so brisk. It signals that the pros are approaching the door, in my opinion. Of course, the best rule of smart investing is, when everybody wants to buy something, you avoid it, and when nobody wants it, you buy it. But, to put a cherry on top of this, when I opened Monday's *Wall Street Journal*—I haven't seen today's—the headline was somewhat catchy. It said “Bears Turn Docile . . . Former Pessimists Throw in the Towel in Face of a Rally That Won't Quit.” That's usually a danger sign. I mention it only because we are now at the polar opposite of where we were in March 2009. This is a victory for us. But I've mentioned this several times: I just want us to be wary. We're due for a reversal. I have no idea when it's going to occur. When it occurs, I certainly hope this Committee will not panic. It wouldn't be unusual to have a 10 percent correction, a 15 percent correction, or even a 20 percent correction. That doesn't mean that the real economy is likely to be affected, because we have so stimulated this market and achieved what we wanted to achieve. But, at the same time, this won't go on forever.

I want to speak very briefly about the bond market. Businesses, despite what they've been spending—31 percent of their cash flow—still have \$1.35 trillion in cash. That's down slightly from \$1.41 trillion. That's what's on their balance sheets. And there's a lot of buying power still out there, so this could continue for quite some time. One of the things that deeply concerns me—and I've spoken about it before—is the junk bond market. Again, we're still seeing rates, both nominal rates and spreads, that indicate to me very promiscuous, low credit standards. This morning, the bank credit analysts had a conference—it's not running now—in

New York. Bennett Goodman, who's a cofounder of something called GSO Capital Partners and a pretty smart fellow, was asked whether he anticipated a rise in defaults in the coming years, given the high-yield valuations that are being so stretched. His answer was a classic, and it worries me: "A company can't trigger a covenant and thereby default if the covenant does not exist." We are seeing indiscriminate lending. There are no covenants in many of these loans. And I think we have to be wary of the fact that we are pushing the extremes of financial instability. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Lacker.

MR. LACKER. Thank you, Madam Chair. On balance, economic activity in the Fifth District has continued to expand. Over the summer we've seen substantial improvement in our indexes for manufacturing and service-sector activity. The preliminary September survey numbers, due out on the 23rd—this is confidential until then—also look pretty good.

Anecdotal reports, however, are more of a mixed bag. They generally run positive, but businesses are cautious about increases in hiring or investment, and the pullback in federal spending is continuing to have large effects in some areas. Defense cutbacks have led to pronounced sluggishness in the Hampton Roads area of Virginia and around selected military bases in eastern North Carolina. Growth in high-paying jobs in professional and business services has slowed dramatically in the D.C. area, with outright declines evident in Northern Virginia.

We continue to hear widespread reports of labor shortages, but we are not yet seeing signs of broad-based wage acceleration. While many of the shortages are in IT or certain skill groups, several contacts lamented that they're having difficulty finding workers with the appropriate work ethic and the ability to pass a drug test. An auto industry contact reports

bottlenecks due to a lack of skilled technical workers. There was one report from a textile firm that a lack of skilled labor is a big and growing problem. Apparently, this is not your father's textile industry.

One obvious response to a skill shortage is for firms to arrange training for their employees, and we've seen evidence that this is taking place. We do hear about firms building their own training programs, and, in one region in which advanced manufacturing is prevalent, virtually all such firms are said to be involved in apprenticeship programs with the local community college.

The other obvious response to a skill shortage is to pay more, and we are hearing about wage pressures for certain hot skills. The CEO of a software firm specializing in health benefit systems—who, by the way, is reporting strong business driven by ACA compliance—says she will have to budget 4 to 4½ percent next year for wage increases for her tech workers. A contact who's close to the machinists union is seeing wage settlements averaging 2 percent for this coming year but 3 to 3½ percent for 2016 and 2017. The CEO of a staffing firm in the Carolinas says he believes higher nominal wage growth is imminent in several fields. So instances of accelerating compensation are obviously not inconsistent with stable relative wage trends, because you'd expect to see relative wages change over time as the composition of labor demand evolves. The reports we hear do not suggest an across-the-board pickup in wage gains of the type you'd expect to see during a broader inflationary surge. Moreover, while we heard some scattered reports of improved pricing power earlier this year, comments about pricing pressures or rising inflation have been notably absent of late. As an aside, though, a lack of evidence of broad-based acceleration in wages and prices is not cause for complacency. If we wait until we

do see that, we will have waited too long. And we didn't wait that long, I'd note, when we tightened in 1994.

On the national projections, I was struck by the extent to which the Tealbook has lowered its forecast for consumer spending and private investment. As a result, it looks as if the staff has more or less abandoned hope of achieving 3 percent real GDP growth on a sustained basis anytime soon. Over the past five years, there have been numerous sightings of 3-plus percent economic growth just a couple of quarters ahead, and yet each has proven to be a mirage. I, too, was fooled by many of those sightings and, accordingly, sent in projections of acceleration that never materialized. I reconciled myself, however, to the notion that, no matter what econometric oases shimmer in the distance, the next stretch of road—to use your car trip metaphor, Madam Chair—is likely to closely resemble the last. In other words, the landscape in Iowa is looking a lot like Nebraska. Illinois appears likely to look the same as well.

MR. KOCHERLAKOTA. That's so untrue. [Laughter]

MR. LACKER. At the same time, the staff's forecast does still call for a notable acceleration in GDP—2.7 percent next year and 2.9 percent the year after that. The driving force appears to be a sustained pickup in productivity growth from around 1 percent, which is the average rate we've seen since the recession, to around 1¾ percent. Without that productivity growth, compensation wouldn't accelerate. Without that, real income wouldn't accelerate. And without that, consumer spending wouldn't accelerate, and so on. Forecasting medium-term swings in labor productivity growth is notoriously difficult. Uncertainty is substantial around whatever forecast one writes down. So I have to admit that that kind of acceleration is certainly not implausible. My own sense, though, is that we're more likely to see numbers like we've seen

over the past few years, so my projections are predicated on productivity growth continuing to average around 1 percent.

My projection is for real GDP to grow at 2.1 percent in 2015 and 2016, and I believe that that will be consistent with continuing improvement in labor market conditions. I expect the labor force participation rate to decline 0.2 percentage point a year, along the lines shown in the Tealbook, in which the projection in the outyears has been pulled down a bit for this meeting. I'm projecting an unemployment rate of 5 percent at the end of 2016 and 2017. And, finally, my projections for both headline and core inflation are that they will hit 2 percent in 2016, a bit sooner than in the Tealbook. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Madam Chair. I'll start this time with my outlook and then add some color from our conversations over the recent weeks. I submitted a forecast of above-trend growth for this quarter and next and through next year of around 3 percent, with the U-3 unemployment rate ending the year at 6 percent and next year at 5½ percent. In my medium-term outlook, inflation remains below the Committee's target until 2016. My forecast is little changed from the June submission, and the incoming data have fed growing confidence on my part in this basic outlook.

In terms of the basic narrative, I see little distinction between my forecast and the current Tealbook baseline. As regards my characterization of appropriate policy, I have liftoff in the third quarter of 2015, a little later than the Tealbook. Once initiated, my working assumption for now is a deliberate pace of increases in the federal funds rate target range at 25 basis points per meeting, in line with precedent and a somewhat steeper trajectory than implied by the Tealbook path. I might be overestimating a concern, but, at some point, I think the Committee will have to

discuss how we would operationalize a more gradual trajectory of rates and the communication challenges that might accompany a pattern other than 25 basis points per meeting. But that's not a subject for this meeting.

Now, turning to District input, during the intermeeting period, we focused our questions on business confidence in a 3 percent growth outlook; insights on consumer spending; and employment and hiring conditions, particularly wage pressures. Business sentiment remains generally upbeat, and the pulse of economic activity appears to have strengthened. Industrial activity has been strong, and our tourism and transportation industries are still reporting robust conditions. Activity in residential real estate markets has improved from earlier in the year, although, like others, we heard reports of labor and material shortages constraining homebuilding. We heard mixed reports on consumer spending, depending on sector and subregion. The overall impression was of fairly lackluster consumer activity. Bankers in our District mostly reported improved credit demand across a spectrum of customer types and products. Regarding hiring conditions, we heard more comments indicating a shortage of qualified job applicants. In a handful of specialized occupations, we heard reports of upward wage pressure on offer wages. Overall, however, the demand for additional workers does not seem to have changed markedly from the experience of recent years. To quote one contact, "No one is going long labor." Our practice in evaluating District inputs is to look for disconnects between descriptions of conditions on the ground and incoming data. This time around, what we heard broadly conforms to the incoming data.

As regards the risks to the outlook around my forecast, I'm treating the risks to growth and inflation as broadly balanced. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Evans.

MR. EVANS. Thank you, Madam Chair. I'd like to start by saying just one thing to President Fisher: I did the Ice Bucket Challenge before you did.

MR. FISHER. Look at what you did—you restructured a whole industry. [Laughter]

MR. EVANS. My economic assessment has changed very little since my June SEP submission. It's a lot like David's Tealbook discussion. The economy still seems poised for reasonably solid growth of 3 percent or so over the next 18 months. Most of the recent data have been pretty good. Orders for capital goods in the ISM surveys point to a good pickup in business investment, and the consumer outlook seems on a better footing after the recent retail sales and quarterly services reports. Although the August jobs data were disappointing, the longer perspective is that employment has been growing more than 200,000 per month for quite some time. And, given the usual volatility in these numbers, we shouldn't be too surprised by the occasional bump in the road.

The improved incoming data match well with what I've been hearing from business contacts. They have been noting good and improving conditions for the past several meetings, but, over the past couple of months, the reports have become more uniformly positive. I'm now hearing the phrase "best since 2007" quite often. For example, my director who's the CEO of a large electric utility reported that orders for electrical services from new businesses are the best since before the recession. This might be a signal of improving start-up activities. In the manufacturing sector, a number of our contacts are increasing capital expenditures. Every other year in September, Chicago hosts the large International Manufacturing Technology Show. This year's show drew heavy traffic, and the tone from both buyers and sellers was quite upbeat.

Meanwhile, bankers are reporting that a stronger economy and increased business confidence are showing through to robust growth in outstanding C&I loan balances. Businesses now are actually drawing on credit lines and not just setting up new commitments.

All of this is leading to some progress on employment. For example, our director who leads a labor union said that the increase in construction in and around Chicago has put people back to work and has led to expanded apprenticeship programs and skilled tradesmen being induced to come out of retirement. At least in this instance—and, apparently, in the case of Dave Reifschneider—retirement doesn't appear to be an absorbing state. [Laughter]

Even though my forecast hasn't changed, I have more confidence that my 3 percent outlook for economic growth might actually happen over the next several quarters. Of course, that's still not a slam dunk. Housing is a reminder that we still face significant headwinds, and there are international risks that could still weigh on economic growth. The United States continues to be the bright spot in the global economy. I hear that from a lot of businesspeople. And we'll be doing well if the rest of the world is a neutral influence on us over the next couple of years.

On the price front, inflation has come closer to target since the spring, but it's still running well below our 2 percent objective for PCE inflation. Core PCE inflation is running about 1½ percent, with the past couple of monthly readings back on the soft side.

Wages continue to rise modestly at about a 2¼ percent rate. That's a long way from the benchmark of 3 to 4 percent implied by productivity growth and our inflation objective. Wage dynamics are a somewhat subtle topic. The historical evidence in the post-Volcker era is that wages don't help predict inflation. Of course, we shouldn't forget that pretty much nothing helps predict inflation other than inflation. That said, we still shouldn't expect to get an increase in

inflation without a similar pickup in nominal wage growth. I asked my research staff to investigate the co-movements of nominal wage growth and price inflation in our Chicago Fed DSGE model. The basic result is that, following demandish-looking shocks, nominal wage growth and price inflation move together. So if we think that the economy is near the point of overheating because of overly-accommodative monetary policy, then we should see the rate of wage increases moving up contemporaneously with inflation. There's simply not much evidence of that at the moment.

Putting all of this together, I continue to expect that inflation will remain below our objective until at least 2017, even though output gaps are likely to be effectively eliminated sooner. In my opinion, if these conditions were to transpire, appropriate monetary policy would delay the federal funds rate liftoff until early 2016. Tomorrow I will talk more about risk-management issues at the zero lower bound that further strengthen the case for being very cautious about withdrawing accommodation. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Bullard.

MR. BULLARD. Thank you, Madam Chair. The Eighth District economy has expanded modestly during the intermeeting period. A significant percentage of our business contacts expect economic conditions to improve over the second half of 2014. Recent reports on retail and auto sales have been positive. Residential real estate markets are generally soft, but there are areas experiencing accelerating activity. Commercial construction appears to be on the rise. District households continue to reduce their credit card or mortgage debt balances, but automotive debt balances continue to rise at a healthy rate.

District labor markets continue to improve. The Eighth District unemployment rate measured across 17 MSAs was 6.1 percent in the most recent reading, the lowest level in almost

six years. A majority of Eighth District business contacts expect that wage growth will be little changed over the near term. However, a sizable minority, around 40 percent, expect to see modest gains in wages over the second half of 2014. Hiring announcements in a large variety of manufacturing and services firms have increased.

A key contact in the transportation industry reported newly emergent signs of a strengthening in demand. Another contact in the same industry reported improving U.S. volumes in recent weeks.

The St. Louis assessment is that data flows for the national economy have generally been stronger than expected during the intermeeting period. Real GDP growth for the second quarter now appears stronger than previously thought, and I remain optimistic that the second-half real GDP growth will exceed 3 percent, which is considerably in excess of my estimate of potential GDP growth.

I continue to expect improvement in labor markets in coming reports, with the unemployment rate dropping below 6 percent by year-end. I continue to view labor force participation as a variable in secular decline due to demographic factors. In this regard, I was encouraged during the intermeeting period by the updated research of Stephanie Aaronson et al., “Labor Force Participation: Recent Developments and Future Prospects,” which is a Board of Governors staff working paper now. Before the financial crisis in 2006, this group worked on a model of labor force participation that forecast out of sample that today’s labor force participation rate would be nearly exactly what it has actually turned out to be—surely one of the most successful macroeconomic forecasts in recent times. Their current work suggests to me that continuing secular decline for this variable is the most reasonable prediction over the next 5 to 10 years. Accordingly, I take more signal from the recent declines in unemployment than

many around this table, and I see the continuing declines in unemployment as a clear sign of a markedly improved labor market. In conjunction with robust growth in nonfarm payrolls this year—and, indeed, since the onset of QE3 in September 2012—my interpretation is that our most reliable workhorse indicators of labor market performance are pointing to clear improvement in labor market conditions. The Committee should take that evidence at face value and formulate policy accordingly.

While it is true that we can and should consider a broad array of labor market indicators when making policy judgments, I think we have to keep in mind the limits of such an approach to policy. How much extra information is really being added by consideration of a wider range of indicators of labor market performance? What additional forecasting power is being accrued through the additional labor market indicators over and above what is available through the workhorse indicators: nonfarm payroll employment growth and the unemployment rate?

One way to aggregate labor market information from a variety of sources is to create a labor market conditions index, as has been done here at the Board and at the Kansas City Fed. We in St. Louis are actually working on our own index. An index approach is certainly reasonable, but labor market conditions indexes tend to be highly correlated with the workhorse indicators, unemployment and payrolls. It's not clear from building the index that an improvement has been made relative to considering the workhorse indicators alone. I have one additional thought on this: If an LMCI is a better measure of labor market performance—and I'm not sure that this has been shown—our policy discussions here could be based on the LMCI instead of on the unemployment rate. That is, charts showing policy outcomes could be constructed showing the likely evolution of the LMCI instead of unemployment or payroll employment. We actually saw a little bit of this today in the presentation on the forecast.

This is the two-year anniversary of QE3, so I have a few comments on where we are today relative to where we expected to be at this juncture two years ago. The essential story is that the real economy has performed considerably better than expected over the two years since QE3 was launched, yet the liftoff from the zero lower bound that was predicted at that time is not occurring today, nor is it imminent. I think this story is an important one to tell, because it means that the communication to the outside world and to ourselves is not accurate. Events occurred that created conditions under which the Committee communicated that it would raise rates, yet when those conditions materialized, we did not follow through. I think we need to be better about this as we go forward, in order to maintain the Committee's credibility.

The story is simple to tell. It involves the forecasts for output growth, inflation, unemployment, and the federal funds rate as of September 2012. For GDP growth, the staff and the Committee generally predicted somewhat slower economic growth in 2013, followed by faster growth in 2014. For 2013, actual growth was 3.1 percent, and this year, it looks as though it will be somewhat slower due to the first quarter of 2014, which looks like an aberration at this point. Nevertheless, if we average across the two years, GDP growth has not been far from what was forecast in September 2012 at the launch of QE3.

For inflation, the staff and the Committee generally predicted values less than 2 percent for 2013 and 2014. The staff forecast was for inflation closer to 1.5 percent in both years. They were actually below all members of the Committee at that juncture. Inflation has indeed remained below 2 percent during this period, and the staff forecast for 2014 is looking reasonably good at this point—so, a smiley face to the staff on the inflation forecast. As with GDP growth, inflation behaved about as expected.

On unemployment, however, the forecast put forward at the launch of QE3 turned out to be far too pessimistic. The staff forecast suggested an unemployment rate of 8 percent at the end of 2013 and 7.6 percent at the end of 2014. Committee forecasts were somewhat lower, but still far too high. Actual unemployment looks to be headed below 6 percent by the end of this year, implying a miss of more than 1½ percentage points on the staff forecast and one that's almost equally large for Committee members.

The data configuration is this: output forecast roughly on target, inflation forecast roughly on target, and unemployment pleasantly surprising during the two-year period. For the federal funds rate, the Committee and the staff predicted liftoff in the second half of 2014 provided that all went according to plan. I would say that all went according to plan, plus we received great news concerning improved labor markets, yet we are sitting here today not really even contemplating liftoff until sometime next year. The lesson is clear, in my view: We should quit kidding ourselves about what we intend to do. It is not helpful for communication around this table, and it's not helpful for communication with the public.

I might suggest one simple resolution—there may be others, and I would certainly be open to other views on this. I suggest that many around the table do not think we should raise the policy rate from the zero lower bound so long as inflation remains low. We should at least acknowledge this as a possible policy viewpoint. I would characterize such a view as an extreme form, perhaps, of strict inflation targeting—that is, the policy rate is somehow moved only in response to inflation. If inflation is below target, we wouldn't move the policy rate. Under such a policy, the policy rate can remain lower than normal so long as inflation remains low. I suggest that the staff include such a policy rule in our repertoire to represent this possible policy view in the future. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Mester.

MS. MESTER. Thank you, Madam Chair. Economic conditions continue to improve in the Fourth District, with moderate economic growth continuing. Information gathered from our business contacts during the intermeeting period shows a growing sense of optimism that the expansion is sustainable and economic growth is accelerating. Sixty percent of our contacts reported an improvement in business conditions over the past six to eight weeks, compared with 13 percent reporting a deterioration. Back in December, 38 percent reported improving conditions, while 28 percent reported deterioration. If you construct a diffusion index, that represents an increase from 10 to 47 over this year.

Manufacturing is an important sector in the District, and both activity and sentiment have improved in this sector. Somewhat in contrast to the August national industrial production numbers, nearly all of our manufacturer contacts reported an improvement in orders and production levels relative to year-ago levels. Moreover, nearly all said they expected to see moderate-to-strong increases in production volumes in the weeks ahead. Most manufacturers reported increasing their staffing levels. This is a clear improvement since our last meeting, when some manufacturers reported plans to increase staffing but a majority reported they had yet to do so.

Construction remains bifurcated in the region. Single-family residential construction remains weak, but commercial construction, including multifamily housing, is strong. Several homebuilders reported weaker sales in June and July, and single-family building permits remain low. Contacts reported being puzzled by the slowness, as it seems at odds with the fact that house prices have accelerated this year. In contrast, commercial building in the District continues to pick up. Multifamily building permit issuance has advanced to the levels typical in

the last expansion. This is consistent with reports from business contacts of a significant expansion in activity.

Ongoing economic growth in the District is improving labor market conditions. Sixty-one percent of our business contacts reported higher staffing levels in August, up from 42 percent in June. The sectors reporting increased hiring include manufacturing, auto dealerships, trucking, and construction. District employment has risen at an annual rate of 0.8 percent so far this year, about the same pace as last year. Now, this growth rate is slower than the pace seen in the nation, but that's typical for our region. Since the 1980s, regional employment growth during recoveries has been slower than the U.S. average.

The Fourth District's unemployment rate continues to fall, down to 5.9 percent in July, slightly below the national average. This decline reflects both a drop in the level of unemployment and lower labor force participation. With an older population than in the nation as a whole, the region has seen a larger drop in participation than the United States. I view continued declines in unemployment and continued employment growth, coupled with anecdotal reports of increased plans to hire, as painting a favorable labor market picture for the Fourth District. So far, there are few signs of price pressures either building or diminishing among District firms, and, while we continue to hear anecdotal reports of hard-to-fill jobs, there are few reports of significant compensation pressures.

My view of the national economy is similar to that of the region. The incoming data reports since our last meeting have been mixed, but they have come in largely as I expected. I view them as less negative than the sense I got from reading the Tealbook, although the upward revisions to the staff forecast since the Tealbook closed narrowed the gap in views, if not the staff's judgment of the output gap.

I've made a minimal reduction in my GDP growth projection for 2014, reflecting growth in the first half of the year that was slightly weaker than I had anticipated in June, but I don't read much signal in that for future GDP growth. In addition, I have slightly lowered my unemployment rate path throughout the projection horizon to reflect the data received since June. But otherwise, my projection and the rationale behind it remain largely the same as in my last SEP submission, and I see the economy returning to steady state in 2017. More specifically, I continue to project GDP growth to be about 3 percent in the second half of this year through 2016 before it returns to trend growth of 2½ percent in 2017. The factors supporting above-trend growth include highly-accommodative monetary policy, improving household and business balance sheets, and confidence in strengthening labor markets, which lend support to consumer spending.

The August payroll employment increase was less than the 200,000-plus monthly job gains we've been experiencing. But it's important not to overreact to one month's number, which can be volatile, and the numbers get revised. The other labor market indicators, like job opening numbers from JOLTS and hiring plans in the ISM and NFIB surveys, are more positive. So the labor market trend is still a good one, and the unemployment rate has declined a bit faster than I anticipated in June. With economic growth above trend, I project that, by the end of this year, the unemployment rate will be under 6 percent, and, by the end of 2015, it will be 5½ percent, which is my estimate of the natural rate. I've penciled in a slight undershoot in 2016 before a return to 5½ percent in 2017.

On the inflation front, the data continue to be consistent with inflation gradually picking up to our 2 percent goal over time. The inflation data since June have come in at values largely consistent with the Cleveland Fed staff's "nowcasting" and BVAR forecasting models, which

projected that inflation would stabilize in the second half of this year after rising earlier in the year. The model continues to forecast inflation to be on a positive trajectory over the forecast horizon. This is consistent with the pickup in economic growth and with inflation expectations being well anchored at our target. The Cleveland Fed's 10-year CPI inflation expectations measure and a number of other measures of medium- to longer-run inflation expectations have remained quite stable near 2 percent. So I continue to project that PCE inflation will gradually rise, reaching our 2 percent target by the end of 2016. As inflation rises, I expect wage growth to rise as well.

My forecasts are dependent on appropriate monetary policy, which, in my view, should reflect actual and projected progress toward the Committee's objectives. Given the substantial improvement in labor market conditions since the start of the asset purchase program, my projections incorporate another reduction in the pace of asset purchases, with the program ending in October. I expect continued steady progress to our goal of full employment. So a key condition informing my projected liftoff of the federal funds rate from the zero lower bound is when projected inflation between one and two years ahead reaches the Committee's goal of 2 percent. I'm growing more confident that we're nearing such a point, and my projection incorporates a liftoff in the first quarter of 2015, as did my June projection.

In my projection after liftoff, the federal funds rate rises gradually over the rest of 2015, similar to a path suggested by a Taylor (1999) rule with inertia. As the expansion strengthens, I believe it will be appropriate to raise interest rates at a more rapid pace described by a less inertial Taylor rule. As a result of delaying liftoff until the first quarter of 2015 and the inertia in my monetary policy rule, I project that the funds rate won't return to its longer-run normal level, which I put at 3.75 percent, until 2017, even though unemployment and inflation are both near

their longer-run levels by the end of 2016. I note that, compared with the Tealbook's forecast, my projected policy rate path incorporates an earlier liftoff by one quarter and is somewhat steeper.

Of course, there are a number of risks to my projections, including geopolitical ones, which have escalated in recent weeks. At this point, financial-stability risks seem low, but I found the report on the 2014 Shared National Credits exam somewhat sobering. The results on leveraged lending suggest the need for stronger supervisory action than has been used to date. I don't think we should be too reluctant to use our microprudential tools to address safety-and-soundness issues before they metamorphose into more substantial financial-stability concerns that are going to be harder to address. So I think we need to continue to monitor financial-stability risks carefully. But, at this point, I view the risks to my projections as broadly balanced both for the real economy and for inflation. That said, over the past year or two, we've been systematically underestimating the overall economic progress that's been made. So I'm very supportive of continuing to prepare ourselves and the public for liftoff. I view the release of the normalization principles and our policy statement as important components of that preparation. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President George.

MS. GEORGE. Thank you, Madam Chair. The 10th District economy continues to grow at a moderate pace. Manufacturing activity expanded in August, and energy activity increased modestly, as drilling remains profitable despite declining crude oil prices. The unemployment rates in all but two of the seven District states are currently below their longer-run averages. Consistent with a tightening regional labor market, the growth in wages and salaries in the District picked up during the first half of the year compared with last year. It is now slightly

higher than for the nation as a whole. In the agriculture sector, the corn harvest is well under way, and it looks as though yields will be very high. Accordingly, corn prices are nearly 40 percent below year-ago levels. Cropland values are rising more slowly now compared with a year ago, and there are concerns prices could adjust lower over the medium term.

At the national level, I continue to anticipate output growth at about 3 percent in the medium term. Labor market gains, improving indicators for business investment, and the fading of fiscal headwinds are important factors supporting my forecast for a pickup in growth. Regarding the labor markets, slack appears to have continued to decline steadily throughout the summer. My staff's Labor Market Conditions Indicators show that the level of activity increased in August at a faster pace than the average over the past 12 months. So, while the payroll report for August indicated some deceleration in growth, a broad range of labor market conditions for August indicate that the overall pace of recovery in the labor market remains strong.

As labor market slack continues to diminish, we are likely to see gradual increases in wage growth. Already, average hourly earnings have firmed, and the employment cost index rebounded in the second quarter. Analysis by my staff indicates that the growth in average hourly earnings of production and nonsupervisory workers is currently well aligned with the wage growth predicted by the number of job openings per unemployed person. Based on that relationship between those variables during the last expansion, any further tightening is likely to lead to further gains in wage growth.

On the spending side, last week's Quarterly Services Survey and retail sales report helped resolve some of the puzzling softness in recent consumption data. In addition, I'm encouraged by the strength in a number of forward-looking indicators—such as vehicle sales, the ISM services report, and consumer confidence—which have reached or surpassed levels not seen

since before the recession. I also see the jump in the saving rate since last year as leaving some additional upside potential to consumption growth.

Measures of business spending are also improving. The growth of core capital goods shipments picked up considerably in June and July, and the elevated level of new orders signals further growth in the near term. Other surveys, such as the share of firms planning capital expenditures reported by the NFIB and the ISM new orders index, also point to increasing forward momentum in capital spending. With the average age of capital at its oldest in a half-century and amid rapid declines in economic policy uncertainty since December, there seems ample reason to expect robust growth in business investment.

In terms of inflation, I expect a continued gradual firming as labor market slack diminishes further. Import prices have turned up, and measures of inflation expectations remain consistent with 2 percent inflation in the medium term. Considering these factors, I would not be surprised to see PCE inflation this year and the next coming close to the Survey of Professional Forecasters' projection of 1.8 percent this year and 2 percent in 2015. Thank you.

CHAIR YELLEN. Thank you. President Williams.

MR. WILLIAMS. Thank you, Madam Chair. I'll make a brief comment about the 12th District economy and then turn to the national economy.

If you're in the Bay Area today, all you experience is one of the hottest economic situations we've had in, I think, our lifetimes. There are cranes everywhere. Traffic is unbearable. In fact, when I talk to my business contacts, the number one thing they think is holding back the U.S. economy today is traffic on Route 101. [Laughter] Now, part of the job is to get away from just a local perspective and look at the more national data. So I'll do that in the remainder of my remarks.

The data over the past few months have been positive on balance. Stepping back from the monthly fluctuations, I see the economy on track and evolving in line with my expectations. I anticipate GDP growth averaging about 3 percent over the second half of this year and in 2015, with the unemployment rate steadily declining and reaching my estimate of the natural rate of 5.2 percent by the end of 2015. And with resource gaps closing over time, I expect inflation to gradually rise and reach our 2 percent target shortly thereafter. I will mention that President Lacker seemed to think that this 3 percent real GDP forecast was a mirage. I will note that we had real GDP growth of 3.1 percent last year. So it can actually happen, and I'm counting on that happening again.

In terms of my overall forecast, my projections are generally similar to the Tealbook's except in two respects, and a number of people have talked about these already. One notable difference is that the Tealbook has a much more protracted return of inflation to the 2 percent objective than I have, basically for the reasons that were outlined in the recent memo from the Board's staff. Specifically, I do believe, based on the evidence we have, that inflation expectations are well anchored at 2 percent. I also believe that the inflation process is more like the staff model than FRB/US in the sense that the return to the 2 percent target will be a little bit quicker than shown in the staff memo. So that's one aspect of my forecast that's different than the Tealbook's and has been for some time.

The second aspect I'll mention is, I don't have an undershooting of unemployment in my forecast. We actually had a pretty lengthy discussion around this issue at the San Francisco Fed last week regarding how to think about this issue of undershooting—whether it's desirable and whether it's necessary. Of course, it depends on your models and depends on your views. My own view on this is that, under appropriate monetary policy—not the particular policy world

that's used in the Tealbook, for example—a significant or material undershooting of the unemployment rate objective is not optimal, especially given all of the uncertainties we have about the economy. So in my own forecast, policy does not generate that undershooting, nor does it generate a material overshooting of the inflation rate. I do agree with President Kocherlakota—it's an important issue. This is one about which it would be good to have more discussion around this table, thinking about, is that a key part of our policy strategy? I personally don't think that the counting of the SEPs this time is perhaps sufficient for coming to that conclusion, but I do think it's an important issue that we should discuss further.

In terms of policy, I lift off essentially in June of next year. And when I look at my SEP policy rate numbers, they're basically right in the middle of the pack in terms of the gradual pace of raising rates over the next few years. For those who want to see the details and suffer from insomnia, I am number 10 in the SEP.

More broadly, we're continuing to recover from a severe financially-driven recession, and one of the issues that we thought about quite a bit this time was, there have been a number of headwinds that have contributed to the sluggish recovery and the slowing of the output and unemployment gaps. I think we've gained a lot better understanding of how recoveries from financially-driven recessions are typically more drawn out than normally. In fact, when you look at this recovery relative to history, looking at other countries and over the past 150 years or so, we've actually navigated many of these challenges very successfully and avoided some of the more dire inflation and economic growth risks. For example, the risks that the economy gets persistently stuck in the mud, Japan-style, without meaningful improvements in labor markets have appeared to have significantly diminished. We appear to be seeing substantial and sustained improvements in most labor market indicators, and I think that's a very positive

development. In addition, the risk of disinflation of the kind that we've seen in Japan and other places has abated. Nor have we experienced the takeoff in inflation that many feared. Instead, wage growth has been inching up, and price inflation still remains somewhat below our longer-run target. By keeping longer-run inflation expectations well anchored, the credibility that we've gained over the past 35 years has allowed us to address the extraordinary amount of slack and downward price pressures with extraordinarily accommodative policies without fueling an inflationary wildfire. So I view that, in terms of the upside and the downside risks, we've actually navigated that pretty well, and those risks seem lower.

The one headwind that does continue to weigh on the recovery and worry me is the global economy. The euro-area recovery shows signs of stalling. Euroland inflation is disturbingly close to zero. Long-run inflation expectations are sliding downward. Given the determination shown by Mario Draghi and the recent ECB decision to lower the policy rate and start purchasing asset-backed securities, I am hoping for better news out of Europe. At the same time, continuing policy differences across Europe make me worry about whether Europe will be able to do what's needed when it's needed and whether they can turn up the dial to 11, so to speak, to resume economic growth and avoid the very real possibility of deflation. While I appreciated the Tealbook's alternative simulation on weaker growth in the euro area, it incorporates the assumption that the ECB provides additional stimulus by initiating LSAPs. In contrast, I do worry about a situation, laid out in the "Weaker Growth in the Euro Area" alt-sim, in which policymakers, plagued by disagreement, fail to actually do that in a timely and a sufficiently aggressive manner. So I'm concerned that Europe, like Japan, could become mired in a period of protracted stagnation.

Even so, I see the overall risks to the medium-term outlook as roughly balanced and their magnitude as being similar to that of the past 20 years. Let's remember that the past 20 years have been pretty turbulent, but I think that they're roughly like that.

Moving beyond the medium-to-longer run, I expect longer-run potential growth to be around 2 percent or just above that, in line with the Tealbook. That's consistent with the analysis by my staff. That said, other commentators—David Wilcox mentioned this—such as Bob Gordon are more pessimistic. And our own analysis, as laid out in the “No Room to Grow” alt-sim, says that, although that's not our point forecast, it's pretty hard to discount the possibility that we have slower potential growth over the next decade.

In thinking about that, I believe sustained weaker potential growth is a risk. Of course, one of the things that worries me about that is, it implies a lower value of the natural rate of interest, and that makes it more likely the federal funds rate will hit the zero bound in the future and that demand will be insufficient to eliminate gaps as a result. In that world of slow potential growth and even lower equilibrium real rates, economic growth could persistently fall short of potential, increasing the odds of periods of so-called secular stagnation.

So the supply-side constraints emphasized by Bob Gordon could interact with demand-side constraints arising from the zero lower bound to make periods of secular stagnation more likely. Now, while I do see a risk that underlying economic growth is slower than we think, I don't yet see the secular stagnation scenario as central to current policy decisionmaking, but it's definitely something on which we're increasingly focused. Thank you.

CHAIR YELLEN. President Kocherlakota, did I see that you have a two hander?

MR. KOCHERLAKOTA. Yes, I do. Thanks, Madam Chair. I wanted to follow up on President Williams's comment. I certainly agree that the issue of the estimate of longer-run

inflation expectations or the underlying rate of inflation—whatever terminology you want to use—is a really important one for us to engage in more as a Committee. We talked about it a little bit last time. It seemed as though there were those who, as President Williams suggested himself, see the evidence differently from the staff and have a different assessment of that. I heard some participants who felt that a longer-run inflation rate of 1.75 percent was consistent with their reading of our dual-mandate objectives. And then there were those who suggested that a long time spent below the natural rate of unemployment, as is the staff outlook, could be a risk to inflation expectations. All of those kinds of considerations would be useful for us to talk through.

I think I emphasize the counting in the SEP because I was quite surprised by it, as I was prepared to try to persuade people to have that, and they were already there. So it looks as though it'll be your job to persuade them otherwise. Thanks.

CHAIR YELLEN. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you. My views have changed only modestly since the last meeting and are very close to the Tealbook and very close to everybody else around the table. That said, on the growth side, the economy actually has slightly less forward momentum than I anticipated, and I'm a little less worried that the economy will get away from us on the upside. Earlier in the year, I thought there was some chance that everything would catch, as you had increases of 250,000 per month in payroll employment, and that all things would start cycling up. I don't think that's going to happen anymore. On the inflation side, I don't see much change at the margin. Maybe we're stuck a little bit more firmly below the Committee's 2 percent objective.

On economic growth, I'd make a couple of points. First, I wouldn't put much into the modest slowdown in payroll employment growth we saw the past couple of months. The fact is, payroll gains were high relative to the growth pace earlier in the year. So it shouldn't surprise us now if we're experiencing the reverse situation. Second, I don't see many sources that would fuel a meaningful pickup in the growth rate from here. If you think we're at 3 percent, what's the likelihood we go to 4 to 5? I think it's pretty low. The fact is, we've already experienced most, if not all, of the cyclical rebound in motor vehicle sales. The cyclical sectors of the economy are no longer depressed cyclically. And although the housing recovery will probably continue, I think it's going to be a slog. The sector is pretty small, so the contribution from housing can't be very great. At the margin, the outlook for trade has worsened a little bit, given that the dollar has strengthened. While the forecast for economic growth is showing improvement as we go forward, at the margin, the risks regarding foreign growth have actually increased a bit from geopolitical tensions and developments in Europe, Japan, China—pretty broadly across the board.

I asked myself the question: Where would a pickup in the pace of economic growth come from? I guess it would require some combination of a lower personal saving rate, higher real wages, or a faster rebound in capital spending. But even if that were to occur, I don't think the impulse, in the aggregate, would be very large. Of the three, a further improvement in capital spending seems to be the most likely. The fundamentals are quite positive in that sector. And the businesspeople I talk to seem to be less risk averse and more willing to take on new projects. Another support for faster economic growth could be the recent weakness in the prices of oil and gas. If energy prices were to continue to soften, this would boost real income, and that would provide some further support to aggregate demand.

On the inflation side, we flattened out in terms of core inflation, about ½ percentage point short of our 2 percent inflation objective. I don't think this is a disaster, especially as long as nominal GDP growth remains north of an annual rate of 4 percent. My anxiety about inflation is always tied back to what nominal GDP growth is, because I think that the deflation dynamics really flow through nominal GDP rather than directly through inflation. At the same time, though, I don't see why inflation is likely to climb in the near term. I know there's this pull from inflation expectations, but, on the other side, we have the fact that compensation trends are pretty low relative to actual inflation right now. The impulses from abroad, from a stronger dollar, and domestically, from falling energy and food prices, are going to be more than sufficient to offset any upward pull from inflation expectations in the near term. So I'm not concerned about inflation getting away on the upside, either.

In terms of risks to the outlook, there are a couple of things that I still worry about. I'm not going to say "mission accomplished" until we get to the point at which we actually lift off. First, I worry a little about consumer spending growth because it does seem to be mostly based on job gains rather than real gains in compensation. If the job gains were to slow, then does the consumption hold up? Second, I do worry about the dollar strengthening that we've seen, and I worry that it could intensify and prove persistent. In fact, I think to really understand the implications, it would be useful for the Tealbook to consider a scenario in which the dollar keeps strengthening—we had the questions earlier about this. What does that do in terms of the economic growth and inflation outlook, and how much does it push back the timing of monetary policy tightening?

MR. KAMIN. We did one earlier in the year, but it was very mild. We'll dust that off.

VICE CHAIRMAN DUDLEY. Another one that would be interesting to consider is, what happens if this decline in oil prices continues? The fact is, U.S. oil and gas liquids production is continuing to rise very rapidly. I was looking at the EIA projections that came out earlier this month. They're projecting a further increase in output of 1.2 million barrels a day in 2015. If you want to put that in context, at the start of 2012, we were producing 9½ million barrels of crude oil and gas liquids. By the end of 2015, it's going to be 14 million barrels. That's a pretty big increase in a pretty short time. And if you go back and look at what the forecasts were back in 2006–07, the trend was flatter or declining. So this is a huge gap relative to what people anticipated. If geopolitical trends break in a more positive direction rather than a more negative direction, you can certainly see the possibility of energy prices coming down significantly.

What does all of this imply for monetary policy? Well, it seems to me that we're on the course that we thought we were on. The only difference for me is that, at the July meeting, I could see how a March 2015 tightening might be very much in the cards if the payroll employment trends stayed firm, the unemployment rate continued to decline, and inflation continued to drift back up toward 2 percent. Because none of those trends seem quite as clearly in place today as they were a few months ago, to me, a March tightening seems to be less likely.

Given that, there doesn't seem to be a big gap between our views as expressed in the SEP and the market consensus, especially, as the staff has mentioned, when you adjust for the fact that the SEP is a modal view and the market expectations are really a mean view, with some probability placed on no liftoff at all or a liftoff that's aborted. I don't think we have a problem with expectations concerning the likely timing of liftoff. So I don't think we need to push one

way or the other at this meeting. This is one of those situations in which “steady as you go” is the right course, and I’ll have more to say on that tomorrow.

CHAIR YELLEN. Thank you. Governor Fischer.

MR. FISCHER. Thank you, Madam Chair. Relative to where we were in June, we’re currently in a softish patch. We’re still at 6.1 percent unemployment, which is much closer to full employment than the Committee expected to be about 18 months ago, but we’re not yet at full employment. However, there are no signs in the data of an improvement in the labor force participation rate. And the staff has marked down its downward-sloping prediction of the participation rate through 2017. Some aspects of the labor market are looking better, particularly the fact that long-term unemployment has been coming down. Here’s the bottom line: With the staff forecast’s resumption of the decline in the unemployment rate for the remainder of this year to 5.9 percent, to 5.4 percent in 2015 at the end of the year, and to 5.1 percent in 2016, the unemployment rate continues to be the outstanding performer in terms of the many variables we look at to judge economic performance.

On inflation, PCE inflation continues to be below 2 percent and appears likely to continue to be somewhat below 2 percent provided that wage growth remains moderate. But as we get closer to full employment, we cannot rely on wages to remain as restrained as they have. Now, this has been put more colorfully by President Fisher in terms of the things that he’s been hearing in his District, and, if I may say so, one of the many things one gets out of these meetings is listening to reports from different parts of the country, which, by the way, by and large, except for California—but that’s a different place.

MR. TARULLO. And Texas isn’t? [Laughter]

MR. FISCHER. If I could drop in a story, which probably I'm not allowed to, I was once writing a book with a colleague, Rudi Dornbusch, who is, unfortunately, no longer with us. I was at Stanford, and Rudi used to come out for a week every now and then. People would say to him, "How long are you here?" And he would say, "I'm going back to America tomorrow." [Laughter] But it's encouraging, actually, to hear what you said about California.

On economic growth and the dual mandate, the staff has raised the forecast for the second half of this year and actually raised the forecast for the first half of this year—this is relative to the Tealbook—by a not inconsiderable 0.2 percentage point following receipt of the data from the QSS and a revision of retail sales data for June and July. They did this without changing their forecast for fourth-quarter growth or forecasts for future years.

Now, part of the economic growth forecast is based on the current account remaining, by historical standards, strong, in part due to a pickup in foreign growth and in part due to an assumption that the dollar, which has strengthened sharply in the past year, will weaken in the years ahead. Given the difficulty of forecasting the exchange rate, I would regard that element of the forecast as more uncertain than most and share the concerns about foreign growth that we just heard from, I think, President Williams. I would add to that that Chinese growth looks a good deal less certain than it did a few years ago.

There's been a lot of attention lately to secular stagnation, the rate of productivity growth, the rate of technical progress, et cetera. On the one hand, we have Larry Summers talking about secular stagnation, which he sees as a demand-side problem—namely, that the equilibrium real interest rate is negative, and that, without creating bubbles, booms, and other dubious sources of growth, we're going to have trouble maintaining full employment and economic growth. That's very dramatic, and there are some people who prefer to be dramatic.

But there is another view, which is basically taken into account in the Tealbook, and that's that there's been a significant slowdown in technical progress. You can have Bob Hall and Bob Gordon on one side—Bob Gordon explaining why everything that was worth discovering has been discovered and Joel Mokyr, his colleague at Northwestern University, explaining why many wonderful things await us when we have the next few breakthroughs. I'm on the Mokyr side, but that's just a matter of temperament, I think. It's clear that the rate of productivity growth has declined since 2006, and the staff estimates that trend multifactor productivity growth was just $\frac{3}{4}$ percent from 2010 to 2013. In their projections, they're assuming multifactor productivity growth of about 1 percent a year for the years 2015 to 2017. So they're not on the high side of this thing, and they're not injecting excess optimism into the forecast.

Now, one can ask, does it make any difference to monetary policy? After all, we look at the unemployment rate. Well, it's still above where we'd like it to be. We look at the inflation rate. That's still below where we'd like it to be. Then we can just turn to the Taylor rule, and there we are—we can leave all of those arguments aside. But if you look at page 60 of the Tealbook, Book A, as well as at the forecast and the assumptions that David Wilcox was emphasizing—you see the “No Room to Grow” scenario, which is red, and you'll see that having a slowdown in productivity growth is a big problem. In the macroeconomy, we get the lower growth, obviously. We also have a higher unemployment rate, and, using our standard monetary policy tools, have a higher federal funds rate because we also have a higher inflation rate. That picture is a very unsatisfactory one, as David told us. On the other hand, if we got more labor force participation, that looks like an unambiguously good thing, from the viewpoint of the economy as a whole. Actually, it mirrors, not exactly but not far off, the opposite of technical progress. So these things really matter to us, not in the sense that we have to go out there and try

to affect them—that’s not our job, other than to the extent that we keep policy appropriate—but it is something we need to take into account and then remember that we’ll call that a headwind if that slowdown in productivity growth continues.

Page 60 of the Tealbook, Book A, also draws our attention to the enormous uncertainty that besets our forecasts. I personally feel quite uncomfortable being asked to give forecasts for the federal funds rate for 2017, because I think the uncertainty about what that rate will be is massive and is no less important—possibly it’s even more important—than our expectation of what the rate itself will be. If we’re going to talk to the public, we need to continue to emphasize the high level of uncertainty that accompanies all of our forecasts, and we’d better tell savers, investors, and anyone else who’s thinking about the future that they have to take uncertainty into account in making their decisions. We tend not do that, although, as somebody remarked earlier, the Chair has done a very good job of telling people about uncertainty not only in the press conference, but also in recent speeches.

Well, to sum up, we are now—although we don’t seem to want to say that—relatively close to the attainment of the goals of the dual mandate. But, as a result of what had to be done to prevent a second Great Depression, we still face monetary policy decisions of great importance and monetary policy decisions that lack precedent. And that’s what we’re going to have to talk about later today, perhaps.

CHAIR YELLEN. Or tomorrow.

MR. FISCHER. Or tomorrow. Can you give us a clue or a hint?

CHAIR YELLEN. My guess is tomorrow.

MR. FISCHER. Okay. Let me amend that to say “tomorrow.” [Laughter] Thank you.

CHAIR YELLEN. With uncertainty.

MR. FISCHER. A lot of uncertainty around it. Maybe Wednesday? Or Thursday, you say.

CHAIR YELLEN. I think tomorrow is higher probability

MR. FISCHER. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Madam Chair. Let me first say that I think Governor Fischer is ideally positioned to drive some changes in our communication strategy. And I think we all look forward to ideas on how to improve the SEP and the communications issues more generally.

I join in what sounds like a consensus around the table that things have continued to improve, both generally and in the labor market, to which I'll turn in a moment. Actually, in listening to everybody, people sounded a little bit more optimistic and a little bit more upside weighted than I would have characterized myself. So I looked back at the famous SEP and found that, as a group, our expectations of risk on GDP growth are broadly balanced, with actually a few more people weighted to the downside than the upside. I thought it was good that Vice Chairman Dudley gave a little bit of the case for caution as opposed to outright optimism.

Having said that, though, I think everybody agrees that there's been considerable improvement in the labor market. It's probably worth reminding ourselves that a lot of improvement was needed. The hole that had been dug was close to being unprecedented, at least the speed with which that hole had been dug. If you need a reminder, just take a look at the lower-left graph on page 2, I think it is, of the Data Sheets of the Tealbook. You'll see there, in the monthly job creation or destruction numbers, just how much those negative numbers plummeted in the 2008–09 period, and that's a lot to make up. In fact, it's only relatively

recently that we now have in absolute terms the number of jobs that we had on January 1, 2008, notwithstanding the fact that there have been six and a half years of population growth since then.

Now, none of that is to say that we're going to get back there or what the actual trend is now. As today's discussion again showed, even after the couple of years of discussion and debate, we still have disagreement on how much slack remains. Everyone agrees that a lot has been taken up, but how much does remain no one can really say for sure. That leads to the kind of comments on the unemployment rate and the various other labor market indicators that we seem now to have at almost every meeting.

I think the latest example of data that can be read multiple ways is the rate of job openings, which, as one or two people have mentioned, has risen quite dramatically through the first half of this year to such a degree that the rate is currently near the top of its range of what is, of course, a pretty short history. Meanwhile, quits and hiring rates have only inched up during this period, continuing their very slow trend from 2009 that leaves them materially short of pre-crisis levels. And, after a period of edging back toward its pre-crisis position, the Beveridge curve has again shifted out a little bit to the right.

As we've discussed here in past meetings, the jump in job openings can be read as evidence of mismatch by those who believe that considerable structural damage has occurred in labor markets. But those who believe the story still has an important cyclical element can and have read this change as a response to improving demand conditions and thus as a possible next step in a virtuous circle that will be followed by increases in hiring, which will further increase aggregate demand. If you saw the New York Fed's instant analysis of the JOLTS report last week, you'll have noted a third explanation, one based on a kind of supply-side view that large

increases in unemployment benefit extensions may put upward pressure on wages and thereby suppress job creation. In this view, the expiration of the emergency unemployment compensation program at the end of last year could be the source of the significant increase in job openings this year, presumably as employers see a larger pool of labor willing to work at lower wages.

Now, how convincing the research on which this last hypothesis is based will prove to be remains to be seen. The point, though, is that there are numerous plausible explanations for developments in a labor market that has been buffeted by forces arguably unprecedented in modern American economic history. So we really can't know if the quit rate or the percentage of those who are employed part time for economic reasons will ever return to their pre-crisis levels. I suspect that, over the next decade, a lot will be learned about labor market dynamics that had been latent and was then amplified or accelerated by the crisis and recession. But for now, as I've said before, we have to be pretty tentative in our conclusions about longer-run trends and more focused on pragmatic ways to determine when labor market slack is in its final stages of elimination. I've thought and continue to think that it's useful to exchange views among ourselves on what the best indicators for the approach of such a point are under these circumstances, when labor markets are surely becoming tight. But the question remains, when do they get to the point at which they've now tightened more or less completely?

As many people, I think, have already suggested, the best measure is probably the evidence of significant and reasonably widespread and persistent wage gains. While such gains are now anticipated by more employers and labor market observers, they have yet to be realized to date except for hourly production workers, and, even for those workers, the average increase in wages over the past year was only 2½ percent, which is, of course, less than the sum of

inflation and productivity gains. While sometimes noisy on a quarter-to-quarter basis, broader gauges of wages and compensation still reveal little evidence of a sustained step-up in the pace of compensation growth. And if people are concerned about seeing earlier indicators of pressures in some sectors that might spread through the rest of the economy, there still hasn't been much change in the distribution of wage gains across industries.

A second possible indicator that slack is getting closer to disappearing might be rapid changes in some of the indicators that have thus far suggested continuing slack, such as the quits and part-time-for-economic-reasons rates. A change of this sort wouldn't be dispositive, of course, but it would raise the question of whether an inflection point might have been reached, which could then be investigated by reference to other data. Another example of such a secondary indicator might be if we observe another significant increase in job openings without having seen an intervening noticeable pickup in hiring.

Of course, with the link between general measures of inflation, on the one hand, and nominal wage growth and tighter labor markets, on the other, being a loose one, I don't mean to suggest that the long-awaited arrival of larger sustained wage gains should be a mechanical trigger for changes in monetary policy, but that's a debate for another day. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Powell.

MR. POWELL. Thank you, Madam Chair. My SEP submission is close to the staff baseline—in fact, it is the baseline—for output and unemployment, and, as others have pointed out, that has economic growth at less than 3 percent. As an aside, I think it's quite interesting that, as others have pointed out, 2013 has now been marked to 3.1 percent, remembering that that's the year of very large fiscal headwinds, including the sequester, the “taper tantrum,” and

the government shutdown. If you think about that, it didn't really feel like a great year going through it—to me, anyway. But it may say something, even though some of that economic growth may have been stolen from Q1 of this year, about the underlying strength of the economy in the period ahead that we're underestimating.

In any case, on this path, the unemployment rate will be within the central tendency of the Committee's estimates of full employment by late next year and below that tendency by the end of 2016, and that's true for my forecast as well. As many have indicated, the big question is, how much slack is remaining? I won't go on at length about this, but it's still my view that the share of people working part time for economic reasons is about 2 percentage points higher than it should be relative to where the headline unemployment is. If you know that people who are part time for economic reasons are working about 23 hours a week, you can cut that in half and say it's about 1 percent of slack at the most. Again, that does assume that that new, higher level of people working part time for economic reasons doesn't represent a structural change in the labor market, which, to some extent, it might.

Another question concerns the labor force participation rate and whether it might retrace some of the declines since 2007. The baseline estimate is that there might be about ½ percentage point of a cyclical component out of a total decline since 2007 of almost 3 percentage points, and that's in the middle of the range estimated by the very recent and widely noticed paper on the labor force participation rate by six Federal Reserve economists—five from the Board and one from the Federal Reserve Bank of Cleveland. That also seems to be in the middle of the ballpark of what might be a reasonable thing to expect. That paper also projects that labor force participation should decline another 2½ percent over the next decade, or about 25 basis points a

year, and the path described in the paper shows the rate essentially flat as the economy continues to recover through 2015 and then declining steadily over the coming decade.

Interesting to me is that, if you look through some of the volatility, the labor force participation rate has been about flat for a full year, including the fourth quarter of last year, at 62.8 percent. There's not a high degree of accuracy in this, nor is it a prediction or anything, but if the path estimated by the staff paper is directionally right, then a few years of labor force participation at 63 percent, give or take a couple of tenths, are one way that the cyclical return of the labor force might actually show itself.

Given these baseline levels of economic growth and unemployment, I have projected a slightly faster return of inflation to the 2 percent objective. My thinking is not so much that expectations will move around, as discussed in the staff series of interesting memos, but rather that inflation will turn out to be more responsive to very low and, in fact, negative levels of slack that are in the baseline and in my forecast. I think that idea is supported by the fact that the last time output was above potential, by our current estimates, for a series of years was the period from 2004 to 2007. During that period, inflation, both core and headline, was consistently above 2 percent, and I'm not sure what the performance of inflation since then, in conditions of superabundant slack, really tells us about the behavior of inflation relative to slack in a world of very high resource utilization.

I'll close with a word on market conditions. It has seemed likely that, although there is a high degree of froth in financial markets, it could decline as the policy normalization process gets going in earnest, and I think there are signs that that may be happening. Since mid-August, markets seem to be getting more attuned to the coming rate increases—notably, an increase in longer-term yields. Leveraged finance markets seem to be in better balance. Overall, it seems to

me, markets are leaning in and listening, and will be reacting to things like the new SEP, and I regard that development as healthy. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. And Governor Brainard.

MS. BRAINARD. Thank you. Being the last member to join the Board really gives new meaning to the concept of waiting your turn. [Laughter]

There have been several pieces of news since the last meeting that have caused me to slightly mark down my assessment of the underlying momentum that we saw in July on both employment and inflation. In particular, following the relatively more positive trajectory at the time of the July FOMC meeting, the more recent unemployment and payroll readings, I think, were tepid. And, while I believe many people around this table have correctly said that there's quite a bit of volatility in those figures and there's reason not to take too much signal from that, I would say, by the same token, it also validated our decision not to take too much signal from the acceleration that we saw in July.

Taken together with a variety of other pieces of information, these releases support earlier concerns that there may still be slack in the labor market—more than suggested by the fall in unemployment alone. Wage measures continue to signal remaining slack despite, I'd say, some regional reports of shortages and rising wages in some narrow sectors. Although we did see some improvement in compensation per hour in the business sector, that series is very volatile and, in the past, I think, has shown a pattern of large increases followed by large declines. I will say it was heartening to see the big increase in job openings, but, again, we're not seeing that carry through to other labor market indicators.

Likewise, the somewhat stronger impetus we saw in July for total PCE and core PCE has again weakened, reflecting subdued import prices and a drop in energy prices. The most recent

data, along with a range of measures of inflation expectations, suggest to me that there's no imminent threat of a surge in inflation. They reinforce the sense that we're still some distance from achieving our inflation goals and there's no apparent emerging conflict between our dual-mandate objectives.

In the arena of perhaps the bigger pieces of news was, as many have commented, a fairly large, sharp appreciation in the dollar exchange rate relative to several of our important trade partners. That should be viewed as having a meaningful effect in our assessment of growth momentum, passing through to lower demand for exports, and it should act as a headwind with a bit of a lag, I would anticipate. This change is actually likely, in my assessment, to be somewhat durable and could worsen.

Low and declining economic growth in the euro area, accompanied by troublingly low inflation and a diminution in inflation expectations, has led many to expect a more accommodative monetary policy from the ECB. I don't think anybody anticipates that it is likely to be accompanied by meaningful fiscal support. The persistent shortfall of demand in the euro area is troubling and has been—and I think will continue to be—a drag on global economic growth. If you simply look at the strongest euro-area economy, Germany, which is the one economy that has the greatest potential to supply demand, it has been running consistent current account surpluses in excess of 7 percent of GDP throughout the crisis, and that is unlikely, in any forecast, to change. Similarly, Japan's monetary accommodation has continued in the face of a very sharp hike in their consumption tax, and they have a second sharp hike still to come. On the other side, we've seen some exchange rate movements from China in the other direction, but this represents only a partial retracement of the earlier depreciation that was undertaken by their authorities.

Looking forward, the staff is forecasting some stabilization of inflation in the euro area, but I really would not anticipate a correction. If anything, I would expect to see further appreciation of the dollar against the euro, along with the implications for our economic growth. The staff is forecasting a broader depreciation of the dollar, and I think that forecast is driven primarily by China continuing a revaluation of its currency, which will lead to moves by other Asian currencies. On that front, while I have great appreciation for my colleagues in the International Finance Division and I admire their optimism regarding China's intentions in this regard, I don't share those views, at least over the next shorter horizon. Moreover, I share the views expressed by some that we should view risks to foreign economic growth as elevated, taking into account the weakness in the euro area, possible disappointments in China, and then the geopolitical risks that have been referenced.

Finally, looking to the risks to financial stability, I think it's important to keep a very vigilant eye there. The "low for long" environment has created some perverse incentives—and we're seeing some of that in the financial markets—but I would say I share the assessment voiced by many around this room that, while those require continued vigilance, they should not, at this juncture, alter our views about how to move forward on achieving our dual mandate.

Taken all together, I would say the developments since the last meeting have validated the approach taken by the Committee at that time of waiting and seeing with regard to the timing of liftoff. As has happened frequently before, the data have disappointed, albeit only slightly, reinforcing the insurance value of taking slightly more time to gauge the self-sustaining strength of the recovery before committing decisively to a shift in course. Thank you.

CHAIR YELLEN. Well, thank you, all. My suggestion is that we take a coffee break at this point for 15 or 20 minutes. When we return, I will try to briefly summarize, I'll make a

couple of comments, and then I think we'll have plenty of time for Bill to start us off on the monetary policy round and for us to begin an early dinner.

[Coffee break]

CHAIR YELLEN. Okay. We're ready to begin again. I want to thank everyone for a very thoughtful round of observations on the economic outlook.

With the end of our asset purchase program now in sight, our key policy decisions pertain to the timing of liftoff and the pace at which the federal funds rate target range will rise thereafter. Our forward guidance, of course, specifies that these decisions should be data dependent—that they should depend on realized progress and the expected pace of future progress toward the attainment of our maximum employment and 2 percent inflation objectives. I thought I would again today try to summarize at least some of the themes in your economic comments by noting how they bear on the progress we have actually achieved in closing the employment and inflation gaps and how they bear on the question of whether incoming evidence suggests that there has been any meaningful change in the likely pace of future progress.

Starting with the labor market, my summary of your comments would be that you see meaningful continued improvement in overall conditions and you expect that improvement to continue, but there has been no significant change in the expected pace of future progress since we met in June. The case for continued improvement since our last meeting is that even though August payroll gains were disappointingly low, the three-month averages of total and private payrolls are still running north of 200,000 a month. There were a number of special factors at work holding down payroll gains, and a number of you—Presidents Plosser, Fisher, Evans, and others—noted that we shouldn't make too much of one month's data. Several of you pointed out that long-term unemployment and the mean duration of unemployment have continued to decline

over the past two months, and even though it remains quite high, the share of those working part time for economic reasons also edged down in August. The labor force participation rate ticked down in August, but basically it has leveled off since last fall rather than continuing to decline. As Governor Powell noted, given the estimated continued secular decline, that probably reflects some progress in reducing the cyclical shortfall in participation. Then there are a range of indicators that others of you mentioned: job openings, which held steady in July after strong gains over the previous three months; the pace of hiring that continues to move up; and the improvement in households' assessments of job availability. The Kansas City labor market index has moved up, and the Board measure moved up as well in August, although the improvement is quite slight.

We do seem to be seeing progress, but there doesn't appear to be much change in the expected pace of future progress. There has been a downgrading of the likely pace of future progress relative to July but not relative to June, as David pointed out. At our July meeting, progress in the labor market looked like it was outstripping our expectations, but the pattern of surprises that we noted then has not continued, and now conditions appear to be quite close to where we expected them to be at the time of our June meeting. The Tealbook's projection for the path of the unemployment rate through 2016 is virtually identical to that in June, and the path of the unemployment rate in the SEP is virtually unchanged from June.

Now, you made many interesting comments on the likely pace of economic growth and on various spending components underlying aggregate demand, including housing. I am not going to try to summarize all of those in detail. I would simply summarize by saying that whereas words like "robust" or even "hot" may apply to San Francisco and Texas, those weren't words that I heard many of you use when discussing the national outlook. More commonly, I

heard words like “moderate growth.” My sense was that you thought that economic growth is continuing, that the prospects are good, and that growth is pretty solid. You cited improvement in business confidence, upbeat sentiment, perhaps diminished risk aversion by businesses, some strong manufacturing indicators, and a number of positives supporting growth. I heard perhaps a continued expectation on the part of many around the table that we will actually see a pickup in growth to around 3 percent. But the bottom line is that our economic-growth projections in the SEP really haven’t changed meaningfully since June.

For the purposes of the goals that we established for the asset purchase program, my sense is that everyone around the table would say that they do see a substantial improvement in the outlook for the labor market as now having been achieved, so that we should feel comfortable, barring some utterly unforeseen development, ending our purchases at the next meeting.

Of course, we continue to debate the question of how much slack remains in the labor market, and it is a matter on which we continue to have a range of views. I heard, for example, President Rosengren and Governors Tarullo, Brainard, and Powell weigh in on one side with a set of considerations, and Presidents Fisher and Bullard and others on the other side. We continue to have a range of views here. One’s assessment of the remaining degree of slack certainly is relevant to judgments about the appropriate timing of tightening, and it is also relevant, I think, to our characterization of the labor market in paragraph 1 of the statement, in which last time we said that “there remains significant underutilization of labor resources.” I recognized the discomfort a number of you had with this characterization when we included it in July, so I listened carefully to hear if anyone was arguing that there had been much change in the

degree of slack since July. While, as I mentioned, improvements were noted, I didn't hear anybody say that they had seen a really significant change in the labor market since July.

Turning to inflation, several of you noted that there really hasn't been any significant change in the magnitude of the shortfall we are seeing from our 2 percent objective. On a 12-month basis, the rates of increase in both total and core PCE now stand around 1½ percent, and they have actually edged down very slightly over the past two months. I didn't hear any change in what I think is the prevailing view that this gap will close, albeit quite gradually, and your SEP submissions suggest that most of you anticipate reaching our inflation objective by the end of 2016 or 2017. But, as President Kocherlakota emphasized, this may well require an undershoot of unemployment below the natural rate. It is interesting that that is something that appears, although only slightly, in many of our projections for the SEP this time. Nonetheless, many of you noted that the ongoing improvements we are seeing in labor markets and the fact that slack is narrowing, coupled with stable inflation expectations, had reduced the downside risk you attach on inflation.

There were a lot of interesting comments I heard on nominal wage growth. Many of you noted that there has been no general increase in wage pressures, although there are sectors and regions in which wage pressures are becoming quite noticeable. There was an interesting discussion, with a number of you weighing in, on the possibility, as President Fisher put it, of a convex Phillips curve. In other words, the possibility that as unemployment declines, we could see a more rapid increase in nominal wage growth in spite of the fact that when unemployment rose, we didn't see a massive deceleration. I think that's something we need to be attentive to.

Turning to risks to the outlook, a number of you pointed to some financial-stability risks with rising valuations across a range of asset classes, now possibly stretched valuations, along

with heavy M&A activity, stock buybacks, spread compression that is worrisome, and continued deterioration in leveraged lending standards. Earlier today there was some discussion, and I think concern, about the possibility of a divergence between market expectations concerning the path of policy rates and what participants have expressed in the SEP. Many of you highlighted downside risks to the outlook emanating from abroad—the situation in Ukraine and the Middle East, developments in China, risks from the appreciation of the dollar, and the possibility of renewed recession or even deflation in the euro area.

That would be my partial summary of the discussion. Does anybody want to comment? Okay, then maybe I will just add a few brief comments of my own.

I want to begin by saying I agree that the labor market is continuing to improve, and I think that in spite of the two relatively weak reports. However, I am firmly part of what I think is the consensus, that I no longer see the likely pace of future progress as having accelerated. In July, the unemployment rate path in the Tealbook had been marked down significantly over the entire forecast period. I thought, as I think many of you thought, that slack in the labor market might be eliminated at an accelerated pace, and that was one reason I emphasized, both in my Humphrey–Hawkins testimony and at Jackson Hole, that progress was outstripping our expectations, and, if progress continued to be faster than we had previously anticipated, we would likely lift off earlier and raise rates more quickly. While I think that general statement is true, and I should continue to say it and emphasize it, I don't think the surprises that I noted in Jackson Hole have continued. Both labor and product market data point to an economy that is growing only at a moderate pace, and my own SEP looks now a lot like what it looked like in June, similar to the Tealbook.

On the issue of slack, I remain comfortable describing underutilization as “significant.” At 6.1 percent, the unemployment rate is significantly above my own estimate of its longer-run normal level, which stands around 5.2 percent. Even though I recognize the difficulties of distinguishing between structural and cyclical factors affecting participation and part-time employment—and that is a message I also tried to convey in Jackson Hole—I still see the balance of evidence as suggesting that U-3 understates the degree of slack. I agree that the flattening out of labor force participation does suggest that the cyclical shortfall there is diminished. But I also see slack in the form of involuntary part-time employment as remaining high and as having changed relatively little since the start of the year.

Now, I noted at Jackson Hole that the subdued pace of wage gains could provide a misleading indicator of remaining slack. For example, if downward nominal rigidity had kept nominal wage growth from declining during the downturn, then pent-up wage deflation could be holding it down now, even as slack is diminishing. I think that story is consistent with a rationale for the kind of convexity in the Phillips curve that President Fisher noted, and it suggests that as unemployment declines further and pent-up wage deflation diminishes, we could see a relatively rapid pickup in nominal wage growth and price inflation.

My having made that comment appears to have touched off some interesting analysis of the evidence among Wall Street economists that I have been following with interest over the past couple of weeks. But to my mind, the balance of evidence still suggests that subdued nominal wage growth does signal substantial continued labor market slack. Although the 12-month change in average hourly earnings for all employees has edged up, it is running about 2¼ percent, and it is still near the upper end of a narrow range it has occupied since 2011. Indeed, as a couple of you pointed out, nominal wage growth could be running at a more rapid rate, given

productivity growth and our inflation objective, consistent with stable inflation or inflation at our objective.

On inflation, as I noted, the 12-month change in overall and core PCE over the period ending in July has fallen back close to 1½ percent. That's much as I expected, and I don't see outsized upside risks, as wage gains have been quite modest and we have seen very little upward pressure on business costs as well as the appreciation of the dollar. With real activity continuing to expand and slack being taken up at a steady pace, though, I agree that downside risks to inflation have diminished.

Anticipating the policy discussion a little bit, I would like to conclude by saying a few words about the SEP and its policy implications, and I would like to make two points. The first pertains to our guidance that conditions will likely warrant keeping the federal funds rate below its normal longer-run level for some time. The second is about the possibility that financial markets may have misinterpreted this guidance.

On the first point, our SEP submissions all show a marked rise in the federal funds rate over time as the economy continues to strengthen and inflation moves back up to the longer-run objective. But even though almost all of us expect the unemployment rate to be close to its natural rate by late 2016, with inflation running at or only very slightly below 2 percent, the gap between the federal funds rate considered appropriate and that considered normal in the longer run averaged 111 basis points among participants. By the end of 2017, we see the unemployment rate running 0.2 percentage point below the natural rate, on average, with inflation exactly at target. At the end of 2017, the average gap among participants between the actual and longer-run normal funds rate has declined to 24 basis points. I think these results are quite consistent with our forward guidance, stating that economic conditions after liftoff are

likely to warrant a funds rate below longer-run normal levels for some time, and this is something I plan to mention in the press conference. Perhaps the Committee's expectations for 2017 will give market participants a better sense of what "for some time" means. "For some time" doesn't mean indefinitely. We do see that gap as closing. For those who are worried about a gap in market expectations far out, conceivably that could be helpful.

On the second point, some of you have expressed concern that market participants may have misinterpreted our post-liftoff guidance, causing the current level of long-term interest rates to be lower than is actually warranted. However, if market expectations for the future path of the funds rate do differ appreciably from the SEP, I think it is important to ask what causes that divergence. It may be differences between the views of the Committee and market participants about the strength of the outlook, either because we are showing the most likely outcome and participants are risk-weighting different outcomes, or, alternatively, because investors may reasonably be anticipating a weaker real economy or lower inflation than we do, or at least attach meaningful odds to that possibility. I thought Simon's pointing to the considerable odds—20 percent—among participants in the Desk survey that we would return to the zero bound is notable in that respect. If that is the case, then there is really no communication problem to correct. Of course, it may be that market participants do see our overall reaction function as more accommodative than we intend. If that's the case, we should be—and I will try to be—as clear and transparent as possible in order to gradually bring market beliefs into better alignment with our intentions.

Let me stop there and call on Bill to set us off on our policy go-round.

MR. ENGLISH.⁷ Thank you, Madam Chair. I will be referring to the handout labeled "Material for Briefing on Monetary Policy Alternatives."

⁷ The materials used by Mr. English are appended to this transcript (appendix 7).

The top panel of the first exhibit lists four of the key policy issues for this meeting: first, whether the improvement in the outlook for the labor market since the start of the current asset purchase program has been “substantial” and thus could warrant bringing the current purchase program to a close; second, whether you believe “significant underutilization of labor resources” remains; third, whether you still expect that it will likely be appropriate to maintain near-zero rates for a “considerable time after the asset purchase program ends”; and, finally, whether you believe that the guidance regarding the path of the target federal funds rate after liftoff remains consistent with your outlook.

Turning first to the extent of improvement in the outlook for the labor market, the middle-left panel shows the central tendencies of your SEP paths for the unemployment rate from September 2012, when the current purchase program began (shown by the blue shaded boxes) along with the realized data (the black solid line) and your SEP submissions ahead of this meeting (the red shaded bars). As you can see, the unemployment rate has declined more rapidly than you anticipated in the fall of 2012, and the central tendencies of your projections show that you expect the unemployment rate to continue to move down. You may judge on the basis of this and other labor market data that the improvement in the outlook for the labor market is nearing the point at which the end of the purchase program would be warranted, consistent with the ongoing tapering process.

Regarding whether significant underutilization of labor resources remains, the unemployment rate was unchanged, on net, over the intermeeting period. And, as David Wilcox noted earlier, the improvement in labor market conditions more broadly, as measured by the change in the staff’s labor market conditions index (shown in the middle-right panel), was relatively small over July and August, suggesting that the extent of slack has not changed greatly since you adopted the “significant underutilization” wording at your July meeting.

With respect to the “considerable time” language, the bottom-left panel shows the median primary dealer’s expectation for the path of the federal funds rate as reported in the latest Desk survey. While the dealers now expect liftoff a bit earlier than in the July survey, they generally continue to see two or three quarters between the end of asset purchases, which they uniformly expect in October, and the first increase in the federal funds rate. The central tendency of your expectations for the funds rate at the end of 2015 (the first red shaded box) seems broadly consistent with this view, and a majority of those of you who were clear about the timing of liftoff in your SEP contributions pointed to liftoff in the second quarter of next year or later.

In terms of the post-liftoff forward guidance, the bottom-right panel shows each participant’s projection for the shortfall of the federal funds rate from its longer-run level at the end of the year in which he or she first sees the unemployment and inflation rates within 0.2 percentage point of their longer-run values. On this basis, it appears that most of you continue to anticipate that a low level of the federal funds rate will be warranted for some time after the unemployment and inflation rates are near their mandate-consistent levels.

Turning to the alternatives for this meeting, despite somewhat softer reports on the labor market and inflation, you may view the information received during the intermeeting period as broadly consistent with your outlook at the time of the July meeting. If so, you may see the language in alternative B, page 6, which continues on the policy rate path laid out in previous Committee communications, as appropriate.

The first paragraph of alternative B updates the Committee's summary of recent economic developments, noting that economic activity "is expanding at a moderate pace," and that labor market conditions improved "somewhat further," although the unemployment rate "is little changed." The rest of the paragraph is similar to the July statement, retaining language indicating that the Committee sees "significant underutilization of labor resources." However, where your July statement said that inflation "has moved somewhat closer to the Committee's longer-run objective," alternative B responds to recent data by characterizing inflation as "running somewhat below" that objective. The only other substantive changes to the statement are a further reduction in the pace of asset purchases in paragraph 3 and an indication in paragraph 4 that the Committee will likely end the purchase program at its next meeting.

Judging from the Desk's Survey of Primary Dealers, investor expectations appeared to be broadly in line with a statement along the lines of alternative B, suggesting that its effects on financial markets would be modest. However, as Simon noted, in recent days, market commentary has shifted notably in the direction of increased expectations for a change in the forward guidance in the statement. Consequently, a statement along the lines of alternative B may be seen as somewhat accommodative.

That said, the simultaneous release of the SEP, which will show some upward shift in your funds rate submissions, and of the normalization principles, which market participants generally do not expect to be distributed at this time, will likely be read as suggesting somewhat less accommodation. These crosscurrents point to more uncertainty about the market reaction than usual.

Alternative C, page 8, may appeal to those of you who believe that the stated goals of the asset purchase program have already been achieved, that a solid and durable expansion in economic activity is under way, and that any remaining labor market slack is likely to be absorbed fairly quickly. Moreover, some of you may be concerned that continuing to purchase assets, even at a slower pace, and indicating an intention to keep the federal funds rate at its effective lower bound well into next year could pose risks to economic or financial stability. Accordingly, you may think it appropriate to end asset purchases at this meeting and adjust the forward guidance to allow for an earlier liftoff of the funds rate than financial markets currently expect.

The first and second paragraphs of alternative C are similar to those in alternative B except that underutilization of labor resources is characterized as "diminishing," and inflation is described as "moving gradually toward" the Committee's longer-run goal. The third paragraph announces that asset purchases will conclude this month,

noting that the Committee judges that there has been “a substantial improvement in the outlook for the labor market,” and that it anticipates that “inflation will move toward the Committee’s longer-run objective.” The fourth paragraph now provides information on reinvestments and rollovers. All of the previous language discussing the factors affecting the Committee’s decisions on how long to continue asset purchases has been removed. The fifth paragraph replaces the “considerable time” language with an indication that the current target range for the federal funds rate will likely remain in place for “some time,” thereby signaling that the period between the end of the purchase program and liftoff is likely to be shorter than had been anticipated.

The end of the purchase program along with a statement along the lines of alternative C would surprise investors, likely causing them to pull forward the expected timing of the first rate hike and perhaps to anticipate a steeper subsequent path of the funds rate as well. Longer-term interest rates probably would rise, equity prices fall, and the dollar appreciate.

Finally, alternative A, on page 4, may appeal to policymakers who are concerned that economic growth may have fallen back substantially following its second-quarter rebound, and that growth in coming quarters may not be sufficient to support the desired progress in labor markets or a return of inflation toward 2 percent. These policymakers may still see the purchase program as likely to come to an end in October but prefer to strengthen the forward guidance in order to emphasize the Committee’s determination to return inflation to its longer-run goal.

The first two paragraphs of alternative A are similar to those in alternative B except that they express somewhat greater concern about persistently low inflation. The next two paragraphs are identical to those in alternative B. However, the fifth paragraph replaces the “considerable time” language in the forward guidance with state-dependent guidance, indicating that the Committee is unlikely to raise the target range for the federal funds rate at least as long as inflation between one and two years ahead is projected to be below 2 percent.

An announcement along the lines of alternative A would come as a surprise to market participants, potentially leading them to push back their anticipated timing of liftoff, perhaps appreciably, and maybe to flatten the expected trajectory of the funds rate after liftoff as well. Real interest rates would fall, and the dollar could depreciate. Equity prices could rise or fall depending on the size of the negative signal investors took from the statement about the economic outlook.

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. Are there questions for Bill?

VICE CHAIRMAN DUDLEY. I have a question about market expectations as we release the statement. There are two things that will be going on. One, there's a whole bunch of people that now seem to be chattering about us changing "considerable time" at this meeting. Just in the last week or so that seems to be much more in play. And, two, what are the expectations about the principles being released at this meeting? If we release the principles and don't change the "considerable time" language in the statement, if we go with alternative B, what do we think the market reaction is going to be? I think it would be useful to talk about that a little bit.

MR. ENGLISH. Simon and I have talked a little bit about this. I think, as I suggested in my briefing, that it may be kind of a wash, but there's a lot of uncertainty around that. As you say, I think the market view on the forward guidance shifted, so that perhaps people built in about one-half probability of a change in the forward guidance at this meeting. That may have moved some this morning. I gather there was a Jon Hilsenrath interview or something in which he said maybe that wasn't going to happen. It has been very dynamic over the past maybe five or six days, and I think it's a little hard to know exactly where we are, but certainly that probability is considerably larger than we thought, say, at the time of the Tealbook.

On the other hand, I've seen only a few market participants thinking that the normalization principles are going to come out at this meeting. We said "later this year." I think a lot of people read that as probably late this year, and so bringing them out now will probably be seen as some news—that we're clearing the decks, maybe a little bit more than people thought, to actually begin to raise rates. I also think we're making a somewhat bigger deal of the normalization principles. In June 2011, the normalization principles came out in the minutes, and Chairman Bernanke talked about them in his press conference remarks. Now we're putting

out a document, and that might dial up the market reaction a little bit. As I said in my briefing, I think the SEP is a factor as well. The federal funds rate dots have moved up a little bit—not a whole lot, but an eighth of a percentage point in 2015 and three-eighths in 2016—and people will note that, and that will be a little bit hawkish. The mix is very hard to get right here in terms of what the overall reaction will be, but if I had to guess, I'd guess it's just a little bit to the upside, but that depends on where people shake out on the expectations on the forward guidance.

VICE CHAIRMAN DUDLEY. I guess the one thing I would say from my perspective is, if the principles come out, some people are going to say, “Oh, okay. That's why they didn't change “considerable time,” because they really wanted to emphasize the principles.” That will be a way, ex post, for all the people that were saying that we're going to change the “considerable time” language to rationalize. A lot of those people will say, “Oh, this is why I was wrong, because they really wanted to bring the principles out.” It probably will minimize the effect of that surprise if there will be a little bit of a surprise—on both sides.

MR. POTTER. What did you mean by “upside,” slightly less accommodative or more accommodative?

MR. ENGLISH. Slightly less accommodative. Rates would move up a little bit.

MR. POTTER. That's certainly possible. The SEP is a little bit firmer than the expectations. They're going to have to absorb the target range, the midpoint, the eighths. They might view that, if they try to map it back to their previous version, as being a little bit firmer, or they might want to add eighths to the SEP that they see as well.

MR. ENGLISH. Yes.

VICE CHAIRMAN DUDLEY. Thank you.

CHAIR YELLEN. President Fisher.

MR. FISHER. I just want to make a comment about the normalization principles because I don't disagree with Bill, even though I don't agree with the statement of this lengthy period as stated in alternative B. The way I interpret the normalization principles—and I'm not just saying this to flatter the Chair—is that they show that she has a firm hand on the wheel, that she's exerting leadership. I think that's a positive. Now, regardless of what we decide on alternative B, I think they are going to be positively interpreted. That's just my sense, and I think it's an important thing to do, and I don't think the fact that no one is expecting it throws us off at all. In fact, I like that. I think it's a plus, not a negative. I just wanted to make that point.

MR. POTTER. It's just that there are a few people expecting more clarification. They're not expecting this particular format because it's one that we didn't use before.

MR. FISHER. Yes, but, again, it shows a firm hand on the wheel and a clarification, and I think that's a plus.

MR. ENGLISH. Don't get me wrong. I think it's great.

VICE CHAIRMAN DUDLEY. I think we all think it's great.

MR. FISHER. It's unanimous. It's great.

CHAIR YELLEN. President Lacker.

MR. LACKER. Yes, I'm just puzzling over this thing in the lower-right-hand corner of the first page. We've got a new variation on the dot pictures.

MR. ENGLISH. Yes.

MR. LACKER. Fascinating, the pattern in there. It looks like a little football formation. [Laughter] For each one of us, this is the shortfall in the year that that person gets within 0.2 percentage point?

MR. ENGLISH. It's both the unemployment rate and the inflation rate, within 0.2 percentage point of their longer-run level and what the funds rate is at that time.

MR. LACKER. Right. I think this is about the last sentence in the statement.

MR. ENGLISH. Yes.

MR. LACKER. The statement says, "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 . . ." This seems relevant to whether the Committee anticipates that when employment and inflation near mandate-consistent levels, the target funds rate will be . . . , not how long it will be after that. Do you see what I'm saying?

MR. ENGLISH. Yes, absolutely. For those who are 1½ percentage points, 2 percentage points, even 3 percentage points, it's just going to take a while. The "some time" is just going to take a while. That was our thinking.

VICE CHAIRMAN DUDLEY. Unless you think they're going to move 150 basis points in one go.

CHAIR YELLEN. President Bullard.

MR. BULLARD. Thank you, Madam Chair. I just wanted to follow up on this. When we did ours, we explicitly did it so that when we were converging to the steady state, we were right at the longer-run federal funds rate. In some sense, this is mischaracterizing whatever we did. I'm not sure what's in this, exactly. We also have overshooting, and when you come back the first time, that isn't the final convergence.

MR. ENGLISH. Yes, so we would have picked, I think, the first time you got within 0.2 percentage point of the longer-run levels of inflation and unemployment.

MR. BULLARD. Right. But to us, that was part of the oscillatory dynamics that would ultimately converge to the steady state, and once we converge to the steady state, then we'd say, "No, we want to be at the normal federal funds rate."

MR. ENGLISH. So I agree. In that case, if we had picked the second time you got there, the rate would have been higher.

MR. BULLARD. The only other thing about this is the eighths. Do eighths count in this? Is that an issue here?

MR. LACKER. Yes, there are some eighths in there.

MR. ENGLISH. It is whatever you reported for that year.

MR. BULLARD. Well, we're reporting eighths now because of the ranges.

MR. ENGLISH. That's right.

VICE CHAIRMAN DUDLEY. The point is that the mass of the dots are well away from zero.

MR. ENGLISH. Yes, that's right.

MR. POTTER. The point is that people don't report the longer-run normal as a range for this report.

CHAIR YELLEN. Correct.

MR. LACKER. Can I follow up, Madam Chair? My sense of the discussion we had, what I was hearing from the Desk, was not that they thought it was going to be something like one year later than when we got to the target—in the sense that the forward curve is lower than the SEP.

MR. POTTER. Paragraph 6 is focused on the longer-run rate. Then there's other commentary about what that longer-run rate is going to be. So you have two things going on:

the fact that you might be below that longer-run rate for some time, and then downward revisions of what that longer-run normal rate would be. That's in the SEP over the last year. It's in the market as well. It seems that some of the views that it's zero would not be consistent with the SEP that's going to be produced, and people will see that in 2017.

MR. LACKER. All right.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Yes, thank you, Madam Chair. I just have a quick comment on page 1 on the chart about the SEP unemployment rate and its path since September 2012. Some of this decline, I think, is due to unanticipated declines in the labor force participation rate, and one way to look at that is to look at the staff forecast, at least, for the employment-to-population ratio in September 2012 and for the end of this year and compare that with where we're now expecting to be. I'm happy to report that the employment-to-population ratio we're going to arrive at is higher than we anticipated in September 2012, but I don't think it's as rosy a picture as one would see from just looking at the unemployment rate. My recollection is maybe a couple of tenths higher than what we anticipated. There has been improvement. I might not go as far as to say "substantial," but there has been improvement.

CHAIR YELLEN. Further questions or comments? Governor Brainard.

MS. BRAINARD. I just want to go back to this "considerable time" question. It's clearly out there in the market that this language is going to go. However, if you actually look at the SEP submissions and you look at the actual sentence, it will remain extremely accurate to the day that we lift off. In a sense, it's not clear why that sentence would ever need to change, right? If you think we're ending asset purchases in October and you think "considerable time" means about six months, and if you look at the SEP and it says we're going to lift off in June, I think

there's a little bit of a puzzle of how we've allowed the markets to think that that language necessarily needs to change at all. Right now if you look at it literally, it does say October and June, basically. That's just a question.

VICE CHAIRMAN DUDLEY. Can I ask a question of Governor Brainard? You're saying, if you just kept that language in there, you would date from the end of the asset purchases, and as you got to March of next year, it would almost be not important anymore, right?

MS. BRAINARD. Well, it's a question, really.

MR. POTTER. I think your point was, now people expect a change. Even though you could leave it in, it's difficult to leave it in, because it will mean something different.

MS. BRAINARD. The question is, can we change expectations?

MR. ENGLISH. I'm not sure if I'm interpreting you exactly correctly, but let's say we did change and made it "some time" after the asset purchase program ends instead of "a considerable time." I think that would arguably move expectations up too much. My read of your SEP contributions was the center of the distribution is in the second quarter of next year, not necessarily June, but still six months or something like that after the end of the purchase program. I think moving to "some time" would be read as carrying a lot of freight, and would move things up to just a few months after the end of the purchase program in October. It would be March or maybe even December, and that's probably earlier than where the center of the Committee is right now.

MS. BRAINARD. I agree completely that any change in that language will probably pull forward market movements in the rates. Again, the question is just, really, isn't that sentence

entirely descriptive of our views, and won't it remain entirely descriptive unless, of course, our views about when liftoff happens change?

CHAIR YELLEN. If we thought June, it remains fine now. It would remain fine in October because it still would say six months or more before we would lift off. If we changed it in October to just “considerable time,” and the market thought that means six months, at least six months, it's still fine if we think June, but as we get closer to June, we have to change it.

VICE CHAIRMAN DUDLEY. We were talking earlier, and Governor Powell, you might want to put forward your idea.

MR. POWELL. An alternative—and we've actually discussed this: If you leave the reference to the end of the asset purchase program, then you have something with a six-month shelf life that expires in six months. If you take the reference out and it just says “considerable time,” then it's always—every time you open your mouth and say “considerable time”—six months from that moment, right?

CHAIR YELLEN. That's right.

MR. POWELL. I have to say, I increasingly find some attraction in the first formulation, because if you leave in the reference to the end of the asset purchase program, then it says six months from the end of October, which means around the end of April, and then you don't have to change. The moment when you try to change that language is very fraught and could bring on a sudden tightening.

MR. KOCHERLAKOTA. You just keep the language “considerable time” after the October 2014 meeting.

MR. POWELL. Right, and you let time do its work.

CHAIR YELLEN. What do you do two months before you intend to raise rates?

VICE CHAIRMAN DUDLEY. Then you do a real rewrite of the statement to signal that.

CHAIR YELLEN. On the day you change it, without any warning?

VICE CHAIRMAN DUDLEY. No, no.

MR. POWELL. You'd probably change it at the March meeting, because you're pretty sure at that point.

MR. KOCHERLAKOTA. Exactly. If June is your time frame.

MR. TARULLO. Madam Chair, my suspicion is, you don't really want to get heavily into this issue right now. It's the wise thing to not do. Just to be clear, though, what Vice Chairman Dudley and Governors Brainard and Powell and I have all been alluding to is the notion of changing the tense of the verbs, as it were, in the current statement rather than get into changing the adjectives in the sentence, and we can discuss that at a later time, but that's really the distinction.

CHAIR YELLEN. Okay. Well, we perhaps will discuss this a little more. Was there a two-hander somewhere? Okay. Everybody has been recognized. I think we can—what do we get to have, a beer, a martini, a glass of champagne? Your choice. [Laughter] We begin at nine o'clock tomorrow morning.

[Meeting recessed]

September 17 Session

CHAIR YELLEN. Good morning, everybody. We are going to start with an update from David on this morning's CPI reading.

MR. WILCOX⁸. Thank you, Madam Chair. As you, I'm sure, can appreciate, we've only had the briefest of glances at the data. The CPI came in a little weaker than we had been expecting. The miss to one digit, as you can see on the table that is in your place, rounds to 0.2 percentage point. To two digits, it's about 15 basis points. We think that a very large drop in airfares accounted for somewhere between a third and a half of that. The PCE price index doesn't pick up the CPI measure of airfares. Instead, it uses the PPI measure of airfares, so we think that a significant portion of the forecast miss won't, in fact, translate into a lower PCE price index. But beyond that, it does look like there were some softer readings across a fairly wide range of categories. Yesterday we got the PPI, and the news there was just a little stronger than we had expected. Medical care prices are relevant for the PCE index, and, as I mentioned, the airfares component of the PPI is relevant. On balance, my guess is that we are a little to the soft side. I expect to get a little more precise reading later on this morning, as the meeting is in progress, about how this translates.

CHAIR YELLEN. Thank you. Any questions for David?

MR. FISCHER. Yes. May I ask a question?

CHAIR YELLEN. Yes, of course. Go ahead.

MR. FISCHER. What does "stronger" mean?

MR. WILCOX. Higher. Larger. More positive. To the right on the real line.

[Laughter]

⁸ The materials used by Mr. Wilcox are appended to this transcript (appendix 8).

MR. FISCHER. Thank you.

CHAIR YELLEN. Okay. I think we are ready to begin our policy round, and we will start with President Lockhart.

MR. LOCKHART. Thank you, Madam Chair. I support alternative B this morning and the statement as is. Regarding the statement, I favor holding to the characterization of the labor market in paragraph 1 that emphasizes “significant underutilization of labor resources.”

Bill English pointed out yesterday that an important question for this meeting—and, in my view, for the coming meetings—will be what to do with the “considerable time” language in paragraph 5. I do not support removing or changing the “considerable time” language at this meeting, and my instinct is that we should be very cautious about when and why to drop this particular phrase. The consensus across this Committee on the timing of liftoff seems to be sometime in 2015, and in 2015 the timing ranges from the first quarter to the second half. In my SEP forecast, I assumed liftoff in the third quarter. In the absence of a materially different inflation outlook, and in the absence of a clear and present danger of destructive financial instability, I would rather err on the side of being a little late rather than too early. In my thinking, exercising patience would be insurance against weakening momentum or backsliding in terms of economic growth and employment gains. Like it or not, financial markets are likely to put a six-month horizon on the dating of liftoff from our decision to drop “considerable.” If we choose not to disabuse the public of this interpretation, then I expect to be opposed to dropping “considerable” when asset purchases end in October. I believe divesting of “considerable” in October would cause expectations to firm around a liftoff date that is earlier than my current comfort zone.

Paragraph 5, in my thinking, could be adjusted at the next meeting by simply deleting “after the asset purchase program ends.” Of course, we might be able to change understanding of what dropping “considerable” means through public commentary, especially the Chair’s. But my sense of discussions in the press and among commentators is that the decision to drop “considerable” may have real value as a signaling device that can provide some amount of precision to our guidance without boxing the Committee into quantitative conditionality, as in alternative A. I am wary of laying down a more precise quantitative marker, as in alternative A, if only because our earlier attempt at quantitative economic conditionality didn’t work out so well.

I expect the communication challenges ahead to be formidable. I think many of us are frustrated with the SEP dots as a Committee communications vehicle. I would support revisiting how this device might be improved. I also think we might resume the practice of discussing and taking straw votes on messages the Chair might convey in press conferences and other communications. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Madam Chair. I support alternative B as written. As I stated yesterday, current conditions require a patient monetary policy. The disappointing August employment report highlights why we need to be attentive to incoming data. We should not be too confident that our forecast will become reality. If we only reach full employment in the second half of 2016, with inflation still below 2 percent, as in my forecast, then waiting to raise rates until the second half of next year seems appropriate.

This meeting and press conference should be focused on exit principles. Like President Lockhart, I would like to comment on communications challenges for future meetings. I have several points that I'd like to make on communications.

One, once we have lifted off, I think we should no longer provide time-dependent language as forward guidance. At the October meeting, we will, by necessity, need to make significant changes to the statement, because we will be ending the purchase program. We should use the October meeting to map out language that will be used up to and after liftoff. If incoming data is consistent with the current Tealbook forecast, I would prefer that we then state that there has been no change in the expected liftoff date, but that we plan to no longer use time-dependent guidance. If the Committee instead decides to keep the “considerable time” language in October and only modify the tense thereafter, as was suggested yesterday afternoon, we could still make the guidance more data dependent. For example, we could change the language “it likely will be appropriate,” which introduces the “considerable time” language, to something more conditional on economic data.

My final comment is that it may be worth considering in the subcommittee on communications whether we adequately capture uncertainty in our SEP forecasts. Ideally, we would move from providing point estimates to providing distributions, somewhat similar to the way the Survey of Professional Forecasters captures the distribution of key variables. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Fisher.

MR. FISHER. Thank you, Madam Chair. At the last meeting, I mentioned I was very reluctant to support alternative B, and I supported it really out of respect for your then-recent testimony before the Congress. If you remember, we had a discussion about the wording, and I

thought it was important to follow through. And yet at the same time, I did provide notice that I was doing so with great reluctance.

With regard to the current statement, on the plus side, paragraph 4 of alternative B does include specific forward guidance by stating that we will end our asset purchases at the next meeting. You know I am in favor of that. On net, listening to what people are saying at the table and looking at the numbers, the data have improved somewhat in the intermeeting period, and yet the language has not changed in the statement. So I cannot support alternative B, Madam Chair.

A little regression here—in 1944, Father Divine gave a brilliant sermon. He talked about accentuating the positive and eliminating the negative. And then—I think I mentioned this a few meetings ago—Johnny Mercer wrote a great song in 1944, and that was the name of it. I think we tend too much here to accentuate the negative and, if not eliminating, we are certainly de-emphasizing the positive.

I think we have had continuous strengthening of the real economy. I think there is an improved outlook for labor utilization, and—I'm going to state this carefully—for general price stability. I take note of this morning's numbers. And I continue to be worried about signs of financial market excess, which I believe—if we're not careful, and we keep the phraseology “significant underutilization of labor resources” and “considerable time”—will just exacerbate those negative influences.

So, Madam Chair, with great reluctance—and I signaled this to you earlier—I will not support alternative B. Thank you.

CHAIR YELLEN. Thank you. President Williams.

MR. WILLIAMS. Thank you, Madam Chair. I support alternative B as written. Recent data confirm that the economy is on a moderate expansion path, with labor market conditions continuing to improve. Inflation has stabilized, and downside risks to inflation appear to have dissipated.

In thinking about the statement, I focused on the two key clauses that you mentioned yesterday, Madam Chair—“significant underutilization of labor resources” and “considerable time.” Regarding the former, although the labor market has shown substantial improvement over the past year, the degree of slack has not materially changed since our last meeting, and it remains significant. Based on my own staff’s analysis, and consistent with many other estimates, my estimate of the medium-term natural rate of unemployment is 5.2 percent, well below the prevailing unemployment rate of 6.1 percent. And again, looking at other indicators of labor market strength, taken together, yields the same conclusion.

Turning to our forward guidance regarding the funds rate liftoff, I view the economic outlook as essentially unchanged from June, and it remains appropriate to signal a highly accommodative future path for the funds rate, unchanged from our last meeting. Removing or weakening the “considerable time” guidance in paragraph 5 at this time would send a misleading and counterproductive signal that we intend to tighten policy relatively soon. Therefore, for this meeting, I strongly support keeping the language in alternative B.

Like others, I am thinking ahead to the next meeting. With our asset purchases almost surely coming to an end in October, we will need to review the most effective way to provide forward guidance. My prepared remarks echo many of those of President Lockhart, but I will go through them nevertheless. And to cut to the chase, I view the current structure of paragraph 5—the paragraph around our forward guidance—as providing a robust and flexible structure for the

next phases of our forward guidance. In my view, the language of paragraph 5 works because it makes it clear that our policy decisions depend on economic data and progress toward achieving the dual mandate. That is, it is a data-based policy. The second sentence of paragraph 5 states that the decision regarding liftoff will be based on the Committee's assessment of progress toward meeting the dual mandate. And the third sentence links that assessment to an array of data regarding labor market conditions, inflation, and financial developments, thereby emphasizing the data dependence.

Another point that I want to emphasize is that these sentences encompass a variety of approaches to monetary policy. Whether you think about it in terms of optimal control or versions of the Taylor rules, or other ways you think about forming monetary policy, these sentences link our policy decisions to our goal variables and the progress we're making to them. The language also, importantly, echoes and links to the language of our longer-run goals and policy strategy statement.

Of course, I recognize that some around the table are concerned about the final sentence in paragraph 5 that describes the Committee's assessment of the timing of liftoff. The "considerable time" phrase may leave the impression of our decision being time-dependent, and all of us who have signed that a time-dependent policy is not a good one are going to spend time in central bank purgatory over our various time-dependent forward guidance of the last few years. I recognize that. But, again, I would emphasize that paragraph 5, as it is written today and as it should continue to be written, is not a time-based description of how we approach policy. It is not like, in my view, the statements that we put out in 2011 and 2012. Instead, the final sentence of paragraph 5 attempts to distill the Committee's judgment on the implications of the data for existing and expected progress on our dual-mandate objectives, which is then

translated into a view on our current and expected policy stances. The time dimension of the sentence is clearly tied to the expected evolution of the economy. In a sense, it provides the desired, and, to my mind, the necessary forward guidance based on the Committee's expectations of future actions and economic conditions. And I think this approach is flexible. As economic conditions improve and we reach the point of being near liftoff, clearly the word "considerable" can be replaced by "some." Eventually, once we are well away from the zero lower bound, forward guidance of this type may not be needed at all.

In conclusion, I acknowledge that this might not be a perfect approach, but I am skeptical that we will be able to do better. One idea that has been out there, which I think is a constructive proposal but that still has some issues, is trying to replace this sentence with some notion about our inflation forecasts over the next year or two. My observation on this—and again, I am echoing, I think, some of the comments of President Lockhart—is that there is some type of Heisenberg uncertainty principle that seems to apply to threshold-based language. That is, as soon as you put it out there, the behavior of that variable changes in a way that undermines the use of that variable for forward guidance. I think our experience with the rapid decline of the unemployment rate—which did not seem, in my own view, and I think other people's views, to be consistent with the actual underlying improvement in the labor market—created some communication problems for us, that, basically, the unemployment rate fell below 6½ percent much faster than we thought the labor market actually improved. I think the Bank of England has also experienced similar problems with their short-lived forward guidance. I think having forward guidance potentially based on the inflation forecast, or trying to distill all of our views about policy onto that one variable, does increase the risk that that variable's behavior could possibly move away from being the summary statistic for policy decisions that we thought it was

in advance. So, again, I am skeptical that such an approach would be better than what we have now.

The last point I would like to make, as long as we are at or near the zero lower bound, is that I think it would be a mistake to abandon forward guidance entirely—just remove that sentence. Given the unusual state of monetary policy over the past seven years, letting the public make up their own minds as to what our intentions are would likely lead to confusion that would be detrimental to the achievement of our policy goals. Of course, in the long run, our goal is to help people understand what our reaction function is and let markets figure out on their own what we are likely to do. But, given that we have been at the zero lower bound doing unconventional policy for so many years, I think that is unrealistic—or, it is “a bridge too far”—right now, and I think the forward guidance needs to be with us for some time yet. Thank you.

CHAIR YELLEN. Thank you. President Plosser.

MR. PLOSSER. Thank you, Madam Chair. At the last meeting I dissented over forward guidance language in alternative B. I have discussed my reasons for that dissent at the last meeting, and I talked publicly about them. Because my views on the economy have not changed, and my views of appropriate policy have not changed, I have to renew my objection to the language, which continues, in my mind, to ignore the significant progress the economy has made toward our goals. It is not just the last number that matters. It is the accumulated progress we have made over the past year. And both the statement language and the forward guidance, in particular, fail to acknowledge that.

I thought the staff memo comparing the timing and pace of liftoff strategies was very helpful for thinking about those tradeoffs. Indeed, I thought they made a pretty good case in that memo for the earlier and more gradual strategy. The failure to make changes in our language on

forward guidance today is making it more difficult to implement that policy as a strategy, if we choose to do so. I am afraid that our statement today may well reinforce the market's expectations toward a later liftoff—again, making this alternative strategy almost impossible to implement if we so choose. So it is tying our hands in ways and making it more difficult than we might otherwise like. And making that alternative strategy more difficult actually, in my mind, raises the question of introducing substantial volatility in the marketplace when the time comes to make the change.

I think we must address three major elements in the statement. First, the word “significant” remains a problem, I believe, and will continue to be a problem. As noted last time, when we put the word “significant” in there, we always have to pay attention to the fact that once we put words in the statement it is very hard to get them out. And I am concerned that is partly what we are experiencing right now, and we will continue to face that. In fact, I would be more comfortable if we substituted the language in paragraph 1 in alternative C for the one in B.

Paragraph 5 is obviously one of the key paragraphs, and I actually agree with much of what President Williams just said, except the conclusion. [Laughter] In fact, I think he is absolutely correct that the first part of paragraph 5 is actually a very good statement. It says we will make our decisions based on assessing progress toward our goals. I actually think that is a pretty good qualitative statement about what our reaction function is and probably should be. Now, I would prefer to see that statement gradually metamorphose into something a little more like a reaction function, with a little more specificity to it over time. And I think I would like to see us work on language that could help us do that. That ought to be the heart of our message. And while it may not be perfect yet, I think we can continue to work on it. It is vastly superior to the time-dependent language that we have in the last sentence of that paragraph. That language

is increasingly, in my view, at odds with the qualitative state-dependent language of the first sentence, because the last sentence is, in fact, time dependent, and it alludes to that.

Every time this Committee has ventured off—maybe we all go to purgatory—into time-dependent language, we’ve faced problems and difficulties as we have tried to unwind ourselves from it. I continue to believe that the right approach is to get us closer to describing our reaction function. That is a better form of forward guidance than is trying to base it on the calendar. The tension between our state-dependent language and our time-dependent language is growing. I think it is uncomfortable, and I think it confuses our communication. So my preference for paragraph 5 would consist of simply dropping the sentence that begins “the Committee continues to anticipate.” Just take that five-line-long sentence and scrap it, leaving our state-dependent qualitative language where it is. Absent substantive changes like that, I must dissent from the statement.

There is a third part of our statement that is going to be challenging and is going to become increasingly difficult, and that is paragraph 6. I think paragraph 6 has the potential to be a communications nightmare before it’s over with. We have not agreed in this Committee what that paragraph really means, about being below some normal rate. I think that language in that paragraph is going to grow in being uncomfortable for us, and that we are going to have to either offer a better way of describing that, about a consensus for that, or get rid of it.

I think those are the challenges we face in future meetings. I think that “significant” is a problem. I think the time-dependent forward guidance is hard to implement. Our communication around it has been challenging. And, finally, I think paragraph 6 is going to prove to be a challenge as we go forward. I think all of those issues are points we need to work on. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Mester.

MS. MESTER. Thank you, Madam Chair. I support alternative B today. I support indicating in the statement that the asset purchase program will end in October, if incoming information is consistent with the outlook. In fact, I think we could reduce any residual ambiguity and say that the Committee “will end” rather than “will likely end” the program, because we already have the caveat that this will be dependent on incoming information being broadly consistent with the outlook.

As was true last time, I continue to think that the tone of the first paragraph understates the improvement seen in the economy. Perhaps because it focuses on describing changes over the intermeeting period, the paragraph is sometimes forced to base that description on very little new data. So while factually correct, changes in the description can, at times, send the wrong message. Last time I was uncomfortable with introducing language saying there was “significant underutilization of labor resources” because I felt it suggested we were more concerned about labor market developments than we were in June or earlier in the year. This time, my concern is with the language and the characterization of inflation. Our last statement indicated that inflation had “moved somewhat closer” to our goal. The new language is that inflation has been “running somewhat below” our goal. While that is true, it was also true last time. So the change might be viewed as a signal that we have renewed or additional concerns about the inflation outlook. Today’s CPI report notwithstanding, I don’t think that our view of inflation gradually moving up to 2 percent has changed since last time. Year-over-year PCE inflation is little changed since our last meeting, and it has been fairly stable, running slightly above 1½ percent since April. My preference would have been to use the language in alternative C or to keep the language as it was in July but to clarify the timing, as we do in paragraph 2. If we indicate in the first paragraph

that inflation has moved somewhat closer to the Committee's goal since the start of the year, this helps provide a rationale for our statement in paragraph 2 that we believe the risk of persistent low inflation has diminished since early this year.

I also remain concerned with our forward guidance on the federal funds rate. We are announcing that the asset purchase program is likely to end next month. Rate increases are anticipated sometime next year, and the timing of liftoff has been moving closer than where it was expected to be earlier this year. In my view, the forward guidance that liftoff will be a "considerable time after the asset purchase program ends" is nearly obsolete. And the description in paragraph 6 that the Committee anticipates below-normal policy rates, even after we reach our dual-mandate goals, may also need to be rethought.

I was hoping that we could make a change in guidance today as part of a package of communications at this meeting, including the significant release of the normalization principles, the SEP, and the press conference. But we should not make such changes on the fly, so I accept that today is not the day. I do hope that such a change can remain part of the discussion for October, when the asset purchase program presumably will end. We have said we won't delay needed changes in policy to press conference meetings, and this might be a test case. In my projection, "appropriate monetary policy" entails a liftoff in the first quarter of next year. I would like our forward guidance to give us the flexibility to do that if it turns out to be necessary. So waiting until December to change the forward guidance is problematic for me.

Now, exactly how to change the forward guidance is a challenge, and I expect there are diverse views around the table. In fact, we have heard some of them today. In the recession and early stages of the recovery, forward guidance was a tool of monetary policy used to add accommodation. But as we move toward normalization, I view forward guidance more as a

communications and transparency device rather than as a policy tool *per se*. In reformulating the forward guidance over the medium run, I believe we should aim to remove the focus from the date of a policy change to the conditions we systematically look at in determining the actual and projected level and speed of progress of the economy toward our goals. Indeed, we should put more emphasis on that first line in paragraph 5 and surround it with more context. Reaching a consensus on this type of guidance will not be easy to do before liftoff, I suspect, but I do think it is something we should strive for. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Evans.

MR. EVANS. Thank you, Madam Chair. I support alternative B as written. I agree completely with President Williams and his characterization of paragraph 5. Paragraph 5 has a great deal of economic conditionality in the language. In my judgment, “considerable period” is nicely state-dependent in the appropriate context of paragraph 5. I tried at some point to craft some language to support how you might extract the date as some type of inverse function from all the economic conditions. Then, when I tried to write some language, I found that it was already present in the early stages of paragraph 5. So I think it really is state dependent, even though it uses calendar wording.

I believe it is important that the Committee’s policy strategy convey to the public that we will be patient, much as President Rosengren has been saying recently, and that we will not remove strong monetary accommodation until it is clear that the economy is ready. Despite all of our best efforts to the contrary, I do worry that today’s announcement of our normalization principles will bring forward the public’s expectation of our federal funds rate liftoff date. My improving economic and inflation outlook is premised on continued strong accommodation. Conditional on my assessment of current economic fundamentals and the trajectory of economic

growth and inflation, I continue to find that appropriate policy would delay liftoff until the first quarter of 2016.

If we ultimately choose an overly restrictive change in our forward guidance language too soon, I am concerned that it would result in a much more muted economic improvement than I have written down in my SEP submission. Accordingly, for today, I favor the current language in paragraph 5 of alternative B that retains the “considerable time” forward guidance language. As I said, it has many state-dependent attributes. In my view, adjustments to the language that impart more restrictiveness than the markets currently envision seem inappropriate today.

Now, my preferred policy of delayed liftoff is importantly influenced by risk-management considerations. Let me take just a minute to explain that. In particular, a robust control perspective helps support this view. I ask myself two questions. First, among the set of plausible scenarios, what are the worst cases that could generate our largest policy losses? And, second, do we have the appropriate policy tools available to mitigate those worst outcomes if they should present themselves to us?

I came up with two scenarios that are at different extremes. One is a 1970s-style revival of accelerated inflation, fueled by overly accommodative monetary policy. The other is a 1937-style adverse economic reaction in which the economy weakens and responds to a premature attempt to exit the zero lower bound. Let’s remember, our ultimate exit attempt will almost surely be occurring at a time when two of the largest global economies—Europe and Japan—remain mired in their own zero-lower-bound morass, as well as when the engines of growth in China may well be overheating. Both of these worst-case scenarios would result in large policy losses. Reasonable people can differ over which scenario is more likely. I

personally don't put nearly as much weight on the accelerating-inflation scenario. However, it certainly is possible, and so it should be included in a robust control risk-management exercise.

In my assessment of these risks, it is the answer to the second question that really separates the expected losses from these two alternative scenarios. Would we have the appropriate tools to respond effectively in each case? If inflation begins to accelerate above target, it will almost surely be associated with improving nominal wages, personal income, employment, economic activity, and bank lending for real investment activities. To fight this inflation, we will need to apply restrictive monetary policies, and we know how to do that. We can raise policy interest rates. The 2013 taper-tantrum experience and our careful planning for policy normalization strongly suggest that we will be able to impose more-restrictive financial conditions when we want to.

The other scenario is more problematic. If we tighten policy prematurely, and that leads to falling inflation and labor market deterioration, degrading each of our dual-mandate objectives, we would almost surely have to backtrack, and we would once again be stymied by the zero lower bound. In this case, our best monetary policy tools for restimulating the economy and inflation would be another round of QE and more forward guidance regarding lower-for-longer interest rates. I think it's safe to say that there would be great reluctance among many around the table to redeploy the zero-lower-bound policy tools. I'm not so sure we would have the wherewithal to do so to an appropriate degree. And even if we did, these tools would almost surely be less effective than they were in the past, largely because our premature exit would have already demonstrated our strong desire to discontinue their use. This would make it more difficult to convince markets we would do what it takes to reach our policy goals in a timely manner.

This robust control risk-management analysis leads me to favor a policy strategy that is extraordinarily patient with policy normalization and that, at each step of the way, carefully assesses the strength of the recovery and inflationary trends. Like President Lockhart, I think it's better to err on the side of being a little late versus too early. So today, alternative B is the best choice for this approach, in my opinion. But, more importantly, I would prefer that our eventual policy guidance give more weight to these risk-management considerations. Patience is an important ingredient. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Bullard.

MR. BULLARD. Thank you, Madam Chair. I'm going to make some general comments, and then I'll get to specific comments on today's decision.

I am increasingly concerned about the path of tightening contemplated by the Committee. I think there's a rising risk that we will be too late, too slow, and not state contingent enough. Raising policy interest rates is the hardest job of a central bank. For this task ahead, I think we need to have all hands on deck. We need to be prepared to be more opportunistic than currently contemplated. We need to be able to take good data and use it to our advantage. In my opinion, there will be positive feedback to the economy if we can acknowledge success in the economy and financial markets see that as a rationale for the higher interest rates that are occurring. I think it means being quite a bit more nimble than the current Committee discussion envisions.

The tightening cycle from 2004 to 2006 was extremely mechanical. It ended badly in a global macroeconomic disaster. Housing prices rose at their most rapid pace during the period of policy tightening. I am increasingly concerned that something similar could occur during this cycle. Once we begin the tightening cycle, policy will still be exceptionally easy for many years.

I recommend the following: Number one, more explicit attempts to make policy more state dependent than currently contemplated. Number two, schedule a press conference after each meeting to allow the Committee to make adjustments to policy when the data are sufficiently favorable. Number three, de-emphasize labor market rhetoric relative to what it has been over the last few years. The labor market has improved substantially, as we will acknowledge at our next meeting when we end asset purchases. I expect continued labor market improvement even as we adjust interest rates. I think we have made a lot of progress in the labor market. We will continue to make progress even as we go through the tightening cycle. Number four, we should emphasize that a key risk is that we have experienced two major asset market bubbles in two decades and that we do not wish to encourage a third to develop over the next two to three years with unknown consequences for the United States and for the global economy. Number five, we should communicate to financial markets that we may have to be more nimble and flexible than we were from 2004 to 2006.

I'll make some comments now on today's policy choices. I can support alternative B, but I think we may want to think about some changes to this statement either today or at future meetings. In paragraph 1, we say, "Economic activity is expanding at a moderate pace." Real GDP tracking for the second quarter is running at 4.6 or 4.7 percent. Tracking estimates for the third quarter are running at about 3.5 percent. So I thought maybe we could replace "moderate" with "blistering." [Laughter]

MR. LOCKHART. Jim, if we're blistering, what's China?

MR. BULLARD. We're catching up to them. In the first paragraph, we have "significant underutilization of labor resources." I think this should simply be "underutilization of labor resources," without the "significant" qualifier; I thought that, last time. At the next

meeting we are going to end QE, saying that there's been significant progress in labor markets. I think it's a little bit awkward to then turn around and say there's "significant underutilization of labor resources." So we've made a lot of progress. In my mind, we would use the word "significant" when unemployment was at 8 percent or other indicators were otherwise extremely far from normal, but everything has come closer to normal—not all the way, but closer to normal. I think we should just say "there remains underutilization of labor resources."

In the first paragraph, we also continue to say "fiscal policy is restraining economic growth." The discussion yesterday indicated that I think that's factually correct but increasingly questionable as something to put in this first paragraph. Maybe we should think about striking that at some point. It sounds like the staff estimates are down to 0.1 percentage point or something like that. I'm not sure it's reasonable to have that kind of an empirical finding elevated to something that the Committee puts in a policy statement.

In paragraph 5, we say "A highly accommodative stance of monetary policy remains appropriate." I question whether we should say "highly accommodative." This is something we said when QE was at its very peak, and we were announcing QE plus a zero-interest-rate policy plus continued forward guidance. Now we're pulling back on the QE policy. The forward guidance is not nearly as strong as it was. Is it really the same policy that we had when we first put this language in? I think just "accommodative stance of monetary policy" remains appropriate. And certainly, as long as the policy rate is below its neutral level, we would be saying something like that, but I question whether we can maintain the word "highly" if we're pulling back on other elements of our policy.

In paragraph 5, I would switch "considerable time" after QE ends to "some time"—not at this meeting, but at the October meeting—to give us more optionality for what we're going to

need to do in coming meetings. Again, I would be much more opportunistic than what I think the Committee is envisioning here. If we get some good data, then we should go ahead and make a move. I'm not expecting to mechanically go up for 16 meetings in a row. I do not think that is optimal policy. I think when we have a chance to react to data, we want to take it. When the data are not so strong, we might want to pause. I think if we could get the Committee to behave in that manner, it would be a better policy for the U.S. economy. So I'd be willing to switch to "some time" in October. President Plosser has suggested an even better change to paragraph 5, which is to eliminate the last sentence and make the entire paragraph dependent on the state of the economy. The Committee will make a judgment about when to act. I think a good dynamic for the Committee would be to get into a rhythm of, "We've got some good data, our confidence has increased a little bit, we're willing to raise rates a little bit in response to that," as opposed to the very mechanical episode from 2004 to 2006. Removing that last sentence completely would remove the calendar-based policy altogether in favor of a state-dependent policy. That would probably be a good move for the Committee to make. That completes my comments for today. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Yes, thank you, Madam Chair. I'm willing to support alternative B as is. I'd like to suggest a change, though, in paragraph 1, and it follows the change that President Mester suggested. I'd like to replace the penultimate sentence in that paragraph with the penultimate sentence in paragraph 1 of alternative C. My reasoning is somewhat different from hers. I'm concerned about the characterization in alternative B that inflation is running "somewhat below the Committee's longer-run objective." When I look up the word "somewhat" in *Merriam-Webster*, the first synonym is "a little." Various measures of 12-month

PCE inflation are running about 40 to 50 basis points below our 2 percent target. I don't think we should be communicating that we see the 40 to 50 basis point differential as being "a little" deviation from our target. If we saw 2½ percent core inflation, 50 basis points above target, I would see that as being a situation in which a lot of alarm bells should be going off in this Committee, and I'm sure that many of you would feel the same as me. So I worry that, basically, this language risks communicating that we view our target asymmetrically, whereas the language in alternative C, I think, does not have that defect. It just simply says, factually, that in the Committee's assessment, inflation appears to be gradually moving back toward target. I think that is the collective view that the Committee buys into. That's just a minor wording change that I'd like to suggest.

As others have done, Madam Chair, I'd like to turn now from our current choice and spend a little time talking about the future stance of policy. We are, of course, not on a preset course, but I anticipate that asset purchases will end in October. At that point in time, the phrase "for a considerable time after the asset purchase program ends" will start to be less useful, and we'll have to start to figure out, as a Committee, how to replace that language. A lot of good ideas have floated around today, and we heard some yesterday. My main message today, Madam Chair, is that whatever that replacement language is, that you communicate a continued clear commitment to being patient about the initiation of liftoff. President Evans was actually much more articulate on this point than I'm going to be, but I'll try to make the case in my own way.

My reasons really flow from an emphasis on uncertainty that Governor Fischer appropriately reminded us about yesterday. In my view, we should be thinking about liftoff as an action that's going to be costly for this Committee to reverse. Particularly once we begin the

process of raising interest rates, I don't see us undoing or really slowing that process unless the economy or inflation weakens considerably. President Bullard has offered his vision of how the Committee should run. In some ways I find it an attractive one; in that vision, we're much more nimble and reactive to the economy than we currently are. Frankly, I don't see us doing that. Given the way that we're really going to act, I see this much more as an action that's going to be very costly for us to reverse. Given the risks to our outlook, especially the downside risks, this kind of irreversibility is a strong argument for patience. I'm happy to follow President Evans's lead and refer to extraordinary patience. For example, we should not initiate liftoff until we are highly confident that inflation is getting back to target within a reasonable time frame. We shouldn't be writing "inflation appears to be gradually moving back to target." We should be very confident that it is moving back to target. Without that kind of certainty, we risk not being able, or willing, to adjust policy to deal with a low-inflation scenario in which inflation sputters downward slowly. President Evans has sketched some other alternatives that are even more dire and that would be challenging for us to deal with.

I admit that being patient about the initiation of liftoff is not without cost. It creates the risk that we may have to raise rates unexpectedly rapidly in response to the emergence of inflationary pressures or in response to financial instability. In thinking about these particular costs, I don't see them as being all that large, and the reason I say that is that if you look at the Tealbook baseline, rates are going up really slowly, by a percentage point per year. That's half as fast as in 2004 to 2006, which is generally viewed as having been a rather gradual rate increase. So the increase being surprisingly rapid relative to the Tealbook baseline would still not be all that rapid.

Now, how can we communicate patience? I think alternative A's language is a start in that direction. We've heard some skepticism today about the past effectiveness of thresholds. I think this is the wrong lesson to take away from our past experience. The real lesson is that we have failed to assess the patience needed to deal with this slow recovery, and we have thereby failed to communicate sufficient patience. This is the lesson from President Bullard's comment yesterday about the Committee having been surprised dovishly relative to its hawkish announcements. This is why, with hindsight, a 5.5 percent unemployment threshold would have been better than the 6.5 percent we adopted. It would have been better to always have patience flowing through our statements; we have always been surprised by how patient we have had to be to deal with the recovery.

Arguably, alternative A suffers from the defect of not being patient enough. It doesn't really convey the idea that we're waiting until inflation is returning to 2 percent in a sustainable fashion, which is really what I think we should be communicating. As I mentioned yesterday, communicating that we're willing to follow monetary policy that would lead us to expect the unemployment rate to fall below the long-run natural rate of unemployment is also helpful. The importance of this is not so much about our forecast, per se, as what it conveys about what we're trying to achieve regarding the economy. Our outlook under appropriate monetary policy communicates to the public what we're trying to get to through our actions, and what this says is that we're willing to have temporarily high employment as long as inflation is below 2 percent. Frankly, I think that's pretty different from what we've been communicating up until now, and it would be very positive.

Now, I've sketched some approaches, and I think there are a number of them that I could find workable. What we must stay away from is the kind of language that's in alternative C. In

paragraph 5, this language is specifically designed to convey impatience, to say that the FOMC is in a hurry to begin the process of normalizing interest rates. This is, in my view, exactly the wrong message.

Madam Chair, to sum up, I agree with the views that I've heard around the table that we're going to have to figure out how to replace this forward guidance about liftoff in some fashion. I think we should replace it with language—I don't think we should just remove it, leaving nothing behind—and that replacement language must communicate the Committee's ongoing willingness to be patient about initiating liftoff. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President George.

MS. GEORGE. Thank you, Madam Chair. I support alternative B in terms of a further reduction in asset purchases with an eye toward ending these purchases at the October meeting. Bringing the asset purchase program to a close will fulfill the Committee's stated goal of achieving substantial improvement in the outlook for the labor market, and, assuming no material adverse shifts in the economy, it will offer an opportunity for us to reconsider the language in our statement at our next meeting.

I remain concerned about keeping near-zero rates for a considerable time in the face of continued and meaningful progress in the economy, an SEP that shows pushing the unemployment rate below levels consistent with full employment in many of our forecasts, and several policy prescriptions that are now signaling higher rates. For these reasons, I support moving away from explicit forward guidance in the statement and instead prefer to let other mechanisms, including the SEP, provide such guidance. The SEP not only provides the general trajectory of rates, but should reflect the data-dependent nature of our policy as well as a measure of healthy uncertainty regarding the path. Thank you.

CHAIR YELLEN. Thank you. President Lacker.

MR. LACKER. Thank you, Madam Chair. I support the general path we are on, embodied in alternative B. I'll cut to the issues of the day here.

I was among those who did not favor the use of the word “significant” regarding underutilization of labor resources at the last meeting, and, for the record, I remain in that camp. I understand no change seems likely at this meeting, but I would like to make one observation about that language. It doesn't have to take a significant improvement in labor market underutilization to warrant dropping the word “significant” about labor market utilization. There is a range of values of labor market indicators that qualify as “significant underutilization,” and there is a range for which underutilization without the word “significant” would be more appropriate, and the boundary between those two might not involve a significant change in labor market utilization. So I think that's too high a standard for dropping the word “significant.”

I agree with President Mester's insights about the inflation language in paragraph 1, and I think President Kocherlakota's suggestion is constructive in that regard.

I came into this meeting prepared to support removing “considerable time,” depending, of course, on what I heard from my colleagues in the discussion around the table. I was persuaded by President Plosser at the last meeting that, on net, over the last several quarters, our forward guidance has been less data dependent than we would have expected, had we thought about the likelihood of the outcomes that we've actually seen. That's why I favored dropping it as soon as we could in order to preserve the flexibility that I think we're going to need as we go forward. I do not think it would add materially to the hawkishness of the general announcement today if we were to add it, given the normalization principles announcement as well, but I'd support working in the intermeeting period very hard and very creatively to craft a successor formulation to this.

While we're at it, if you look at the statement, a variety of communications have accreted. This might be a good opportunity to clean house, go through the closets of the statement, and take out the things or reformulate things that have built up over time. We are going to be dropping a whole paragraph on guidance about the asset purchase program. So it is a great opportunity, I think, to take a fresh look at the whole statement.

I'm in the camp of wanting to avoid a mechanical path like we began in 2004. And I tend to agree with President Bullard that, going at $\frac{1}{4}$ percentage point per meeting, it would have been an accident if we had gotten through at exactly the right rate without changing the schedule of how many meetings we were doing per year. Arguably, in hindsight, we got it too low, and I don't say that on the basis of housing developments, but just on the basis of the inflation rate having run at about 3 percent for four years straight. I think that's another good reason to take a look at things and to preserve flexibility.

About guidance after liftoff, I think this is going to be kind of problematic to back away from. When we put something forward-looking in the statement, part of our checklist should be, at what meeting can you envision something happening between the two meetings that would cause you to change that? And it's hard to picture. I have a hard time envisioning what would cause us to drop that in between two meetings and being able to answer the question: Why do you drop that now? So I think we should be really careful about introducing guidance like that.

On the Heisenberg principle, I think a more parsimonious theory is that we succumb to the temptation to take our point forecasts too seriously. The unemployment rate came in within the confidence bounds we would have put around our point forecasts a year or two ago, and so maybe we just didn't think carefully about what we wanted to have happen in that instance.

A related observation I'd make is that, throughout this recovery, there's been this temptation to think of real activity, and the evolution of real activity, as driven by kind of a univariate, unidimensional object—to think of it as up or down or some sort of latent variable. But we've seen disappointment on the output side and we've been surprised on the positive side on the labor market, and productivity obviously intermediates that. I think we need to be careful to take into account the possibility of different outcomes on different sides of the equation.

Now, last year I think we fuzzed this up in communications, and I think it's tempting to do that. But we fuzzed it up to the extent that we added in a pickup in economic growth at times last year in our communications, particularly in the press conferences, in a way that wrapped that into labor market conditions. And we could face this challenge if productivity continues to disappoint. I think focusing more forcefully and more narrowly on the labor market is the right path to go down. I think the economics point in that direction as well. So I'd urge that in our communications as we go forward. Thank you. Those are my comments, Madam Chair.

CHAIR YELLEN. Thank you. Governor Fischer.

MR. FISCHER. Thanks very much, Madam Chair. I agree with the decision and with the statement, and, like most people, I want to talk a little bit about what comes next.

I would like to start by noting that while we haven't changed our language, it seems that the implied timing or estimates of the date of liftoff have changed. The staff forecast has it in the second quarter of 2015, and the markets seem to have moved slightly in that direction. Now, it's pretty clear why I and most people support not shifting the language in such a way as to indicate this month that the decision could be made earlier than the current formulation, combined with market developments, indicates and the dynamics that produces. Why not? Well, economic growth has been weak recently. The inflation rate hasn't risen. If anything, it has declined. It's

likely to remain below target as long as wages and the price of energy remain contained.

Economic growth hasn't picked up, and all of those factors indicate there's no hurry.

But I'd like to get to the point of the discussion. The discussion is about normalization, and I want to raise questions about what is normal. Our monetary policy is very far from normal, and I hope also very far from what will be the "new normal." We all recognize we have to normalize. We're recognizing that by putting out a statement to that effect today, and so that's not an issue at all. It's clear that Taylor rules or any other monetary policy analysis based on the past would say that the interest rate is too low, and that's understandable. We're coming out of a very deep recession, and the zero interest rate was part of the treatment.

There's also the problem of raising the rate and later having to reduce it. That's a serious problem, but I've been a bit surprised in this discussion to hear that we have the opposite problem as well, that we might raise it and keep on raising it mechanically until it has gone higher than we would like it to be. I hope we've learned the lesson from the 1990s and from 2003 onward that you have to think about how much you raise the interest rate and what might happen if you raise it more than you should. And we probably learned the lesson that the full effects of changes in the interest rate don't come out immediately. There are immediate reactions, and I want to talk about one of them.

I've been listening to the discussion, and I have discussed with colleagues how much notice we have to give to have an "optimal negative impact"—that is, the smallest negative effect—on disruptions in the market as a result of making our announcement. I've heard people say that three months' notice is enough. I'm not convinced of that. I don't think we've discussed that issue very much. But I think we haven't considered the effect of the date we start—the forward guidance we give—with respect to what will happen when the markets do

begin to understand that we may be moving within a few months. We do not want to start with a repeat of the taper tantrum. My sense is that we need to give a decent amount of notice—which I think is more than three months—to the markets that that is what’s going to happen. When we change the interest rate, we want to change it in an orderly market environment, and that will mean that we have to have worried a little more than we have so far about things like when we make the announcement and how long it is to the announcement. And we also need to avoid putting ourselves in the position in which we are virtually bound by our previous statements not to move for the next two or three meetings.

I express these concerns because I want to maintain flexibility in both directions as we move ahead, both the ability not to change the interest rate, on which we’re focusing so far—and I accept the asymmetry that moving too early will be worse than moving too late, but moving too late can also be a mistake, and we don’t want to move either way. We don’t want to be either too early or too late, taking into account the constraints we put on ourselves. I think we need to be aware of that as we think next month about how we’re going to change this language and what messages we’re sending.

And I support the proposed decision. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Madam Chair. I support alternative B. I’m happy to support the language as is. I have some sympathy for the point that Presidents Mester and Kocherlakota made, but this is one for which I would give my proxy to the Chair. If people are interested in changing that last sentence on inflation, I’d be happy to go along with it.

I think, to some degree, the issue here is whether there’s an inconsistency between thinking there’s been a lot of progress and there’s a lot of work that remains. To recall the

metaphor the Chair used to use when she wasn't the Chair, looking up at the map of the United States on her road trip from Berkeley to—was it Washington you were going to?

CHAIR YELLEN. New York.

MR. TARULLO. Oh, Berkeley to New York, never going to Washington along the way. You know, you can have made it all the way to Ohio without necessarily being at the point when you can take your foot off the gas or certainly when you want to start braking. And so I don't think there's an inconsistency between the notion that there has been a lot of progress and that there is, now in slightly more technical terms, a lot of slack remaining. That is what I suggested yesterday, and I think that's what we should be focusing on analytically, not just an expectation of, "Well, if we've made a lot of progress, we must be close to the end," but instead trying to measure when it is that we can fairly think that we're getting close to the end. The second point is just to embrace, by reference, the points that Presidents Lockhart and Evans made on risks, although I'm happy to embrace Governor Fischer's more symmetric concerns about risk as well.

Looking forward, for a while I tried to convince myself that we didn't actually have to change the language even as the LSAPs ended next month, but grammar, syntax, and the English language just worked against that conclusion. [Laughter] Something is going to have to be done. As has already become apparent, I think that there are different approaches that can be taken. My own sense is that the best way to do this—and I think President Lacker was alluding to this—is just to get started as soon as possible writing down how the statement would look with something that tries to be state contingent, something that tries to use different adjectives, something that, as some of us were mentioning yesterday, freezes the language but then has an additional way to look forward, and then just gaming out what the pluses and minuses of each of those will be. I'm very glad that no one seemed interested in doing it on the run this morning.

Just to reveal a couple of my own preferences or concerns, I really don't want the change in language to be de facto liftoff, which is what I've been concerned about all along; that instead of an indication that we're likely to move in *X* meetings or *Y* meetings, the market reaction will be, "Okay, if they're moving in, whatever, *X* or *Y* meetings, they're moving, and this has now changed the game," and more or less immediately we have a taper-tantrum-squared or cubed. I don't know that that would happen, but that has been my overriding concern. Now, if you're already prepared to lift off, or you were prepared a year ago to lift off, that presumably wouldn't be as much of a concern, although I would think that some anticipation in markets without certainty would be desirable. In crafting these different alternatives, I'll be looking for a way that gets markets focused more on our shifting assessment of the progress and the remaining slack in the economy, which is something that is not a jump, fit-start, move but instead more gradual, rather than some verbal change that is understood to signal a fundamental change in policy as of that moment.

Finally, coming back to something else President Mester said that I thought was a useful point to make. I've noticed in my time here that paragraph 1 seems to be about deltas, just what changed since the last meeting. And because that that's what it seems to be about, we sensibly focus on some of these words and phrases. We have been using, I think, paragraph 3 to give a greater sense of our overall look at the economy and where we think things are going, but particularly as paragraph 3 is going to have a little less salience after October, it might be worthwhile—this may be a job for Governor Fischer's subcommittee—to think a little bit about whether we want paragraph 1 just to be about or predominantly about deltas or instead to find a way to characterize what we think the general trend is, and then take note of the deltas along the way. But that is probably not a one-meeting exercise either. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Powell.

MR. POWELL. Thank you, Madam Chair. I'll support alternative B as written, and I have a comment on the two key words. Starting with the first paragraph, I do think "significant" can come out at a time when we have a credible reason for taking it out, and for me that would be a downtick in the unemployment rate and a good payroll report. I think even one of those would be plausible, which is what we'll have potentially at the next meeting, if not, certainly, by December. So I don't think that has a lot of market implications.

The other thing I'll talk about is "considerable time," and I see two general approaches. One approach is to actually eliminate that time-based aspect of paragraph 5 and replace it with something more state contingent. I think the problem there is that market participants have really focused in on this as a key signal, and I think changing it in a fundamental way absolutely risks an early and unintentional liftoff—unintentional in some parts.

I think it's useful to go back to how financial market participants process the things we do. The thing they really care about is when. They know we're going to lift off, and I think a typical financial market participant might read our very carefully crafted paragraph 5 and say, "So, you're saying June, then." I think we need to keep that in mind. The alternative, I think, is to take the tool that we have, which is this language, and evolve it in a way that allows it to become irrelevant over time and lets the development of the economy shine through over time. And there are a couple of ways to do that. One is to keep it hooked up to the asset-purchase program and just let it die, and then it will have to be downgraded at some point. Another is to keep it and drop the reference to the asset purchase program and, again, downgrade it over time. I think there are choices to be made in that, but I do lean to those kind of ideas as significantly less risky. It may be purgatory, but I would remind everybody that purgatory is not the downside

case here. [Laughter] I would just conclude by saying that a highly desirable feature of this process is that it be as boring as possible. Thank you, Madam Chair.

CHAIR YELLEN. We'll try for that. Thank you. Governor Brainard.

MS. BRAINARD. Thank you, Madam Chair. I support alternative B as written. I think developments since the last meeting have validated the approach we took last time of finalizing preparations for normalization and bringing the tapering of asset purchases to an end in October while deferring a definitive commitment on liftoff until we have more consistent evidence of accelerating improvement in the labor market and on inflation moving toward 2 percent.

I think several considerations argue for a very high degree of continuity in the key elements of our statement at this meeting. Most importantly, the data on both inflation and employment have come in somewhat weaker since our last meeting in July, which argues for continuity on our description of economic conditions. Moreover, I think there are relatively more downside risks to the forecast against which we might want to hold some insurance—in particular, an escalation of geopolitical tensions and a further strengthening of the exchange rate following a very sharp increase during the last intermeeting period.

I think it's important that we all remember that the decision on today's statement is being taken in the context of other very important actions we're taking. Although today's statement on its own would be viewed as maintaining the status quo, it will be balanced by the publication of the normalization principles, which are very significant, and the release of the Summary of Economic Projections, which will show that the median implied date of liftoff has been moving earlier and that the median path of expected increases has become modestly steeper.

Second, I'm among those who believe that there would be a very high cost to reversing course, and because this recovery has proven unusually susceptible in the past to "false dawns," I

think it would be very wise to wait until we see a more consistent pattern of improvement in employment and inflation before committing to an alteration of course. Once a tightening cycle is initiated, I think it would damage our credibility enormously to reverse course and return to the zero lower bound, as we've seen in other countries. And it's worth noting the striking conclusion that was pointed out yesterday: that primary dealers see a 20 percent chance of returning to the zero lower bound in the next two years and a 30 percent chance of recession. So for those reasons, I would argue against altering the forward guidance, which in current conditions actually looks very robust. I actually read that paragraph as a highly conditional paragraph, and you have to put the sentence in the context of the assessment that it explicitly refers to.

Another thing I think we need to recall when we talk about state contingency and responding to the data is that market participants are looking not just at our language, but also at the Summary of Economic Projections, and that the data dependence is conveyed in a much more granular form in changes in those projections. With the Summary of Economic Projections pointing toward a median date of liftoff now in June 2015 and a median federal funds rate of 1.38 percent at the end of 2015, the "considerable time" language anchored to an October asset purchase end date appears to accurately describe where the Committee actually is right now. I also view it as very significant that market participants appear to have actually pulled forward their expected date of liftoff, which now looks much closer to the median in the Summary of Economic Projections and closer to the Tealbook forecast than we have seen previously.

Looking forward, I think it is a good debate to start having today about how that forward guidance might be altered. I want to associate myself with what I think I heard Governors Tarullo and Powell say in wanting to retain potential optionality, of giving consideration to the

possibility that if economic conditions remain on the expected course, it might actually give markets the greatest clarity if we retained the “considerable time” language, explicitly anchored to the October date. I don’t want to commit today, but we should explore whether it could avoid the significant risk that markets will pull forward rate increases immediately on any alteration of that language or otherwise misinterpret replacement of that language, and we’ve seen that obviously in 2003 through 2004. We also, of course, have just experienced such a misinterpretation with the taper tantrum. Again, I don’t want to suggest that’s where we should be, but I would like to retain optionality and not have too much chatter beyond this meeting that we are necessarily going to signal our intentions through an alteration in the specific language around “considerable time.”

The final thing I would say, as others have as well, is that I continue to think it’s important to be closely monitoring considerations of financial stability that might impinge on our monetary policy deliberations. At this time, I don’t see anything that would make us want to materially alter course.

CHAIR YELLEN. Thank you very much. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you. I support alternative B. Before I talk about the statement, I want to offer a few general thoughts about policy.

I want to thank the staff for their memo that evaluated the alternative approaches with respect to the tightening path—for example, the “early and slow” versus “late and fast.” Not surprisingly, when you have a strong presumption of rational expectations, it doesn’t really matter if you go early and slow or late and fast. But I don’t really think the world works like that. My view is that we want to go as late as possible, subject to not losing credibility with

market participants in terms of our inflation-fighting resolve. I think late is good in two important respects.

First, if we are late but not too late, then the chances of an aborted liftoff diminish. If we were to go too early, we would be taking the risk that financial conditions would tighten unduly. If that occurred, there would be a risk that the economy would slow sharply, forcing us to reverse course. That would be bad not just from a credibility perspective, but also because we'd be back at the zero lower bound without a good set of tools to achieve our objectives. So for me, from a risk-management perspective, being as sure as we can about the sustainability of liftoff would seem to be a prudent approach.

Second, if we are late but not too late, we then have a better chance of pulling people back into the labor force and getting the long-term unemployed employed again. That's important for them, of course, to keep them from losing their job skills and to keep them employable, but it's also important for the economy as a whole because by getting these people employed, we expand the productive capacity of the economy over the longer run.

So the key question is: How do we decide when it's late, but it's not too late? I think we pay close attention to fundamentals. How much momentum does the economy have? What's happening in terms of labor market conditions and inflation? We also should pay close attention to how confident we are that the expansion will be robust to an unexpected tightening of financial conditions that might be provoked by our initial tightening. If the risks of tightening in terms of throwing the economy off track diminish, then the incentives to wait a bit longer will have diminished as well. So if the economy has more forward momentum, then the incentives to wait longer go down.

I think we also should put some weight on market expectations. How do market participants evaluate the risks? We care about market expectations not because we must submit to them, but because disappointing market expectations and being late relative to those expectations could harm our credibility and could cause inflation expectations to become unanchored. If that were to happen, the cost of being late would go up sharply. Currently, market participants generally do not think we're going to be late. If anything, collectively they think that we're going to be a little slower than I think we around the table actually think we're going to be. So right now, at least, the risk of being late in terms of disappointing the market seems to be pretty low, but that obviously could change.

Now, as I said yesterday, I think we want the focus of this meeting to be on the principles, not on changes to the statement. I also think there's not really a good reason for a major rewrite of the statement, given that the outlook hasn't really changed much. And for most of us, the timing of the first tightening still looks like it's more than six months away.

I know there's some unhappiness with the fact that we have this forward guidance expressed in terms of time rather than in terms of economic conditions, and I really do have some sympathy with that view, but I don't think a switch is easily achievable or even necessary. As we have seen in the past, it's very difficult in the statement to parameterize the set of economic conditions that would be consistent with liftoff. We have tried that, and we have failed to reach that conclusion. Moreover, I think a switch from timed economic conditions at this meeting would just confuse market participants in terms of what we're trying to signal with that change. In my view, a better approach might be to continue to soften the strength of the commitment embodied in the forward guidance, and I think that is what the Chair has effectively done in her speeches, emphasizing the considerable uncertainty that surrounds the forecast in

assessing the amount of slack in the labor market. What I would suggest is to continue to pivot toward emphasizing that the forward guidance is not a commitment, it's just a statement about our current set of expectations—expectations that will change and evolve with new information. If we continue to stress that, then I think the forward guidance will become less significant in terms of how the market takes it.

An alternative approach we talked about yesterday was to alter the “considerable time” language at the October meeting or to tie it down by keeping it linked to the end of the asset purchase program so that, as time passes, it withers away in terms of its relevance. I think we should also explore that alternative approach. But I think there are two very different approaches in terms of how to make the commitment less of a commitment over time.

In terms of the language in the statement, my view is, for the labor market, “significant underutilization” still seems apt. You know, most people think full-employment unemployment rates are in the 5 to 5½ percent range, and we're at 6.1 percent. That gap seems, to me, to be significant. If you take “significant” out, you're basically implying that you now think it's insignificant. I certainly don't think we think it's insignificant. So I think that once it's in, it is hard to take out, especially in light of the fact that the unemployment rate really hasn't changed since we put that language in.

I agree with Loretta in terms of deleting the word “likely.” The statement is already qualified. It basically says, if everything evolves the way we think it's going to evolve, we're going to end it, and I'm absolutely convinced that if everything evolves the way we think it's going to evolve, we are going to end the asset purchase program. So I don't think we have to say “likely.”

In terms of President Kocherlakota's "somewhat below" or "below," I think you could go either way, and I would defer to the Chair on that. I don't feel strongly either way. I mean, they're both true statements, as far as I can tell. I'm happy with making that change or not making that change, as you prefer, Madam Chair.

CHAIR YELLEN. Well, thank you very much. I think we've had a very thoughtful discussion, and I appreciate all of your comments. Obviously, between now and October we have a lot of work to do thinking about what we want to do with forward guidance.

Let me say that I'm not quite ready to commit to press conferences every time, but we've consistently said that the fact that we don't have a press conference should not be a reason not to make a significant change if we think one is appropriate. And there would always be an opportunity after the statement is released to have a press briefing to provide additional explanation, and I promise to do that. So I want us to think about October as a real meeting at which significant changes are possible.

With respect to those changes, of course, the first will have to do with the word "significant," which I would like to leave in for today. But again, I am not wedded to it, and if there is justification in the data to change "significant" in October to some other formulation, I want to make clear I'm totally open to it, and I don't intend for that formulation to be forever frozen into the statement. So that remains very much on the table.

With respect to the forward guidance, we clearly are going to have a lot of thinking to do between now and October. I think we don't do terribly well making changes that we decide upon at the last minute at this table, and I appreciate your recognizing that insofar as it applies to today. I would like to encourage everybody to provide as many concrete suggestions, any ideas you have about forward guidance, as soon as possible. I think we need to consider them

carefully. Conceivably, we will need a videoconference before then to discuss possibilities, but let's try to amass as many ideas as we can and have a thoughtful process of back-and-forth discussion between now and October.

In terms of changes for today, President Mester suggested in paragraph 4 removing “likely,” and I heard some support for that. I would be fine to do so myself, and so, let me ask you to raise your hands if you would support removing “likely.” [Show of hands] Okay. So why don't we remove “likely” in paragraph 4: “the Committee will end its current program.” It's already appropriately qualified with “[i]f incoming information.”

Now, the other change I think we could discuss pertains to the “inflation” sentence at the end of paragraph 1. One suggestion was to remove “somewhat” and simply say “[i]nflation has been running below the Committee's longer-run objective.” And then, President Kocherlakota, you suggested substituting the sentence in C, was that right?

MR. KOCHERLAKOTA. Yes, either one of those would work for me, Madam Chair.

CHAIR YELLEN. President Mester, were you also in favor of C?

MS. MESTER. Yes, C was my first choice.

VICE CHAIRMAN DUDLEY. I'm not sure that's accurate.

CHAIR YELLEN. So let me ask the staff a question, which is, my impression is that C doesn't fact-check, and one thing that is very important to me is that we not say anything that is not able to be fact-checked. My belief is that if we define inflation as the 12-month change in PCE or even core PCE, it actually doesn't fact-check—it's actually gone down slightly. I mean, one could say “since earlier in the year,” which would be true, but I don't know that that's what we want. President Williams.

MR. WILLIAMS. I looked at the quarterly patterns in the Tealbook. You know, Q3 and, most likely, Q4 inflation are going to be quite low. So it seems a funny time to talk about gradually moving up when, in fact, the incoming data in the CPI today are kind of going the other way. This is really a Q2 story about inflation having popped up a bit. I would prefer personally just to drop the “somewhat.” It seems cleaner.

MR. KOCHERLAKOTA. That’s certainly my preference, to just drop “somewhat” as well.

CHAIR YELLEN. Well, let me see what people think. Yes, David.

MR. WILCOX. It might be relevant at this point to mention that on the basis of a little more detailed translation of this morning’s CPI, our preliminary estimate is that we’d have core PCE inflation running at about 1.3 percent in both Q3 and Q4. That’s down from our Tealbook estimate of 1.5 percent in Q3 and 1.4 in Q4. So we’re down 0.2 percentage point. For what it’s worth, these are pretty small modifications, but they are in the southerly direction—that would be to the left on the real line [laughter] for core PCE. For total PCE, for the moment we’re at 1.2 percent and 0.8 percent in Q3 and Q4, respectively. So those are each down 0.1 percentage point relative to our Tealbook projection.

MR. EVANS. Can I ask a question?

CHAIR YELLEN. Yes.

MR. EVANS. President Kocherlakota invoked a dictionary definition of “somewhat,” which I’m sure is accurate, but in the Fed lexicon, it wasn’t that long ago that “somewhat” actually translated to 50 basis points. “Slightly” was 25 in the old reserve-management language for the funds rate when we were tightening in the early 1990s, and “somewhat” was 50.

VICE CHAIRMAN DUDLEY. Doesn’t it matter, though, what it applies to?

MR. EVANS. Well, it's an interest rate, but the units are really extraordinarily comparable.

VICE CHAIRMAN DUDLEY. But are the units the same regardless of what noun they're referencing?

MR. POTTER. I think there's been two versions, "below" and "somewhat below." Bill, can you remember when we switched to "below" versus "somewhat below"? That's what you're pointing out, that we've done this in the past in the statement.

MR. EVANS. Yes, that's right. I don't feel strongly. I just point that out.

CHAIR YELLEN. President Fisher.

MR. FISHER. The trimmed mean is running at 1.6 percent on a 12-month average and has been fairly consistent. It has risen from those real lows, 0.9 percent, but it's flat now to 1.6 percent. I think dropping the word "somewhat" going forth, even though I'm dissenting, is something we should consider. The fact is we're running below the Committee's longer-term objective.

CHAIR YELLEN. I agree with that, and I would personally be perfectly comfortable with just dropping the "somewhat." I think "below" is accurate, but let me see. Is there anyone who would object to dropping it? President Lockhart.

MR. LOCKHART. I'm not sure I see the point. The intonation that a reader might put on the statement in reading it could suggest that inflation has been running below the Committee's long-run objective. That's a point of emphasis. That looks to me like we might have, in some respects, changed our emphasis, versus just keeping "somewhat."

CHAIR YELLEN. But it's not like we're dropping "somewhat." It's not like we said "somewhat below" and are moving now to "below." The "somewhat," although it was there,

was a completely different thought. Last time we said “inflation has moved somewhat closer to the Committee’s longer-run objective.” So it’s not like dropping “significant” or something like that. It’s a total change to characterizing the level.

VICE CHAIRMAN DUDLEY. It’s being used in a different way.

MR. LOCKHART. I see that.

CHAIR YELLEN. Are there any other concerns if we were to drop “somewhat” and just go to “below”? I propose that we do that. If we get rid of “somewhat” in the last sentence of paragraph 1, the sentence would read “Inflation has been running below the Committee’s longer-run objective.” And with those two changes, I think we’re ready to call the roll.

MR. LUECKE. The vote will cover the directive as shown on page 12 of Bill English’s briefing handout, and it will cover alternative B as shown on pages 6 and 7 of Bill English’s handout, with the exception that, in paragraph 1, the word “somewhat” will be dropped in the penultimate sentence, and in paragraph 4, the word “likely” will be removed in the second sentence.

Chair Yellen	Yes
Vice Chairman Dudley	Yes
Governor Brainard	Yes
Governor Fischer	Yes
President Fisher	No
President Kocherlakota	Yes
President Mester	Yes
President Plosser	No
Governor Powell	Yes
Governor Tarullo	Yes

CHAIR YELLEN. Okay. Well, that carries, and what else do I have to tell you? Lunch.

[Laughter] Let’s eat. Box lunches are available now.

The next meeting will be Tuesday and Wednesday, October 28 and 29, unless we end up meeting before then, which is not inconceivable. If you want to watch me get murdered at the

press conference [laughter], there will be a TV, as usual, in the special library. I think that's about it, but thank you for a very good meeting. President Fisher.

MR. FISHER. Travel safely to Australia. Remember, you know what a bison is, don't you? It's not a buffalo. It's where Aussies wash their hands. [Laughter] Have a safe trip.

CHAIR YELLEN. Thank you very much.

END OF MEETING