

**Meeting of the Federal Open Market Committee on
October 28–29, 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, October 28, 2014, at 1:00 p.m. and continued on Wednesday, October 29, 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
Thomas C. Baxter, Deputy General Counsel
Steven B. Kamin, Economist
David W. Wilcox, Economist

James A. Clouse, Thomas A. Connors, Evan F. Koenig, Thomas Laubach, Samuel Schulhofer-Wohl, 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

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

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

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

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

Ellen E. Meade and Joyce K. Zickler, Senior Advisers, Division of Monetary Affairs, Board of Governors

Eric M. Engen and David E. Lebow, Associate Directors, Division of Research and Statistics, Board of Governors; Fabio M. Natalucci,¹ Associate Director, Division of Monetary Affairs, Board of Governors

Joseph W. Gruber, Deputy Associate Director, Division of International Finance, Board of Governors; John J. Stevens,² Deputy Associate Director, Division of Research and Statistics, Board of Governors

Steven A. Sharpe, Assistant Director, Division of Research and Statistics, Board of Governors

Patrick E. McCabe,¹ Adviser, Division of Research and Statistics, Board of Governors; Robert J. Tetlow,³ Adviser, Division of Monetary Affairs, Board of Governors

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

Christopher J. Gust, Section Chief, Division of Monetary Affairs, Board of Governors

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

² Attended the portion of the meeting following the joint session of the Federal Open Market Committee and the Board of Governors.

³ Attended the discussion of longer-run goals and monetary policy strategy.

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

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

Canlin Li, Senior Economist, Division of Monetary Affairs, Board of Governors

Randall A. Williams, Records Project Manager, Division of Monetary Affairs, Board of Governors

Helen E. Holcomb, First Vice President, Federal Reserve Bank of Dallas

David Altig, Jeff Fuhrer, James J. McAndrews, and Glenn D. Rudebusch, Executive Vice Presidents, Federal Reserve Banks of Atlanta, Boston, New York, and San Francisco, respectively

Troy Davig, Michael Dotsey, Joshua L. Frost,¹ Spencer Krane, and Christopher J. Waller, Senior Vice Presidents, Federal Reserve Banks of Kansas City, Philadelphia, New York, Chicago, and St. Louis, respectively

Todd E. Clark and Douglas Tillett, Vice Presidents, Federal Reserve Banks of Cleveland and Chicago, respectively

Andreas L. Hornstein, Senior Advisor, Federal Reserve Bank of Richmond

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

**Transcript of the Federal Open Market Committee Meeting on
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October 28 Session

CHAIR YELLEN. I'd like to call this meeting to order. Before turning to our agenda, I'd like to say a few words about our communications with the public. Many of you will recall that in June 2011, the FOMC adopted a policy pertaining to the external communications of FOMC participants, and we have reaffirmed that policy every year thereafter. Principle number one is that every single Committee participant, and not just the Chair, has an obligation to enhance the public's understanding of monetary policy, including its rationale. I would urge you to keep this principle in mind, especially during these highly sensitive times when there is heightened market volatility and tremendous focus on our ongoing discussions about how and when renormalization might proceed. If we aren't careful about what we say in speeches and other forums, such as media interviews, we can easily confuse markets and the general public, adding to volatility and ultimately diminishing the effectiveness and credibility of our policy.

Of course, our guidelines affirm that participants are always free to present their own views. I personally feel that communicating the diversity of views on the Committee, as we also do with the SEP, is valuable, but I consider it important to do that in a way that clearly distinguishes one's individual view from the Committee's agreed-upon policy stance. We have also traditionally emphasized in our communications the collegial, consensus-driven nature of the FOMC policy process, the fact that participants come to meetings with open minds and, after discussing the issues, come to a collective decision. I see this tradition as a critical aspect of our decision process, and it could be threatened by what strikes me as an increasing tendency for participants to take strong stands in public on ongoing debates about appropriate policy. If we stake out positions in advance of meetings and we have already decided that it doesn't matter

what our colleagues have to say, there is no real reason for us to meet at all. We could save travel expenses by phoning in our votes.

But in reality, I suspect that everyone around the table does support the tradition of arriving at the meeting prepared to listen and to reach a collective decision in which most of us don't get precisely our first choice on policy. If so, I think the clarity of our communications would be enhanced if discussions about individual views were softened a bit, perhaps by adding a reminder that the ultimate decision will be a collective one and that you look forward to discussing the issues further with your colleagues. Such qualifiers might also help the public understand that the thinking on the Committee is less fractured than what a range of speeches might suggest.

Another concern I have is that the flow of comments on the outlook and policy sometimes takes on the appearance of a public debate in which one participant provides an assessment of the policy implications of some bit of economic news, then another provides a contrasting interpretation, followed by yet other participants weighing in with their views on the correct meaning. And it is easy to see how such sequences can arise, especially with reporters trying to spur them on. While we want to be transparent, I don't think our communications are necessarily clarified by airing a set of conflicting assessments of the policy implications of the latest news. Rather, it may just confuse the markets by introducing noise, and for this reason, I would encourage you to avoid publicly drawing firm policy conclusions about the meaning of the latest data before we've had a chance to talk about them here.

I'd also like to make a few remarks pertaining to our comments on the dollar. By long-standing agreement, the Treasury speaks for the U.S. government on international economic policy and the dollar, while the Federal Reserve speaks for the U.S. government on monetary

policy. It is important to respect this division of labor by carefully limiting our remarks about exchange rates. We need to be careful not to ever inadvertently create the impression that we are somehow trying to jawbone down the value of the dollar, especially because that would violate the agreement of the G-7 countries not to seek competitive advantage by targeting the value of their currencies. Such comments could prompt counterproductive policy responses abroad. Of course, the exchange rate is an important factor for both the economic outlook and monetary policy transmission, so it is hard to avoid all mention of it. But if we follow a few guidelines, I think we can stay out of trouble.

First, we should avoid commenting on whether the dollar is appropriately valued. Second, we should not discuss current or prospective exchange market interventions by U.S. authorities. And, third, I would urge you to limit references to the economic effects of changes in the dollar to situations in which those effects are important and the public would benefit from some discussion of them. Even in these cases, it might be preferable to point to something more encompassing than exchange rates, such as foreign developments. Fourth, we want to be clear that the purpose of changes in policies is to achieve the dual mandate, and that any accompanying movements in the dollar, like shifts in bond yields, are a byproduct. Finally, if asked to comment on the dollar in a situation in which you had no plan to discuss it, I would recommend saying something like, “I don’t have anything for you on that. As you know, the Treasury speaks for the U.S. government on international economic policy and the dollar.”

Thanks for indulging me in listening to these comments. I’ll stop there, but I do want to end by noting that a guiding principle of our policy on external communications is that we share a responsibility to enhance the public’s understanding of the Committee’s policy actions and the

rationale for our decisions, and I'd encourage all of you to bear in mind the broader purpose of our communications.

Let's turn to our agenda. The next part of this meeting is going to be a joint meeting of the FOMC and the Board. I need a motion to close the Board meeting.

MR. FISCHER. So moved.

CHAIR YELLEN. Thank you. And without objection. Let me call now on Lorie Logan for the Desk report.

MS. LOGAN.¹ Thank you, Madam Chair. I'll begin by discussing financial markets and Desk operations over the intermeeting period. Simon will briefly review three staff memos that you received prior to the meeting, including proposed changes to the RRP counterparty list, a strategy to address concerns with the federal funds effective rate, and a discussion of segregated balance accounts. After we take Q&A, Fabio will review the staff's recommendations regarding an additional set of reverse repo tests.

As shown in the top-left panel of your first exhibit, longer-term sovereign yields in the United States and abroad declined over the intermeeting period, continuing a trend in place since the start of the year. Declines in growth-sensitive risk asset prices were also notable as domestic high-yield credit spreads widened and equities fell.

Market participants primarily attributed these asset price moves to increased concerns over the global growth outlook and to questions regarding the adequacy of future monetary policy accommodation, particularly from the ECB. Consistent with this, European equity price indexes underperformed in relation to U.S. equity prices over the period, and the U.S. dollar appreciated modestly, also shown in the top-left panel.

As I'll discuss in more detail in a moment, the unwind of crowded trades predicated on higher U.S. interest rates along with a sharp increase in volatility across markets may have also contributed to the moves, particularly in U.S. interest rates.

As shown in the top-right panel, the implied federal funds rate path flattened over the period. Despite the substantial improvement in the outlook for the labor market over recent months that has led nearly all market participants to expect the conclusion of asset purchases at this meeting, the market-implied funds rate path is now much lower than in December, when the initial reduction in the pace of asset purchases was

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

announced. Over this intermeeting period, market rates for 2015 and 2016 reached the furthest below corresponding median SEP values on record.

In contrast to the large decline in the market-implied path, the Desk's October surveys showed that respondents' target rate expectations were little changed. Expectations for the most likely timing of liftoff remained clustered near the second quarter of 2015, and the median expectation for the most likely level of the target rate over the next several years barely moved. In addition, as shown in the middle-left panel, the average probability distribution for the timing of liftoff shifted only slightly to a later liftoff, and the average probability distributions for the level of the funds rate through 2016, not shown, were relatively little changed. Consistent with this, there was no appreciable increase in the perceived probability of a return to the zero bound after liftoff.

One explanation for the significant change in the market-implied path but only small changes in our survey expectations is that investor beliefs that drive the pricing of interest rate futures diverged from the average beliefs of those we survey. An alternative explanation is that risk premiums in the futures market might have shifted lower, perhaps exacerbated by large changes in positioning over the period. We do have some evidence for large positioning changes. For example, CFTC data show that over 60 percent of the substantial speculative short position in Eurodollar futures that had been building since mid-2013 was unwound over the intermeeting period, much of this occurring around the significant volatility on October 15.

That day, against the backdrop of an increase in perceived downside risks to global growth and fears of the spread of Ebola, a weak retail sales print appeared to trigger a surprisingly sharp decline in Treasury yields and a spike in volatility across markets. The unexpectedly large moves reportedly led to a rapid unwind of crowded positions predicated on higher U.S. interest rates and continued low volatility. The resulting position adjustments amplified the moves in various markets and led to large price swings, especially in Treasury securities. The intraday trading range of the 10-year Treasury yield on October 15 was 37 basis points, a six-standard-deviation move over the period since 1998, as shown in the middle-right panel.

Amidst these large intraday movements, Treasury market cash and derivative volumes were at or near record highs. And as shown in the bottom-left panel, daily trading volume in Eurodollar and 5- and 10-year Treasury futures contracts exceeded the amount of open interest. Liquidity also became strained, as evidenced by substantial increases in Treasury bid-asked spreads and declines in measures of market depth.

During this time, dealers reported reduced willingness and ability to make markets or warehouse risk for Treasury and other securities. Many market participants also reported that algorithmic and high-frequency trading activity may have contributed to the increased volatility and reduced liquidity, though more data and analysis are necessary to understand the exact drivers.

Overall, the moves on October 15 were highly unusual, given the depth and breadth of U.S. Treasury market liquidity. It is possible that as the structure of fixed-income markets evolve, events like this may result in further punctuated periods of very high market volatility.

As shown in the bottom-right panel, implied volatility across markets had been trending higher before increasing sharply on October 15, especially in fixed-income and equity markets. However, despite the rise, a standardized measure of implied volatility across markets remained well below its longer-run average level. Further, much of the sharp rise in implied volatility has since retraced, though measures of interest rate implied volatility remain higher, perhaps reflecting a risk premium demanded by market participants following the events of October 15.

Market-based measures of longer-dated U.S. inflation compensation also shifted significantly over the intermeeting period. As shown in the top-left panel of your next exhibit, the Board staff's measure of five-year, five-year-forward inflation compensation fell to levels below those at the outset of LSAP 3 or following the "taper tantrum." In contrast, dealer expectations for five-year CPI inflation five years ahead from the Desk's survey have been very steady. This suggests that recent declines in market-based measures may not reflect changes in inflation expectations but instead may reflect declining risk premiums.

In a special question from the most recent Desk surveys, shown in the top-right panel, respondents attributed about half of the recent decline in the market-based five-year, five-year-forward breakeven rate since early September to lower market expectations for inflation and the other half to declines in risk premiums. A few respondents to this question noted that news of a leadership change at the large bond fund manager Pimco, which is a known large holder of TIPS, may have shifted risk premiums in TIPS and thus narrowed breakeven inflation rates. Other market participants generally downplayed Pimco-related effects on inflation markets. They instead attributed the bulk of recent breakeven narrowing to recent low inflation readings, increased downside risks to global growth and inflation, and effects from U.S. dollar strength.

Concerns regarding lower global inflation were also driven in part by worries over a slowdown in China and by lower commodity prices. As shown in the middle-left panel, industrial metal prices have recently fallen sharply, the share prices of companies with large exposures to China have declined, and oil prices have continued their sharp declines since late June.

The middle-right panel shows the recent appreciation of the U.S. dollar against the euro and other major currencies, a development which market participants largely attribute to a divergence in monetary policy expectations and growth outlooks between the United States and most foreign economies. Following this recent appreciation, many have begun to discuss the potential effect that further dollar appreciation may have on domestic growth and inflation.

Despite a weakening euro, measures of inflation compensation in the euro area, shown in the bottom-left panel, continued to decline and recently reached the lowest levels on record. The declines have come despite the ECB having announced numerous easing measures since its June meeting, and market participants remain concerned that the announced actions will be insufficient to return inflation to target. These concerns were amplified following the October ECB meeting, when President Draghi declined to offer an explicit target for the size of the ECB's balance sheet amidst questions surrounding the efficacy of the already announced purchase and lending programs.

As shown in the bottom-right panel, expectations for the effects of these programs on the ECB's balance sheet vary widely. Summing up the central tendencies of the estimates for each program yields an expected balance sheet expansion of about 700 billion euro over the next two years, below the 1 trillion euro amount that many market participants initially interpreted the ECB to be targeting. Subject to questions surrounding ECB balance sheet size and program effectiveness, a substantial share of market participants expect purchases of sovereign bonds sometime in 2015:Q1.

Finally, on Sunday, the ECB published the long-awaited results of its comprehensive assessment of the European banking sector. While the tests identified a net new capital need of only 5 billion euro, mainly in the periphery, market participants widely viewed the tests as credible, and price action was consistent with this conclusion.

Negative interest rates on eligible euro-area investments continue to challenge management of the SOMA euro foreign reserves portfolio. As discussed in previous briefings, we continue to pursue a strategy to invest incoming cash flows in the shortest-tenor, non-negative-yielding investments. As a result, duration of the portfolio has lengthened and now exceeds the Desk's internally managed limit of 12 months, as shown in the top-left panel of your next exhibit. Due to the prospects for continued negative interest rates in the euro area, the tradeoff between investing incoming cash flows in shorter-tenor negative-yielding investments and longer-tenor non-negative-yielding instruments will become more pronounced, and the portfolio's duration is likely to climb further toward the authorized 18-month limit under our current strategy. We will circulate a memo ahead of the December meeting that discusses potential approaches given these tradeoffs.

Separately, on October 21, the Desk successfully performed the first non-dollar small-value liquidity swap exercise, in which we drew a small amount of euros from the ECB's euro liquidity swap line. Other central banks in the standing swap network conducted similar tests.

In terms of the current dollar swap lines, demand at these auctions declined to zero. However, as we noted in a recent memo to the Committee, the Bank of England, Bank of Japan, European Central Bank, and Swiss National Bank still view continuing the seven-day operations for an additional month as prudent. As the monthly extensions are likely to continue in the near future, we intend to notify the

Committee only when these foreign central banks expect to discontinue their routine auctions or if the circumstances surrounding future renewals change in a material way. We will consult with the subcommittee on foreign currency on a monthly basis to request the reaffirmation of its intent to approve routine drawings.

Turning to domestic operations, while Treasury and MBS purchases generally proceeded smoothly over the intermeeting period, measures of MBS operation execution deteriorated somewhat amid increased market volatility. As shown in the top-right panel, offer-to-cover ratios declined, though operations generally remained within recent ranges. On October 15, during the height of the market volatility, the Desk extended an MBS operation by 10 minutes to ensure auction coverage.

Today, the Desk will complete the directed purchases of \$15 billion for the month of October. If the Committee chooses to end the purchase program at this meeting, the Desk would conduct no further purchases to increase the size of the SOMA portfolio.

If directed, however, we would continue to reinvest agency principal payments into agency MBS and to roll over maturing Treasury securities. We would release a Desk statement at the same time as the Committee statement confirming that the purchase program has been concluded and the strategy for agency reinvestments in the MBS market will generally remain the same, with a few minor adjustments, such as the timing of the publication of the calendar of expected reinvestment purchases. We will have copies of the statement available for review tomorrow.

For the remainder of the briefing, we'll discuss the staff's continued work on issues related to policy normalization. To start, the content of the Policy Normalization Principles and Plans, published after the September FOMC meeting, was largely in line with market expectations. Market participants were surprised, however, by some of the announced changes to the overnight RRP parameters.

Following the announcement of changes to the ON RRP parameters and leading into quarter-end, some short-term money market rates declined, as shown in the middle-left panel, with some rates dipping below the overnight RRP offered rate, even though the aggregate cap did not bind until September 30. Treasury bill yields, not shown, also declined. The distribution of triparty repo rates shifted downward following the testing structure changes, and the share of volumes trading below the overnight RRP offered rate increased.

Market participants reported several factors contributing to some money market rates trading lower than the overnight RRP offered rate ahead of quarter-end. First, market participants had not anticipated the introduction of an overall cap at the September FOMC meeting, and the proximity of this announcement to quarter-end reportedly led some investors to scramble into other money market instruments. In addition, the introduction of the cap reportedly led to increased demand for securities that matured after quarter-end, given expectations that the overall cap would bind on September 30. Finally, the prospect of a binding overall limit may have motivated

cash investors to lend at lower rates in advance of quarter-end to gain favorable access to borrower balance sheets on days when the cap was seen as likely to bind.

On quarter-end, the aggregate cap bound as expected. We received \$407 billion in bids, as shown in the middle-right panel. The auction mechanism was successfully executed and the operation stop-out rate was 0 basis points, with 26 participants placing a total of \$96 billion in bids at negative rates. As seen in the bottom-left panel, other than on quarter-end, the Desk has only received a handful of bids at negative rates, reportedly submitted for testing purposes. Of note, on quarter-end the overnight RRP operation was held several hours earlier than usual so that counterparties whose bids were not accepted might have time to find alternative investments.

The bottom-right panel shows the shift in rates and volumes on September 30. Similar to past quarter-ends, volumes fell sharply, particularly in unsecured markets. Treasury repo and Eurodollar rates fell further than in previous quarter-ends, with the Eurodollar rate printing at a negative rate for the first time since we started collecting data on it in 2010.

Despite declines in many short-term rates and money market volumes over quarter-end, market participants characterized trading conditions as orderly, with less volatility than many had expected, and there were few signs of significant pressures at major custody banks. Custody banks did not charge fees on firms' excess cash, though some investors reportedly felt pressure from custody banks to place cash in investments at negative rates rather than leave it unremunerated in their accounts.

If you briefly return to the middle-left panel, you can see that, as with past quarter-ends, money market rates quickly returned to more typical levels and have remained above the overnight RRP rate. The distribution of triparty repo rates shifted up again, after sliding downward in the weeks leading up to and including quarter-end.

Lastly, the staff continues to test TDFs. Participation has been robust at the first three operations in the current testing series, which incorporates an early withdrawal feature. As shown in the top-left panel, usage more than doubled in the first two operations compared with earlier test operations with the same rate and cap but without the breakability feature. The increases in take-up were partially attributable to institutions that did not participate in earlier operations, including some that asked to be credentialed to participate after the breakability feature announcement. Take-up in Monday's operation, not shown in your exhibit, was \$219 billion.

Simon will now continue our report.

MR. POTTER. Thank you, Lorie. First, as discussed in past meetings, the Desk recommends allowing firms that meet the existing set of eligibility criteria to apply to become counterparties in overnight RRP operations. We recommend reopening the application process as an issue of fairness, in order to provide equal treatment to

eligible institutions, and we anticipate that the addition of new counterparties would only modestly increase demand for overnight RRP. As shown in the top-right panel, we estimate that 21 money market mutual funds are eligible to apply and that about 13 of them are likely to do so. Together, the 21 eligible funds have about \$240 billion in assets under management, which would represent a roughly 12 percent increase from the total AUM of existing money market fund counterparties. We estimate that if all 21 funds had been counterparties, demand on a typical day in August would have been about \$20 billion higher, assuming that the funds would have exhibited similar take-up for overnight RRP, as a fraction of AUM, as the current counterparties of the same fund type. Of course, this overestimates additional usage, because not all 21 funds have expressed interest in participating in operations.

Many FHLBs have also expressed interest in becoming counterparties, and four appear likely to meet the eligibility criteria based on a preliminary assessment of available data. The addition of these institutions could increase demand on certain days. For example, the four institutions that appear eligible have left between \$2 million and \$15 billion in reserves unremunerated in their Federal Reserve accounts over the past year. However, based on the behavior of existing FHLB counterparties, we do not anticipate that their participation would substantially affect volumes in the federal funds market.

President Lacker raised some important points about the extended RRP counterparty management strategy in the future and how the Desk would explain this new wave of extended counterparty applications. As discussed in a June memo, the Desk's preference is to transition to a more traditional counterparty management approach after this last wave. In the traditional approach there would be rolling admission for any firm that meets the eligibility criteria and rolling exit for counterparties that no longer meet eligibility criteria or whose performance is below standard, similar to our management strategy for primary dealers. However, particularly because of the temporary nature of the ON RRP facility, it seems important to amend this traditional approach. The simplest amendment is to set an upper limit on the number of extended counterparties. Under this approach the Desk would indicate in the announcement of the new wave of applications that this would be the last such wave and, after adding the accepted counterparties, the total number of extended counterparties would not increase and the eligibility criteria would not change. Of course, this approach does limit flexibility, especially because the extended counterparty list could be used for more traditional draining operations. One could couch these statements on the limit on the total number of extended counterparties and eligibility criteria as current anticipations along with an emphasis on the temporary nature of the ON RRP facility.

If the Committee does not object to a final reopening of the application process to a new wave of counterparties, we would incorporate any suggestions from the Committee today on the appropriate communication strategy and circulate a draft Desk statement announcing the new wave for further comment.

Next, the staff proposes two changes to address concerns with the current federal funds effective rate. First, we intend to transition the underlying data source for the federal funds effective rate from the brokers to FR 2420. This change is expected to have little effect on the level of the federal funds effective rate but should enhance both its robustness and its consistency with the IOSCO principles for benchmark rates. Additionally, as shown in the middle-left panel, the FR 2420 data capture a larger volume of federal funds transactions than the brokered data. This should make the effective federal funds rate more resilient to modest changes in trading activity.

Second, the staff would also like to publish a new overnight bank funding rate, which would comprise both Eurodollar and federal funds transactions of U.S.-based banking offices. Such a rate would provide a useful benchmark for a broader set of money market transactions and could serve as a backup in contracts for the effective federal funds rate. The underlying data for this rate would also come from FR 2420, subject to establishing that we have the legal authority to collect data from foreign banking offices controlled from the United States. This blended rate is expected to differ little from the federal funds effective rate on most days, although on quarter-end dates or during times of stress there could be greater divergence between the two rates due to the different lender groups in Eurodollars and federal funds. Both of these changes could be announced in the fourth quarter of 2014, and we would expect to implement them in late summer 2015. The time between announcement and implementation is needed to enhance the data collection process, including issuing a *Federal Register* notice and responding appropriately to any comments that we receive, as well as to ensure the quality of the data. In the interim, the staff will work on the development of internal systems, controls, and governance principles for the new rates. Please let us know if you have any concerns about these plans.

Finally, I would like to mention a possible new service the Federal Reserve System could offer called segregated balance accounts, or SBAs, which is outlined in the middle-right panel and discussed in more detail in a memo you received before the meeting. SBAs are an arrangement that allows banks to borrow funds from a variety of lenders, including FHLBs, and place those funds in specific accounts at the Federal Reserve that earn the IOER rate. The transaction is designed to remove credit risk, as borrowed funds would be fully collateralized by an equal amount of reserves that are segregated from the bank's other assets. This arrangement could allow additional banks to compete for money market funds, and as a result, money market rates and the rates paid on borrowings secured by SBAs could be pushed up closer to the IOER rate. SBAs, by allowing banks to provide accounts that safeguard invested funds, should facilitate competition among a wide set of banks based predominantly on offered rates. If successful, that should lead to greater pass-through of the IOER rate and a redistribution of reserves toward banks with relatively low balance sheet costs.

While SBAs could help improve the magnetic pull of IOER, they would not require the Federal Reserve to pay interest to nonbank institutions directly. Additionally, unlike overnight RRP, SBAs do not require setting an additional administered rate. The balances held in an SBA would earn IOER for the borrowing

bank, and the rate and terms paid on the loan secured by the balances in the SBA would be determined privately by the participating parties.

However, as with other tools for the FOMC's consideration, there are potential risks and uncertainties that must be considered. One concern is that SBAs may reduce arbitrage activity in the federal funds market and lead to lower volumes, potentially making the effective federal funds rate more sensitive to idiosyncratic trades. There are also a number of complex legal and regulatory issues that must be resolved. In addition, at this time, interest in these accounts is unknown, as banks would need to weigh the costs associated with establishing and managing these arrangements against the benefit of earning the spread between possible SBA rates and the IOER rate. More broadly, the Committee might also want to avoid additional complexity in the communication of its policy implementation framework during normalization and the possibility of unintended consequences.

The final panel outlines some next steps that staff could take to lay the groundwork for SBAs, if there was sufficient interest from the Committee in the Federal Reserve System establishing these new accounts. Some of these steps can proceed internally within the System whereas others would require engagement with other agencies and the private sector. Thank you, Madam Chair. That concludes our prepared remarks.

CHAIR YELLEN. Thank you very much. Let's go to Q&A. I'd like to propose that we first have Q&A on financial market developments covering Lorie's presentation, and when we finish with that, let's turn to questions on the matters that Simon discussed. So let's start with any questions for Lorie. President Williams.

MR. WILLIAMS. I have a question on charts 7 and 8 about measures of U.S. inflation expectations. I'm a little bit puzzled by how to read these different things. As I understand it, the primary dealer five-year, five-year-ahead estimate of inflation hasn't really moved. The Board briefing said it's little changed since the last FOMC meeting. So the primary dealers, the economists, haven't changed their views. And then when you look at the actual movement in the Board's five-year, five-year-forward inflation compensation, the Board's yield-curve model suggests in parsing the data that most of the decline is actually due to reductions in risk premiums while the estimates of changes in inflation expectations account for only a few basis points—again reading from the Monday morning Board briefing.

So those two answers are the same. Inflation expectations haven't changed. But then you have chart 8, and there you're asking the primary dealers who have already self-identified that they don't think there's a change in longer-run inflation expectations, "Why do you think longer-term rates have come down?" And they say, well, it must be the A, B, or C. Maybe there's a D, E, and F here, too. I mean, what do I make of that? You're asking people who themselves don't believe something what they think the market's doing, and how should we weigh evidence like that? And how do you weigh the evidence from the yield curve model?

MS. LOGAN. I can't speak about the yield curve models, but I think others will. Looking at the series, you see that the dealers don't often change those expectations. They've been very, very steady historically, even when we've seen other drops in breakevens. So it could be that they're just very, very sticky in the way they're filling out their survey responses. But I don't really have a good explanation other than the fact that when they look at why market prices have moved and assume what other people think, they split it fairly evenly between the risk premium and inflation expectations, and the market commentary on those various factors fall into both of those buckets. So, I think there's likely a mix of risk-premium changes and inflation-expectations changes. I don't know if someone else wants to talk about the models.

MR. POTTER. The question for panel 8 was, why do they think this has fallen, not what is their expectation.

MR. WILLIAMS. But it's their guess. I mean, you used to fill this out, Bill. [Laughter]

VICE CHAIRMAN DUDLEY. In the second chart, they're not expressing their own views.

MR. WILLIAMS. No, I understand.

VICE CHAIRMAN DUDLEY. They're expressing the views of others. Just like everyone around the table could have a view. We could wrongly express our view of others, right?

MR. WILLIAMS. That's exactly my point. They're just guessing, in some way. "Well, the market has gone down. I guess it's something—"

VICE CHAIRMAN DUDLEY. Yes.

MR. WILLIAMS. That's really what you're getting out of chart 8.

MR. POTTER. You also get the buy-side participants who haven't done this as much, and so those responses are interesting in some ways.

MS. LOGAN. I think that's right. Some of the various stories behind these moves fall into "risk premium" and some of them fall into "inflation expectations." I think that's why they think there's a combination. I don't understand why what they're filling out for their own inflation expectations doesn't move more.

MR. EVANS. I'm confused. So the question in chart 8 is asking the dealers, "Here's a change in a market price. How do you parse that?" Conditional on the fact that they don't see inflation moving, how are they supposed to answer that? Because it's a market price that's moved. Is it supposed to be other risk premiums as all of it?

MR. WILLIAMS. It's a guess.

MR. EVANS. Or are they supposed to say, "Can't do it because I don't believe it."

MR. WILLIAMS. I would say it's a little something more. I'm just downplaying.

VICE CHAIRMAN DUDLEY. They don't know what the answers of other people are to the first question yet, right? And so they see this market price moving and so they're saying,

“Well, I think other people have changed their expectations in some way, but I haven’t.” That’s how I would parse this.

MR. WILLIAMS. The model.

MR. ENGLISH. In terms of the model, I think you had it exactly right: Our preferred yield curve model parses this as only a pretty small decline, just a few basis points, in expected inflation. Then there’s a piece having to do with inflation risk premiums. That also knocked inflation compensation down some. And then there’s a piece that the model attributes to liquidity premiums on TIPS, and that actually was a fair amount of it. That piece come in when you get big movements in rates. But the upshot is that the model, at least, would say there wasn’t a lot of evidence here for lower expected inflation 5 to 10 years out.

MR. WILLIAMS. Thank you.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. I just had a quick comment, which is that I think it’s useful to have these decompositions that are on figure 8. But in my own thinking, I don’t like putting too much weight on them. Even if the breakeven is declining because of risk premiums, we sometimes act like that’s something we can safely ignore. The decline in risk premiums is coming because people are worried about a combination of low economic growth and low inflation happening at the same time. That’s what drives down those risk premiums. I think we should be more concerned about low inflation if it’s happening in a low-growth event than if it’s happening when other things are going well. And that’s exactly what’s reflected in risk premiums. So, at least in my own thinking, while I find these decompositions useful, I don’t like to let them drive my thinking about expected inflation.

MR. ENGLISH. Just one more word on that. There is interesting work that has been done here using inflation caps and floors to look at the risk-neutral distribution of inflation compensation that comes out of that. That's shifted down—as you would expect from panel 7—but it's really the high-inflation outcomes that seem to have been marked down. So you might see from that both reduced risk of an outcome in which there's a boom and high inflation and maybe, as a result of the reduction in that tail, a lower risk premium as well.

CHAIR YELLEN. President Fisher.

MR. FISHER. Just to complicate this discussion a little bit, we have the Board's five-year, five-year inflation compensation measure. Barclays also has a measure. And if you compare the two, the Board measure is, if I read this correctly, about 2.2-something percent. The low is 2.09 in the recent recovery. Barclays' measure, looking at your graph that I have here, is 1.79, well above, though not far from its recovery mean. So I'm curious, Could you could just give us a quick brief on what the difference is between the two, and why ours is superior or why theirs is inferior, or why don't we use both.

MR. ENGLISH. If I get this wrong, Simon will correct me. But I think the Barclays measure is a tradable one under which they are picking particular securities—a particular TIPS and a particular nominal Treasury—whereas the Board staff uses a measure that's estimated based on the whole yield curve. So the Board's measure smooths through variation around the yield curve that we think is idiosyncratic, that is, that has to do with fitting errors related to factors influencing specific securities. In addition, our yield-curve estimation throws out the on-the-run and, I think, once-off-the-run nominal securities, which can trade at a premium in relation to other securities. We use our method because we think it's better, because we think

it's pulling in all of the information from across the yield curve, and it's smoothing out some idiosyncratic factors that can show up in the Barclays measure.

MR. FISHER. Does the Board differ from the New York Fed in terms of its conclusion of longer-term inflation expectations being well anchored, that most of the movement that took place was due to a reduction in the inflation risk premium?

MR. ENGLISH. That's what our model says.

VICE CHAIRMAN DUDLEY. The New York Fed staff agrees with that.

MS. LOGAN. Yes. I think the evidence we have from the survey suggests it's a mix. I don't know if I would put a lot of weight on the distribution.

MR. POTTER. The research staff at the New York Fed can replicate the result that the inflation risk premium is falling. It's up to all of you how much weight you want to put on the model, the survey, or just the fact that it has fallen here on all the measures and in Europe.

MR. FISHER. Thank you for clarifying, I think. [Laughter]

CHAIR YELLEN. So, other questions for Lorie on financial market developments?

MR. BULLARD. I just wanted to follow up on this discussion. I do think it's interesting to break down these five-year, five-year forwards, but they are talking about what is going to happen in the period 5 years from now out to 10 years. In my opinion, these things should never change. If we really had credible policy, they should never change. And you kind of see that in the primary dealer five-year, five-year-forward estimate. What they're saying is 2.3 percent, which is basically 2 percent on the PCE. So I guess this is CPI-based for the dealers.

MR. POTTER. Yes.

MR. BULLARD. Okay. I would be interested in the future to break down the five-year because I think we should be able to control inflation over the five-year period. And that's what I've been a little bit more concerned about recently.

MS. LOGAN. We also asked for the average probability distribution for the five-year, five-year-forward CPI inflation rate in the survey. And that distribution didn't shift at all either.

CHAIR YELLEN. President Evans.

MR. EVANS. On chart 7, the primary dealer five-year, five-year-forward estimate doesn't seem to move much. That's reminiscent of the Survey of Professional Forecasters. Do they behave the same; is there really any difference between them? The dealers must contribute to the Survey of Professional Forecasters, too.

MS. LOGAN. I haven't looked at the differences between them.

MR. POTTER. The only difference is that you can get an implied five-year, five-year-forward estimate from the Survey of Professional Forecasters. You have to take the 10-year and the 5-year forecasts and basically subtract them; the Board staff will do that. The dealer survey has a direct question on the five-year, five-year forward, which might trigger in their minds, "The Fed is credible, I'm going to put down 2.3."

MR. EVANS. Right. I ask because when I'm briefed on the Survey of Professional Forecasters, it doesn't really move very much, and I'm not quite sure what to think about that. I can either take extreme comfort in it, that we're locking down long-term inflation expectations, or it could be that nobody is paying attention and they just filled the survey out. And I know that, over a longer period of time, the Board staff has used the SPF inflation expectations, in the 1980s and whatnot. So I wonder if there is any analysis of the difference of those two—more out of curiosity than anything else.

MS. LOGAN. I think even when you look at our surveys and who fills them out, you find that parts of the surveys are filled out by the economists, and certain questions they take to the trading desk. And it could be that the economists, in filling them out, write down their own expectations, and they go ask the trading desk for the decomposition of the change. So you can be getting a mix of who is responding.

MR. EVANS. That was my interpretation.

CHAIR YELLEN. Okay. Then let's turn to questions for Simon on the various programs. President Lacker.

MR. LACKER. I think it's a good idea to tell the market how we're going to do things. In the current primary dealer program, if you become eligible you can apply to get in. So having reopened the ON RRP a couple of times now on an ad hoc basis, it would be an open question for market participants as to whether there is going to be another round. And I think we owe it to them to lay out a plan. I think closing it and having it be a one-time deal is more consistent with the Committee's view on this being a transitional arrangement to some extent—it might be a couple years, but a transitional arrangement—than would be a continual reopening. So I like Simon's proposal for announcing publicly that it would be a one-time opening and then it's closed. Now, I took it that you were proposing that it would be open if people drop out. Is that what you were saying, that it's a constant number?

MR. POTTER. Just to correct one thing, I don't think the previous openings were ad hoc in any way. We were building up a list, and we changed the criteria as we added them. That was presented to the Committee over a number of years. The difference this time is we've not really established a way in which the overnight RRP is available. You are correct that this will be a number of extended counterparties. We would find that number from how many that we will be

adding, and we would then manage the list. In managing the list, the main issue would be for a money fund. Can it keep its assets under management above \$5 billion? Currently, there are seven that don't meet that criteria. We should think about whether we want to keep them on there if we have an application from, say, a money fund that has a large amount of assets under management, and we're operating with that limit. That would be the kind of management that we are talking about. So it would not be the case that the list would stay static. That's inappropriate, due to changes in business models and declines in assets and other things that the counterparties might have.

MR. LACKER. I think I heard you say there would be a fixed number.

MR. POTTER. Yes. That would be an upper limit. I don't think you'd want us to try and hit that upper limit.

MR. LACKER. Right.

MR. POTTER. But we would make sure that we didn't go above that upper limit.

MR. LACKER. So people could roll off as they fell off eligibility, right?

MR. POTTER. Yes, if we thought that it was appropriate to do that. It would be the same with a primary dealer whose capital fell. That would be more stringent.

CHAIR YELLEN. But if a year from now a new participant who met all of the existing criteria wanted to get into this, could that happen?

MR. POTTER. Assuming there was space. Yes.

CHAIR YELLEN. They would. So this isn't your last update?

MR. POTTER. Yes.

VICE CHAIRMAN DUDLEY. If there was space.

MR. POTTER. So it's not a list that would just decline. We would keep it constant, because I think if it declined it wouldn't meet some of your needs. And you also would have to think through what you'd like that list to look like if you want to use term RRP's as a more traditional draining tool. The reason we built it in the way that we did is we started with the money funds that had the most assets under management, because we felt they had the most capacity to drain. We went through various waves in which we added money funds with smaller assets under the management as a precaution that if it was decided that liftoff was going to be in, say, 2011—which some people thought at that time—we wanted to get the most capacity in place straightaway.

MR. LACKER. This seems like a reasonable approach.

VICE CHAIRMAN DUDLEY. Just to clarify this, in principle, there could be a queue at some point, though.

MR. POTTER. There could be a queue. There're a lot of issues that we would address in terms of management. For a primary dealer, the performance metric is reasonably clear. How active are they in the operations that we have? In this case, imagine we have a really large money fund that's not active, but that every day goes out and says, "Hey, I can put my money at the Fed, and I can get the overnight RRP offer rate. So offer me a better rate." Would we want to kick that money fund out? Probably not, because it's affecting the conditions in the money markets. So we'd have to look quite carefully at how to sequence that. If you wanted a small buffer above what we added, you could do that. But remember, we've got nearly the whole universe right now. If you look at the chart there, to be honest, it's not a really big restriction. The big restriction is probably telling the market, "We're done. We're not changing the eligibility requirement in the future."

VICE CHAIRMAN DUDLEY. That seems more important than the limits on the number, right?

MR. POTTER. Yes. But I think one of the things people wanted is not to give a signal that somehow you've changed your mind on the overnight RRP being temporary. And this is a way of trying to help with that.

CHAIR YELLEN. President Rosengren.

MR. ROSENGREN. I'd like to switch gears over to the last two slides that you have on the segregated balance accounts. In terms of the legal and regulatory issues that remain unresolved, is there any reason not to resolve them? It would seem, as for all our tools, we would want to at least have the option to be able to pull them off the shelf if necessary. Is there a counterargument to why we wouldn't get these things verified?

MR. POTTER. Having been involved in lots of these issues, I would say that we should do anything that we are able to resolve within our four walls. Whenever we talk to outside groups—we'd have to talk to the FDIC, the OCC—we have to be careful how we talk to them. That's a more significant step. But if there's sufficient support, then it's clearly fine, because there is no chance of the story getting out, which might be misleading about what the Federal Reserve might do. And I was trying to be clear, this is really a Federal Reserve service that we'd offer. It's not an FOMC tool.

MR. ENGLISH. One other point, just to be clear, one of the regulatory aspects would be actually changing regulations.

MR. POTTER. Yes.

MR. ENGLISH. When you did that, it would be a very public thing. And I think at that point it would be hard, then, to step back, if you went that far.

MR. POTTER. There are some regulations the Federal Reserve would have to change itself. For those, though, we can do them within the Board until we announce it.

CHAIR YELLEN. President Lacker.

MR. LACKER. Yes, just following up on this. Did I read the memo correctly that this would require the Federal Reserve Bank to execute a contract with the customer of the bank who's placing the deposit with the bank?

MR. POTTER. I'm not a complete expert on the SBAs. There are other people in the room who might be better at this. This is my impression of what happens: There would be an arrangement that the bank would want to make. They would bring this proposed bilateral relationship between the bank and the lender to the bank to the Federal Reserve for approval. The Federal Reserve would say it's okay to have that. Clearly, we would want to make sure that the standard rules that we have about who's opening bank accounts would apply, and there could be other considerations as well as to what that counterparty looked like to the bank that was borrowing from them when they opened up the account. So there would be some involvement from the Federal Reserve in that sense, and if I got that wrong, someone in the room can correct me. I think there are five appendixes, and they have a lot of the details in them.

MR. LACKER. Madam Chair, this seems like an involvement in the Reserve Banks on the other side of the banking industry with their customers that seems operationally cumbersome. We've talked about segregated balance accounts before, and we've got essentially two theories for why there's a spread between the funds rate and IOER. Balance sheet costs seems like a really compelling theory. The idea that competition in the United States banking system isn't sufficient to narrow that wedge seems less persuasive. These are really only useful in that second case, and it seems like a lot of operational machinery for something that just doesn't

seem that useful. I don't know if this is the time in the meeting when you're soliciting comments.

CHAIR YELLEN. We are soliciting comments.

MR. POTTER. The FR 2420 has allowed us a lot of insight into who is borrowing in the federal funds market. The FHLBs clearly have lists of banks that they feel have very high credit status, and that is likely to produce a less competitive outcome than one in which all banks are treated on equal footing. If all banks are treated on close-to-equal footing, you would get a better distribution of reserves within the system. What you're seeing is, it's flowing to the foreign banking organizations because they have slightly lower balance sheet costs. There are other banks that might have that as well who aren't as competitive with an FBO because they don't look to the FHLBs to be as good a credit.

VICE CHAIRMAN DUDLEY. Isn't there also, Simon, a second issue, which is the fact that the smaller banks would be less likely to be bound by the leverage ratio.

MR. POTTER. That's what I meant. They're not as close to the leverage ratio.

VICE CHAIRMAN DUDLEY. So you're accessing a different part of banking.

MR. POTTER. They are subject to different regulatory rules than some of the large banks. We know a lot of the reserves are at the really big banks, and they clearly have a different regulatory environment than smaller banks. What we don't know is whether smaller banks could be effective in attracting loans because they're smaller banks, and they're not as useful as a larger bank to most people with large amounts of money.

MR. LACKER. If I could just respond, the phenomenon you've described has been part of the funds market forever.

MR. POTTER. Yes, it has.

MR. LACKER. And we viewed the funds market as reasonably competitive back in the day when we were targeting the funds rate. I'm sure there were spreads from time to time based on residual bank credit risk premiums, and I'm sure from time to time there was a basis point or two of maybe some competitive friction, but it's hard for me to buy that this is a really gigantic effect.

MR. POTTER. I agree. I would love to have the FR 2420 and see if the stability of funding flows that we see now—and I could probably name the top five banks who get most of this from the FHLBs—ever existed before. Usually when you see that kind of stability, it's probably not completely consistent with a perfectly competitive market, but it might be a very efficient market.

CHAIR YELLEN. President Fisher.

MR. FISHER. I'd like to look at the memo on enhancements to the effective federal funds rate, and make a point on that. I think the plans are thought out and sensible—substantially expand coverage, all the pro arguments. My only concern is the proposed timeline. I wanted to ask a question on that because this memo indicates that the Desk proposes to announce sometime later this year its intention to change the FFER data source and publish the OBFR. But it's not likely to be ready to actually begin publication until “late summer.” Is there any way to accelerate that publication? My real concern here is, does this affect liftoff? Because if we wait until late summer, and let's assume we want to move earlier than that, is this going to be problematic? Is there a way to accelerate the process? You went through putting it out for comment and so on. Could you shift the publication of the revised FFER forward and delink it from preparation for the OBFR? I'm just curious because that's what caught my eye in reading this memo.

MR. POTTER. I think that we can only go out for the changes in the data collection once. So that's one of the constraints. We have to use the *Federal Register*. We have to take in the comments, and we have to respond to them. We have a project plan that's tried to look carefully at that. I think—Josh, you can correct me—we've tried to take out as much time on that project plan as possible. I don't believe that somehow delaying the publication of the overnight bank funding rate is going to affect the ability to use a different set of transaction data, but, Josh, you can correct me because you are closer.

MR. FROST. In addition to giving the *Federal Register* notice some time, I think we also need to give the banks some time. There's a pretty substantial system change that they would need to make to make sure they were getting all of the data to us that we needed. We tried to wring out as much of the fat as we could from that timeline.

MR. FISHER. I guess my real question is, is this going to affect liftoff at all?

MR. POTTER. It will not affect liftoff.

MR. FISHER. Make adjustments to the data we're collecting after liftoff?

MR. POTTER. We have a number of contingencies in place if we have problems with the existing broker data, and we would implement those contingencies if that was the case.

MR. FISHER. Thank you. Madam Chair, obviously I don't want this as an excuse to delay liftoff. We should lift off when we're supposed to lift off and the Committee agrees to lift off. I just wanted to make that point.

CHAIR YELLEN. Further comments? Governor Powell.

MR. POWELL. On the SBAs, my understanding has long been that the FDIC looks ill on any kind of secured borrowing. I see in the memo that we're limiting it to 1-, 2-, and 3-rated institutions, but have we socialized this idea with them?

MR. POTTER. I think there have been some discussions at the staff level. It's obviously a little bit different taken as a formal proposal from the Federal Reserve to the FDIC, where I was careful to talk about what we can do within our four walls and what we do when we go outside, and there are always risks associated with that.

I think that my understanding of the logic of the proposal would suggest that this doesn't do any harm necessarily to the FDIC in terms of the deposit insurance fund, which is what they'd be concerned about because the notion would be that you would be attracting funds that wouldn't be there. However, for a large bank that has an amount of reserves right now, they could switch that into an SBA, and that wouldn't be available in resolution. I think, Bill, that's one of the things that you thought was a possibility.

MR. POWELL. I could be wrong, and I guess there is one way to find out, but it may be sort of a principle thing to them that they just don't want that kind of encroachment.

MR. POTTER. The FDIC has been clear on certain principles with the Federal Reserve over the last six or seven years, yes.

MR. ENGLISH. Governor Powell, I think a key question here with regard to this issue is that there are two elasticities to worry about. One is, if you had SBAs, to what extent would that increase the number of small and medium-size banks that would sign up for SBAs with borrowers, provide extra competition, and boost market rates closer to the IOER rate? The other elasticity is just as Simon was saying. You have large banks with a lot of reserves. Some of their customers might say, "Gee, it would be appealing to have a secured deposit rather than an unsecured deposit." So you'd get a shift of the funding into, I guess, not a deposit but secured funding and out of deposits. If that elasticity was large and the first one was small, this isn't a great thing to do. If you thought that the second elasticity was small and the first one was large,

then you get a lot of traction on rates. It's very hard to know, but I think at some level that's kind of the decision that you face.

MR. POTTER. And it's hard to test this because it's a service rather than a tool.

CHAIR YELLEN. Comments or questions? Okay. Then let's turn to Fabio, who is going to discuss testing of reverse repurchase agreement operations.

MR. NATALUCCI.² Thank you, Madam Chair; I will be referring to the exhibits labeled "Proposals for Reverse Repurchase Agreement Operations." In my remarks, I will review the staff's recommendations regarding additional RRP testing over the next intermeeting period. These tests were the subject of one of the memos you received ahead of the meeting.

As noted in the top panel of your first exhibit, reflecting in part the experience gained since September, the staff now recommends that the Committee authorize a series of preannounced modest decreases and increases in the ON RRP rate after the October FOMC meeting. In particular, the ON RRP rate would first be lowered from the current level of 5 basis points to 3 basis points, then raised to 7 basis points, and finally increased to 10 basis points. The rate would be held at each of these levels for two weeks before finally being returned to 5 basis points. A draft resolution that would allow such testing by temporarily expanding the authorized range for the ON RRP rate to 0 basis points to 10 basis points is attached to your handout.

Varying the ON RRP rate would affect its spread relative to the IOER rate and could provide additional information about the effect of that spread on money markets and the demand for ON RRP. In addition, changes in the ON RRP rate could assist in the assessment of the effectiveness of the ON RRP rate as a floor for short-term interest rates. Of particular interest may be the results of the testing at 7 basis points and 10 basis points, as these may provide greater insight into the extent to which the proximity of the ON RRP rate to the zero lower bound is influencing the strength of the floor. The staff recommends that a full schedule of any planned ON RRP rate changes be preannounced by the Desk following the October FOMC meeting to reduce the chance that rate variations would be read as signaling a change in the stance of monetary policy.

The bottom panel discusses possible testing of term RRPs to address market pressures at year-end. Most market participants expect that balance sheet constraints combined with high level of reserves in the system will once again exert downward pressure on money markets around year-end. In the past, dynamics similar to those visible around quarter-ends have been observed around year-ends, but generally with more pronounced effects. This anticipated pressure raises two questions. First, does

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

the Committee desire to take action to address it? Second, if the Committee does desire to do so, what action could it take?

The Committee may wish to test the ability of supplementary tools to improve control over short-term interest rates and to help prevent a deterioration in money market liquidity as pressures build near year-end. If so, the staff recommends that the FOMC consider conducting a series of term RRP operations that span December 31, 2014. These operations would provide one of relatively few remaining opportunities prior to liftoff to meaningfully test the utility of additional supplementary tools and determine their efficacy in helping to control short-term interest rates. By increasing the availability of safe money market instruments ahead of year-end, term RRP operations could temper the potential for a buildup of pressures in money markets in the final weeks of the year. For example, such operations could absorb some demand that would otherwise push down rates on term securities, such as Treasury bills, that mature after the turn of the year. In addition, these tests may also signal to the market that the Committee, while not inclined to increase the overall limit on ON RRP usage, does have additional supplementary tools available and is prepared to deploy them if warranted. Finally, the Desk conducted open market operations in order to limit temporary market strains over quarter- and year-ends prior to the financial crisis, so doing so may not be seen as particularly surprising by market participants.

Such a term RRP exercise could be sized to try to offset the anticipated decline in the available stock of safe money market assets that tends to occur around year-end. A staff analysis suggests that on quarter-ends in 2014, the supply across a number of types of money market assets has declined, in aggregate, by about \$150 billion to \$200 billion. However, this staff analysis omits a number of significant asset classes, including bilateral federal funds and Eurodollar activity, due to a lack of daily data; in addition, the increase in demand observed at the September 30 ON RRP operation exceeded these amounts. Accordingly, \$300 billion of term RRP over year-end might be a more realistic estimate of what would be required to meet the increase in demand for safe money market assets.

The Desk could announce following the October FOMC meeting that it has been authorized to conduct term RRP operations in December to cross year-end, with a cumulative size limit of up to \$300 billion, and that it will announce specific operational details by early December. By helping to resolve some of the uncertainty regarding the availability of safe money market instruments ahead of year-end, and thus facilitating advanced planning by market participants, the early announcement should avoid the “scramble” that reportedly took place in the short period between the September FOMC meeting and quarter-end.

The staff recommends that term RRP operations be conducted at several different times over the course of December. For example, fixed-quantity auctions could be conducted each Friday in December for \$25 billion, \$50 billion, \$100 billion, and \$125 billion, with each operation settling the Monday after the auction and maturing on January 2, 2015. Bidding behavior and movements in money market rates associated with these operations could provide readings of year-end pressures over

the course of December. Of course, this proposal is preliminary, and should the Committee pursue this option, it would need to be refined based on market participants' feedback, operational considerations, and evolving market conditions, including issuance plans by the Treasury Department. Once the specific plan is determined, the staff could submit it to the Chair for approval, notify the Committee, and release the operational details to market participants. A draft resolution for such an approach is included in the handout.

Alternatively, the Committee may find it desirable to take no action to address year-end pressures, for example, if meeting participants are concerned about appearing to accommodate “window dressing” behaviors by banks and are comfortable with potentially significant downward pressure on short-term rates. This strategy would provide a second observation of the performance of the current framework on quarter-ends, without the potentially confounding surprise factor of an announcement relatively late in the quarter, as was the case in September. In addition, taking no action could reinforce the FOMC's earlier communication that occasional day-to-day volatility in money market rates is acceptable and that the ON RRP facility will remain small.

Another possibility would be to mix these two approaches by testing term RRP's over year-end and then, so long as the test went well and liftoff did not appear imminent, allowing the March quarter-end to pass without Desk action.

Depending on your decisions regarding these testing issues, we will have copies of the Desk statement available for review tomorrow.

Thank you. That concludes my prepared remarks. We would be happy to take your questions.

CHAIR YELLEN. President Mester.

MS. MESTER. I have a question on each part of the proposal. Are you intending to recommend any further testing in December? If so, what would those tests be? And then, on the volatility and the term RRP's, we have always had year-end volatility in this market, and it seems to be the rule rather than the exception. Is there some expectation that this year, in particular, it is going to be worse than it typically is? And that it's going to actually have an effect on financial conditions or the macroeconomy? Or is the proposal being made purely because you want to test a tool?

MR. NATALUCCI. I think your first question has to do with the change in the overnight RRP, and the plan here is to test changes in the overnight RRP rate down and up.

MS. MESTER. Right. I understand that. But are you going to come back to us in December with further tests?

MR. NATALUCCI. In addition to this?

MR. ENGLISH. I think it's possible we will think that there is something further that we want to test. Probably not at the December meeting, because then we're going into year-end and that's going to be a strange enough period that I don't think we'd learn anything from a test. The current testing exercise expires at the end of January, so we may come back in January and want to talk about additional testing that we would do after that. But we don't have a particular plan right now.

MR. NATALUCCI. On the second part, I think it would be interesting to do the testing for a couple of reasons. This is one of the last opportunities before we get to liftoff in which we know there are downward pressures on rates, and so testing the tool exactly when we could check whether it would be effective or not would be, I think, an interesting experiment. There is also the issue of intensifying balance sheet shrinkage over time, as has been evident with regard to regulatory constraints, particularly from foreign banks. So I think it's a combination of the two. There is a sense that year-end is going to be very strong in terms of a restriction of the supply of safe assets, as well as providing one of the few opportunities at a time when we know there will be downward pressure, so it will be interesting to test the tool at that point.

MR. POTTER. I do think it's hard to get a neutral read from market participants on this, because they will always want us to help, and I think that was part of your point. To make their lives easier, we used to do operations to smooth the effective rate close to these financial

reporting dates. We might think that it was difficult to hit the funds rate target exactly on year-end or at the end of a quarter, but in the old days we wouldn't want the rate to be firm going into that.

One of the other things that has changed is this \$450 billion of cash from the asset purchases that you have added to the system over the past year relative to the previous year-end. That money has to find its way home. At some point, as we've seen at quarter-ends, some of the traditional, conventional ways start to freeze up and you have to find other ways of putting that cash into an asset or a bank account. And that could produce more disruptions, but it could go just as smoothly as the September quarter-end did. For example, suppose we told you there was a 20 percent chance that it would be more disruptive than usual. Would you want to do something about it? The main thing here, I believe, is to test a tool that we think would be useful, and this would look like a really good circumstance to test that tool. Just as raising the rate to 10 basis points will be a good test if repo rates, when we raise to 10, were actually below 10—if repo rates were at 20, that's not going to be helpful for us. We view year-end as a set of conditions in which we could test how effective the term reverse repurchase agreements are. And we learn a lot from that testing, both operationally and how effective it could be in assisting interest on excess reserves, along with the other supplementary tool of overnight RRP.

MR. ENGLISH. I just want to reiterate a point here. In July, we sent the Committee a memo that said basically, "What if the current plans for liftoff don't work so well? What's plan B?" And the first addition that you could do is move the administered rates higher. The second was term tools, TDF and term RRP. We are testing TDF now. The breakable TDF seems actually to be going pretty well. That's pretty interesting. Year-end would be a terrific time to do a test of term RRP at a time when we know there will be downward pressure on rates. You

don't know how big that downward pressure will be, but it seems like a really opportune time to get a good test in size of that term tool, which we may need when the time comes.

CHAIR YELLEN. Vice Chairman Dudley.

VICE CHAIRMAN DUDLEY. If I could just add to what has been said, it seems to me that you want to test everything that you need to test to make sure that, when you do lift off you actually do have monetary control. That would be point number one. Point number two is, it is very likely that when we lift off it is going to be right before quarter-end and so we may want to have those tools in place and really understand how those tools are actually going to operate. I would much prefer doing a test of term RRP before we get to liftoff than to use it sort of sight unseen.

CHAIR YELLEN. Yes, if I could just reinforce that. If the Committee is contemplating June as the time of liftoff, or alternatively September, these are quarter-ends. Our meetings occur just before quarter-end. If you think about the practical difficulties, we decide to raise the target range for the first time, and immediately we are swamped with year-end pressures so that instead of our rate going up, it goes down. We don't have anything in place to deal with that, and these term RRPs are an attractive way, without raising the size of the overnight RRP facility, to deal with pressures and create a better environment in which we have more confidence when we lift off. Unfortunately, June, September, December, and March are our press conference key meetings, and so we have to face the fact that these quarter-end pressures are going to be with us probably at the moment we do decide to lift off. Although you don't care if this pressure shows through to the market once in a while, I think that would be problematic, at least the first time, and we should try to make sure we can deal with them. President Lacker.

MR. LACKER. I want to talk a little bit about the pressure on rates in the couple of days before quarter-end. MarketSource provides a great set of descriptive information about what was going on in markets after our announcement. And it was pretty clear that after the announcement of our parameters, people placed a lot of weight on the probability that the RRP rate would be set below 5 basis points. The description led me to believe that people are essentially taking out insurance by locking up funds over that horizon and were willing to take a lower yield now on, say, five-day funds across the quarter-end in order to insure against maybe even getting a negative rate at the RRP. Now, at a five-day horizon, that's just a traditional sort of yield curve consideration.

Before, when we pegged the funds rate, it was the only rate we pegged. Now we do peg the IOER rate, and we're going to smooth that through the quarter-end. The IOER rate isn't going to move over quarter-end. So what we're talking about is this spread to IOER. If rates are going to be soft in the days leading into year-end, isn't the natural response for us to raise the cap at year-end, so we're sure we can nail the rate at 5 basis points? And if we do that and markets are pretty confident that the cap we have for year-end—and this is one of the staff's proposals—is going to nail it, then we're not going to get the softness in the days ahead. So I'm not sure why that's not the best option for this.

Now, I understand that the Committee, in its discussion of the cap on the overall size of the facility, came to a judgment that reflected a variety of considerations about the footprint, financial-stability concerns, the idea of people running into this facility, and so forth. Well, if that judgment leads us to want to leave the cap in place at year-end, then my understanding is that these term RRP's are not going to count against this cap. So they are sort of an end run around the cap; they are sort of loosening up the Committee's decision about \$300 billion being

the optimal amount. To my mind, it seems like extending the cap on quarter-end or year-end is the logical solution, if we want to do this. Now, personally, I think in the past we have let a lot of volatility show through at year-end, and it doesn't affect the one-year rate, it doesn't affect the six-month rate. We have generally lived with a fair amount of year-end volatility and haven't viewed it as problematic until now. Now I understand the consideration about the end of June.

VICE CHAIRMAN DUDLEY. Yes, what's different is that this time we are going to be presumably taking off before a quarter-end and that would not be a good time to be unable to show monetary control.

MR. LACKER. For one day? For one day, okay. For one day, let's raise the cap. Triple the cap for one day.

MR. NATALUCCI. Can I respond for a second and maybe offer a different perspective? I think there's a difference between overnight and term RRP's in terms of footprint and the financial-stability consideration. So in terms of footprint, this is a temporary thing that you do in that period, and it would end after quarter-end or after year-end. It doesn't have the same footprint that raising a cap in general has.

MR. LACKER. While it's in place, it does. I mean, it diverts intermediation flows while it's in place.

MR. NATALUCCI. But only for a limited horizon, and the financial-stability consideration that we raised about the overnight RRP that generates the run dynamics is not in place here. This is a different settlement system. So it doesn't generate the run dynamics that raising the cap or the expectation of an increase in the cap would.

I also think there are a couple of differences between raising the overnight RRP cap and having term RRP's. One is that depending on the size, it's not obvious that increasing the cap on

one day at the end of the year would remove the same amount of uncertainty that having a series of term RRP's would. If I am a market participant, I'm not sure whether I have access to the auction or not. So some uncertainty stays.

MR. LACKER. There's no amount that—

MR. NATALUCCI. Oh, there is, of course. As I said, the \$300 billion in term RRP's amounted to the estimated increase in demand for safe money market assets. Maintaining the constraints set by the Committee until year-end, the removal of uncertainty could not have the same effect. That's the second piece, which is, you get readings of market prices if you do a series of term RRP's where you're starting out in December and you can adjust the size.

MR. ENGLISH. I agree with everything Fabio said, but the even more fundamental thing I took from earlier discussions around this table was you all really didn't want to show a willingness to adjust the size of the overnight RRP program, and so I took as a basic assumption that we weren't going to increase the size of the overnight RRP program. Instead, we'd take this opportunity to test the term tool, which I wanted to do anyway, which I think is valuable.

But I agree. As I think we pointed out in the memo, an alternative approach would be to greatly increase the size of the overnight RRP around year-end, and if the Committee wanted to do that, I think that would work. But we really did take seriously the thought that that could be read as a signal that the Committee was more willing than it actually was to adjust the size of that program.

MR. POTTER. President Lacker, let me play out a scenario for you. We get to December 28, and we've told people we're going to increase on New Year's Eve. On December 28 we cap out. Rates get lower. On December 29, we cap out again. Then, on that next day, we suddenly raise it to \$600 billion and it works quite well. There will be a lot of people at that

point who say, “Well, why don’t you extend the \$600 billion for the whole week between Christmas and New Year?” I think we’re trying to avoid that kind of dynamic. It’s not obvious to us when exactly would be the right time to start increasing the cap because at the year-end, it might not be as effective to do it, say, on this one day as it would be at a regular quarter-end.

CHAIR YELLEN. Governor Tarullo.

MR. TARULLO. Thank you, Madam Chair. Fabio said a good bit of what I might have said, Jeff, in response to your observation. I think there’s not going to be a perfect alternative here, and we have recognized that in our discussions over the last couple of meetings. We have aims that are somewhat in tension with one another. Number one, as the Chair just stated a few moments ago, is wanting to have a lot of credibility at the point of liftoff and perhaps for a meeting or two thereafter. Number two is not wanting to put in place a program which invites a significant change in the financial industry that may, in turn, increase the chances of runs in periods of stress.

I think what’s being proposed here is a way to avoid signaling in advance that we’re going to have a cap increase if there are any problems with the floor. I don’t think anybody is taking that off the table, but what I think the staff is proposing here is a way to determine whether a mix of instruments will do the job sufficiently so that we don’t have to raise the cap. If what we learn in December is, notwithstanding the mix of instruments, there’s still an awful lot of softness that makes a majority of the Committee uneasy, then we might actually have to think about raising the cap when we lift off. But this is a way of giving ourselves a chance of not doing that.

By doing this, we’re going to lose some information that we might otherwise have had by just keeping the \$300 billion cap. Suppose everything goes well in December. We’re not going

to know whether that's because participants adjusted and made arrangements beforehand or because of the term. We're not going to know whether it was because September 30 was a special date, because that's the day on which balance sheets are frozen for stress testing and CCAR purposes, or whether it's just an end-of-quarter issue.

So we're not going to know some of that, but that's what happens when you have to make policy decisions in real time. You're not able to do everything you want. Although there are elements of this that I sort of regret, I really do think this is the best way to try to balance those two ends which are potentially in tension with one another, and it gives us the best shot at an outcome that doesn't compromise either of those goals.

MR. NATALUCCI. I guess one way to respond, to try to regain some of the information, would be not to do it in March.

MR. TARULLO. That's a good point. So what I was going to say is after this is done, we can in January debate whether (a) we would like to have the cap, (b) we would like to keep everything that we had in December, or (c) we want to kind of "go cold" and see what happens in March without any program at all. But we can decide that in January on the basis of whatever information we get out of this.

CHAIR YELLEN. President Lockhart.

MR. LOCKHART. A question on how you structure the ON RRP testing regime. Did you think about whether it is operationally feasible, rather than to target specific overnight reverse repo rates, to actually target spreads to market rates and, therefore, tactically move with what's going on in the market as you test these overnight reverse repo rates? Is that possible? It seems to me that's a more nuanced approach, but, at the end of the day, it's closer to what a real-world outcome would be.

MR. NATALUCCI. I'll let Simon respond, but I think the rate is easier because we have control where we want the rate to move. Money market rates, in a sense, are exogenous to us. Currently, they're relatively high. You will have to move it quite a bit and get quite a lot closer to where we are now, for example, to target a specific spread. So, in some sense, that's a limitation. Just going after the ON RRP rate might limit the utility of the test because if rates are very high, you might not get much traction.

MR. LOCKHART. Simon's reference to today, the GC repo rate of 20 basis points, or something like that, makes it unfeasible to target spreads.

MR. POTTER. Operationally, we could certainly do it. We could announce that we're going to have a spread over a certain rate, which is publicly known. We have an internal rate that's not publicly known. That would be the most useful one for us. I think it'd be a bit of a step to start publishing that rate.

MR. ENGLISH. With all that said, I think one advantage of what we've proposed is that we can lay it all out in advance so people will know what's coming, and I think there's an advantage to that in two respects. One is it just lets people think about it and plan a little bit. The other is that there's no risk of any sort of surprise leading people to think that we're signaling about policy or anything like that. We're going to write down a path under which the overnight RRP rate goes down and then it goes up and then it comes back to 5 basis points, and it's very clear that there's nothing up our sleeve. We're just going to do some testing of what happens when that rate moves around.

MR. LOCKHART. The preannouncement is really a critical consideration, then.

MR. ENGLISH. I think it's very helpful.

MR. POTTER. In terms of not confusing people.

MR. NATALUCCI. And the memo had an example of what could be a schedule, for example, a specific up and down, a specific guide through the month of December, mid-December.

CHAIR YELLEN. A two-hander, President Plosser?

MR. PLOSSER. Yes, please. To follow up on this point, do you think there's any possibility that by announcing the schedule in advance—you're going to go up, going to go down—that you'll limit what you actually learn from the exercise because there will be some endogeneity that people will plan? How does that figure into how you would then interpret what you see?

MR. ENGLISH. I think we're hoping that it will be the reverse in the sense that people know that the rates will be low for a while and then high for a while. That gives them time to plan and adjust so that we'll see a little bit closer perhaps to what we would see if there were more durable changes in rates, if we just raised the rate and left it high for a while. I think our hope was that we'd get a little bit better information, but I guess it's hard to know.

MR. NATALUCCI. I think we note in the memo that there is some reason it might go in the other direction if you think that there are switching costs from moving away from your counterparties and coming to the Federal Reserve, and you know that it is going to be raised only for two weeks. Then, in some sense you're trading off that you don't want to send any signal in terms of monetary policy.

MR. POTTER. I think raising the rate above 5 basis points without telling people that you're going to bring it back down would send a very confusing signal.

CHAIR YELLEN. President Fisher.

MR. FISHER. Thank you, Madam Chair. I just want to come back to the basics in terms of what helps me decide this. The reason we placed a cap is that we were worried about the flight-to-safety demand. We wanted to focus on supply-driven demand, downward pressure. So a simple question: By employing this, are we certain we won't confuse the market between the two or will we be clarifying whether we really are providing this facility to deal with supply-driven demand pressures?

MR. NATALUCCI. I think the dynamics are different. For example, the financial-stability concern that we had was a situation in which the money funds or the cash lender would take money away from broker-dealers or other banks and come to the Federal Reserve, so the flow of money would go from the borrowers into the funds. At year-end, you have different dynamics. Those are the dealers that are shrinking their balance sheets, and so the cash lenders left with uninvested cash are looking for a home, for a safe harbor. The directionality of flows, in some sense, is different. So that wouldn't raise the financial-stability concern that we had.

MR. POTTER. It's the way that you said it. It's not the flow in leaving, it's trying to think about what the fluctuation of supply is, which is exogenous to this type of event.

MR. FISHER. Thank you.

CHAIR YELLEN. President Lacker.

MR. LACKER. I want to follow up about the rate. You talked about wanting to learn more about the effect of the proximity of the rate to the zero bound. When you vary the rate, you're also varying the distance between the interest rate on excess reserves and the RRP rate. And I think it's not identified, right? I mean, the econometric term—President Williams will correct me if I'm wrong, I'm sure—is I don't think they're separately identified. You're not going to be able to disentangle the two. I was wondering if you have a strategy for that.

MR. ENGLISH. I think there is a problem, and it's just there unless we move the IOER rate as well, and then it just looks like you're tightening policy. So eventually we'll do that experiment, too. Do it for real. But I think that we may get at least some signal about the effects of the zero lower bound because we're going to go down to 3 basis points; we're going to go up to 10 basis points; going down to 3 is 3 basis points on the spread between IOER and overnight RRP, but also going closer to the zero lower bound. When you go up to 7 basis points, you go up to 10 basis points. For example, if there's a nonlinearity, you could attribute that to the zero lower bound, right?

MR. LACKER. But you need some auxiliary hypothesis.

MR. ENGLISH. That's right.

MR. POTTER. It's also good to move one thing and hold the other thing constant as well. There's some econometrics related to that.

MR. LACKER. Yes. You get the point. It's going to be hard to draw any independent inference, because you're obviously looking for information about what happens when IOER rate is 125 basis points.

MR. ENGLISH. And it's going to be very imperfect information about that, but I think it's better to have the information we can get than not.

MR. LACKER. My recollection of the Committee discussion is that there wasn't that much interest in a spread of 20 or 15 basis points between the IOER and ON RRP rates. So why are we interested in testing 15 basis points for the spread, and 10 basis points for the rate now?

MR. ENGLISH. Again, if we could move them both without implying monetary policy tightening, I think that would give us better information. But this is a way of getting a handle on

how sound is the floor that we get from the overnight RRP rate, and what is the effect on demand for this facility.

MR. NATALUCCI. Assuming you tried to pick points on the demand curve by moving the rate.

MR. LACKER. Yes, I know, but you're also varying the spread to IOER. So it doesn't tell you the effect of the rate alone.

MR. POTTER. But the simple thing is, will repo rates move with the overnight RRP? That will tell us something.

MR. LACKER. Yes.

VICE CHAIRMAN DUDLEY. And will demand go up or down.

MR. POTTER. The ideal would be demand doesn't change, we just move the rates up.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. In the memo, on page 9, the staff suggests that the Committee could emphasize that it was employing term RRP as a test of its term RRP tool, that the Committee had not decided whether or not such operations would be used in the future. I think that kind of communication would be desirable, so should I take that as being part of what is being proposed?

MR. POTTER. Well, that statement, if you approve this, would be crystal clear about this. This is just a test.

MR. KOCHERLAKOTA. Okay. I just wanted to be clear. Thanks.

CHAIR YELLEN. Okay. Are we ready to decide these questions? We have before us two separate resolutions. So let's go to resolution 1, which pertains to the offering rate. Do I have a motion?

VICE CHAIRMAN DUDLEY. So moved.

CHAIR YELLEN. Second?

MR. FISCHER. Second.

CHAIR YELLEN. Okay. All in favor? [Chorus of ayes] Any opposed? [No response]

Okay. Let's go to resolution 2 on trying the term reverse repurchase operations at year-end. Do I have a motion?

VICE CHAIRMAN DUDLEY. So moved.

MR. FISCHER. Second.

CHAIR YELLEN. All in favor? [Chorus of ayes] Any opposed? [No response] Okay.

Great. So those two resolutions on year-end testing pass. And finally, we need to ratify domestic open market operations since the September meeting. Do I have a motion?

MR. FISCHER. So moved.

CHAIR YELLEN. Thanks. Without objection. Okay. The Board meeting is now ended. So let's continue. Let's go to the economic and financial situation, and I'll ask Eric Engen to start us off.

MR. ENGEN.³ Thank you. I will be referring to the materials distributed for the U.S. outlook. The net tightening in overall financial conditions since the September Tealbook projection led us to revise down our medium-term economic outlook. However, as you can see from the first panel of your forecast summary exhibit, the spending data that we received since the previous Tealbook resulted in our making only minor revisions to the near-term GDP projection. In particular, although the data on consumer spending that we received after the September Tealbook closed—and reported at the September FOMC meeting—surprised us to the upside, subsequent consumption data were weaker than we expected. As a result, our near-term PCE forecast is about unrevised from our previous Tealbook projection. Revisions to the other major categories of spending were relatively small, and more or less offset each other. The data we received this morning on orders, shipments, and inventories of durable goods had no material effect on our near-term forecast.

³ The materials used by Mr. Engen are appended to this transcript (appendix 3).

Over the medium term, we adjusted down our projection for real GDP growth by about $\frac{1}{4}$ percentage point in each of the next three years. This revision primarily reflects financial conditioning assumptions that, taken as a whole, we see as less supportive of economic activity than those used in September. Specifically, in this Tealbook we have a higher projected path for the dollar and a somewhat lower trajectory for equity prices over the medium term; the negative effects of these revisions on economic activity are only partly offset by the downward revisions we have made to longer-term interest rates. In addition to these changes in financial assumptions, we also have a slightly slower projected pace of foreign economic growth, which is a small drag on U.S. GDP growth, along with a lower expected path for oil prices that provides some boost to domestic economic activity. Since last Wednesday when the October Tealbook projection was closed, equity prices have retraced a portion—but not all—of their decline since the previous Tealbook; however, this would only shave a bit from the downward revision to our projection for GDP growth in the October Tealbook.

Most of the revision to projected longer-term interest rates reflects a downward revision to our assumed path for the federal funds rate. We continue to assume that the federal funds rate will lift off from its effective lower bound in the second quarter of 2015. However, reflecting the wider output gap and slightly lower path for core inflation that we have in the current forecast, the inertial Taylor rule that we use to set our policy rate assumption prescribes a funds rate path that rises less steeply after liftoff than that in our September projection.

Turning to conditions in the labor market, the September employment report was a little stronger than we had expected. In the household survey, the unemployment rate—shown in panel 2—declined to 5.9 percent in September; we had expected it to hold steady at 6.1 percent. Meanwhile, in the establishment survey, the level of total payroll employment—panel 3—was about 90,000 higher last month than in our previous Tealbook projection.

We took some of this better-than-expected news on board in revisiting our near-term forecast for the labor market. Over the remainder of the projection period, however, we weakened our outlook for the labor market in line with the downward revisions we made to the pace of real output growth. In particular, we now expect the unemployment rate to be $5\frac{1}{4}$ percent at the end of 2017— $\frac{1}{4}$ percentage point higher than in our September forecast, and equal to our estimate of the natural rate. Similarly, the projected level of payroll employment at the end of 2017 is about 700,000 lower than in our previous projection.

The next two panels summarize our inflation projection. As you can see from panel 4, we have marked down our near-term projection for total PCE price inflation noticeably; this downward revision to headline inflation is mainly attributable to recent declines in crude oil prices, which we have fed through to our forecast for consumer energy prices. As you can see from panel 5, we also slightly lowered our near-term projection for core PCE price inflation; this revision reflects incoming data that have been a little softer than expected as well as a downward revision to core

import prices over the second half of this year. Further out, our core inflation forecast is just a touch lower than in September, reflecting both the wider margin of slack in the current projection and the pass-through of lower core and energy prices. We continue to anticipate that core PCE inflation will move up gradually over the projection period—from 1.5 percent this year to 1.8 percent in 2017—as labor and product markets tighten.

As always, numerous risks surround our outlook. The final panel notes two risks to our baseline projection that we presented as alternative scenarios in the Risks and Uncertainty section of the Tealbook. First, as you know, our medium-term inflation projection hinges on the assumption that the longer-term inflation expectations that are relevant for wage and price setting are currently at 1.8 percent. In the scenario titled “Lower Long-Term Inflation Expectations,” we considered the possibility that this assumption is wrong. Specifically, we assumed that the current level of these expectations is 1.5 percent—a value that is comparable to recent actual inflation—and that longer-term expectations are set adaptively with reference to the behavior of actual past inflation. Under these assumptions, core inflation runs about $\frac{1}{4}$ percentage point below the Tealbook baseline over the medium term and the unemployment rate falls to $4\frac{3}{4}$ percent by the end of 2017. Liftoff of the federal funds rate is delayed until early 2017; at that time, inflation one to two years ahead remains about $\frac{1}{2}$ percentage point below the Committee’s 2 percent longer-term objective.

A second scenario explored the possibility that, although the financial market volatility over the past few weeks seems to have eased, it may instead represent the first installment of what could prove to be a broader and more prolonged reassessment of risk. In particular, we considered a scenario in which heightened risk aversion results in a large reduction in equity prices, persistently wider risk spreads for longer-term interest rates, and lower consumer and business confidence. The resulting hit to economic activity yields an unemployment rate path that is more than a percentage point above the Tealbook baseline by the end of the medium term, with the federal funds rate stuck at the effective lower bound for the next five years. Interestingly, the pace of increases in unit labor costs, and thus price inflation, are essentially unchanged from our baseline, as slower wage growth stemming from a higher unemployment rate is roughly offset by the effect of reduced productivity growth from less capital deepening. Steve Kamin will now continue our presentation.

MR. KAMIN.⁴ Thank you. I’ll be referring to the materials labeled “Material for the Foreign Outlook.” I find it extremely irritating when a company is rolling out a new product—for example, since it seems to be on my mind, Arby’s new Hawaiian BBQ brisket sandwich—and they run commercials for it on television every seven minutes. You may have felt the same way when you read about the effect of the dollar on the U.S. economy in our note to the Committee, again in a box in the Domestic Economic Developments and Outlook section of the Tealbook, and then again in the Risks and Uncertainty section of the Tealbook. All I can say is that, like

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

Arby's new Hawaiian BBQ brisket sandwich, the dollar has been very much on our minds lately, given its sharp run-up in recent months and the implications of any future appreciation for U.S. activity and prices. If it is any consolation, however, I will not be discussing the dollar until later in my remarks.

In the meantime, I would like to address that other elephant in the room, the recent surge in financial volatility around the world. Although financial newspapers were running stories to interpret the surge with headlines like "The Global Economy Stalling," our assessment is that incoming data from abroad, while disappointing, on balance, were hardly weak enough to presage widespread retrenchment. Accordingly, as shown in panel 1, we have marked down our forecast for foreign economic growth just a bit beyond the near term. Certainly, the global economic indicators that we follow, such as the index of new export orders shown in panel 2, do not signal an imminent global slowdown. Moreover, the rise in the dollar and decline in oil prices we've seen in recent months should provide some support for economic activity abroad.

To be sure, much of the concern in financial markets has focused on the euro area and China, but even there, the news has not been uniformly bad. In the euro area, as shown in panel 3, the Eurocoin coincident indicator continues to signal expansion, although it has weakened recently. The most recent data, including PMIs, German auto production, and consumer confidence, have been reasonably assuring, and we are projecting that euro-area GDP will continue its paltry recovery in the quarters to come.

A second area of concern has been China, where a turndown in the property market, the red line in panel 4, has prompted fears of a financial sector bust, a sharp slowdown in growth, and spillovers to trading partners around the world. Such concerns were especially pronounced when data for August showed a sharp decline in industrial activity. In the event, industrial production rebounded in September and third-quarter GDP came in, by our estimate, at a very solid $7\frac{3}{4}$ percent annual rate, allaying fears of an imminent hard landing. Although we've marked down our forecast a bit, as domestic demand appears to have lost some momentum, we are still projecting solid growth.

All told, as Lorie suggested earlier, our sense is that the earlier downdrafts in markets likely were prompted not so much by markdowns to investors' modal forecasts for the global outlook but rather by a heightened focus on the downside risks to the outlook, coming after a period when investors had appeared quite sanguine. Although markets probably overdid their mood swing, the downside risks are certainly significant. In the euro area, the economy's underlying momentum is weak enough that it would not take much to push it back into recession. Moreover, with headline inflation down to only 0.3 percent, additional declines, even if caused by falling energy prices, could further unhinge inflation expectations, boost real interest rates, and diminish confidence in the authorities' willingness to do what it takes to support the economy. The ECB apparently is considering additional

measures, such as corporate bond purchases, and the recent completion of the bank stress tests is an important achievement, but there are good reasons to be worried.

The same is true of China. The recent declines in housing prices and sales are probably helpful in curbing excesses and should not, by themselves, lead to unmanageable stresses. But once begun, it is hard to know when this correction will end. Although the Chinese government has the capacity to backstop the financial sector, a vicious cycle of falling property prices, mounting defaults, lending cutbacks, and contractions in spending could unwind so quickly that the authorities fall behind the curve. A hard landing in China, in turn, might trigger distress in other parts of the global economy.

As I threatened earlier, these considerations bring us to the dollar, whose run-up in recent months appears attributable in large part to increased concerns about the foreign outlook. As shown in panel 5, the starting point for our forecast of the broad real dollar has moved up 3½ percent between the time of the July Tealbook, the green dashed line, and the present. As shown in panel 6, we anticipate further increases in the dollar against the AFE currencies as, in our baseline forecast, U.S. short-term interest rates rise faster than markets currently expect. But the dollar declines against the EME currencies, panel 7, as the Chinese renminbi appreciates, dragging up the currencies of its Asian neighbors. All told, returning to the solid black line in panel 5, we continue to project some decline in the broad real dollar.

However, we are now assuming a bit less dollar depreciation than we had previously. The note we circulated to the Committee last week describes how we have revised our forecasts for the EME currencies in three respects. We now assume that surprises to U.S. interest rates will affect these currencies, we have scaled back the extent to which the Chinese renminbi appreciates over the next year, and we have scaled back how much other Asian currencies will respond to changes in the renminbi. As can be seen by comparing our current forecast with the red dashed line, which represents the forecast that we would have written down for this Tealbook had we not revised our approach, these revisions lead to only a slight lift to our dollar projection, but they should tie our exchange rate forecast more closely to the overall global outlook as well as to surprises in interest rates associated with policy normalization.

Of course, any forecasting process will have trouble capturing movements in asset prices such as the exchange rate. In consequence, we can hardly preclude the possibility of a further large run-up in the dollar. Your next exhibit draws on our SIGMA general equilibrium model to explore the effects of a 10 percent appreciation shock to the dollar, similar to some of the analysis we presented in our note to the Committee and in the Tealbook. Starting with panel 1, the blue line shows how the shock is phased in over several quarters and then gradually dies out, assuming that monetary policy (panel 2) follows the staff's baseline projection and does not respond to the shock. Note that the movement of the dollar in this scenario would be very large compared with its variation in recent years, but not entirely unprecedented. In

response, and with no cushion from monetary policy, both output growth (panel 3) and core PCE inflation (panel 4) drop below 1 percent on a four-quarter basis.

Of course, in reality, monetary policy would not remain unchanged, and the red lines in the panels assume that policy responds to the shock in a manner consistent with the Taylor (1999) rule. As shown in panel 2, the federal funds rate lifts off one quarter later than in the baseline and is 50 basis points below baseline by 2016. In consequence, the dollar (panel 1) appreciates less in response to the shock than when monetary policy is held fixed. Both GDP growth (panel 3) and, to a lesser extent, inflation (panel 4) fall by less as well. Bottom line: Movements in the dollar can indeed be an important influence on the U.S. economy, although adjustments in monetary policy can moderate its effects. Nellie Liang will now continue our presentation.

MS. LIANG.⁵ Thank you, Steve. I will be referring to “Material for Briefing on Financial Stability Developments.” My briefing today summarizes our recent QS financial stability assessment. Recent financial market developments illustrate the potential for shocks to trigger sizable increases in volatility and declines in asset prices. However, the U.S. financial system appears resilient to shocks of the magnitude we’ve seen to date, in line with our judgment that vulnerabilities remain, on balance, at a moderate level. While we view asset valuation pressures to be above average—a notable “orange” in our heat map—reflecting some reach-for-yield behavior in a low-rate environment, there is substantially more capital and less short-term wholesale funding in the financial system than in the mid-2000s.

Turning to your first exhibit, as shown in the top-left panel, the largest domestic banking firms reported in their third-quarter earnings releases that their capital exceeded their new fully phased-in Tier 1 common equity requirements, including the proposed international SIFI surcharge. For leveraged nonbank financial firms, for which we have much less data, leverage also appears relatively low, though likely it has been rising at hedge funds. And as shown to the right, net short-term wholesale funding for the broad financial sector, expressed as a ratio to GDP, has remained low and is back to levels of the early 1990s. The lower levels, combined with less leverage, suggest that the potential for fire-sale externalities is much diminished.

Our overall assessment is also supported by subdued growth in household sector debt, shown in the middle-left panel by the decline in the blue shaded area since the crisis. As we highlighted in a box in the QS summary, lower debt burdens of households at this time likely make the economy much less vulnerable to a sharp house price decline than in 2007, when high debt levels made spending especially sensitive to a house price collapse.

Turning to asset valuations, as shown in the middle-right panel, the expected real return on equity for the broad market remains in a range of about 6 to 7 percent, despite the recent decline in prices, rise in volatility, and some unwinding of

⁵ The materials used by Ms. Liang are appended to this transcript (appendix 5).

leveraged positions. Its gap to the real 10-year Treasury yield remains wide. While this estimated equity premium suggests a lack of valuation pressures, it is vulnerable to a scenario in which profit margins decline more than expected, which, as described in a box in the Tealbook, could cause a significant decline in stock prices.

In addition, as we have noted for some time, there are pockets of valuation pressures. Valuations are elevated for small cap stocks (not shown), and risk spreads are narrow and underwriting standards have been loose in the speculative-grade debt markets. As shown in the bottom left, the recent small rise in high-yield bond spreads was concentrated mostly in the near term, while far-term forward spreads, an indicator of investor sentiment toward risk, remained near the bottom end of their historical ranges.

Meanwhile, valuation pressures have broadened to the commercial real estate sector. Property prices have been rising sharply, and as shown to the right, the price-to-income ratio for office properties, the black line, has been moving up. CMBS issuance, the yellow bars, has increased, and competition among lenders for loans has led to increases in loan-to-value ratios and more loans with full or partial interest-only periods, and there appears to be some “shopping” for ratings by CMBS issuers. Investors have been pushing back, but these trends bear watching.

Turning to your next exhibit, as shown in the top-left panel, issuance of high-yield bonds and syndicated leveraged loans remained solid in Q3; total debt outstanding from these combined sources, the black line, has continued to increase and is now close to \$2 trillion. In addition, the share of the lower-quality debt has been rising. As shown to the right, the fraction of leveraged loans with ratings of B-minus or lower at origination, the orange and red bars combined, continued to increase.

The rise in debt outstanding is showing through to debt positions of some nonfinancial corporate businesses. As shown by the black line in the middle left, the net leverage ratio for speculative-grade firms is nearing the top end of its range over recent decades. This increase, however, is not evident for investment-grade firms, which account for most of the nonfinancial corporate debt.

As noted to the right, models that predict defaults and bond returns suggest that a sustained rapid rise in riskier debt would lead to notably higher default rates and lower returns in a couple of years than in a scenario of moderate debt growth. The resulting increase in losses would likely reduce credit availability and contribute to a boom-bust credit cycle, and could increase the risks to your macroeconomic objectives.

If the losses were borne by leveraged investors, the severity of a credit cycle could be greater. While banks mostly distribute the leveraged loans they originate rather than hold them, some banks purchase the triple-A-rated tranches of CLOs, though direct expected losses on such holdings appear, at this point, quite manageable. Currently, other major buyers of these tranches do not appear to be funding them with short-term debt. However, in the June SCOOS, a significant

number of dealers reported increased demand by hedge funds to fund CLO tranches, and there are reports of increased use of total return swaps (TRS) to gain exposure to loans and CLOs. Repo financing and TRS are areas that bear watching, since a decline in collateral values could amplify the effects of higher defaults.

In addition, any losses from credit or duration risk could be exacerbated by growing liquidity mismatch between corporate bond funds and the underlying assets. As shown in the bottom-left panel, bond mutual funds and ETFs have expanded relative to the total corporate bond market, implying that more of these bonds are being held with daily or intraday claims against them. As a consequence, there is a greater risk of liquidity price discounts in the event that funds need to sell bonds to meet redemptions. However, while this risk looks to have risen notably, we are not sure if any price discounts or volatility this would generate would be substantial or sustained.

The recent experience at Pimco provides only limited insight into this risk. Pimco had nearly \$2 trillion of assets under management, of which about \$530 billion were in open-end mutual funds. As shown by the red line in the bottom-right chart, the unexpected resignation by Bill Gross was followed over subsequent days by substantial outflows from the flagship Total Return Fund (TRF), about 4 percent on the day of the announcement, and at a few other smaller funds that he had managed, shown by the green line. Notably, other mutual funds at Pimco did not have such substantial outflows, shown by the yellow dashed line, suggesting a lack of contagion. Moreover, the outflows appeared to have had few lasting imprints on market prices. The lessons learned from this episode, however, are limited because the TRF had built up a substantial liquidity cushion prior to the announcement well in excess of the withdrawals, and this event was idiosyncratic, rather than arising from more general concerns about asset prices.

Your final exhibit concludes by noting a few policy initiatives that the staff are pursuing related to specific financial vulnerabilities.

On leveraged loans, supervisors continue to evaluate ways to improve adherence to the leveraged lending guidance. To date, our monitoring suggests only limited migration of underwriting to outside of the regulated banking sector, although some smaller credits are being underwritten and distributed by nonbank firms.

Last week, we released the macroeconomic scenarios for CCAR 2015 for the 31 largest BHCs to assess their ability to weather a severe recession. Relative to last year, this year's severely adverse scenario specified slightly more severe stresses in the riskier segments of corporate debt markets as well as higher oil prices. In the adverse scenario, which is also required under Dodd-Frank, we specified an up and flatter yield curve, which introduces some funding cost stresses.

Separately, the staff has been evaluating interest rate risk in the trading books at the six largest banks. Our analysis suggests direct losses from interest rate shocks are quite limited, and we did not find in our limited screening that there is a significant

concentration among sellers of interest rate protection. That is, we don't find an "AIG" of interest-rate risk. That said, many banks' trading books appear highly correlated.

On asset management, we are working with other FSOC agencies to evaluate possible systemic risks associated with asset management activities, including the use of debt and derivatives, liquidity transformation, and operational risks.

Finally, the sharp price moves in Treasury and other futures on October 15, which Lorie described earlier, suggest that high-frequency and algorithmic trading activity may contribute in perhaps unexpected ways to intraday volatility and elevated correlations across asset markets. The staff are continuing to work to better understand the events of that day. That concludes our prepared remarks, and we are happy to take any questions.

CHAIR YELLEN. Questions for any of our presenters? Vice Chairman Dudley.

VICE CHAIRMAN DUDLEY. Thanks. I have two questions. First, I want to thank the staff for doing all of the work on the dollar. I raised it at the last meeting. I wanted to see what would happen if the dollar went up a lot. You did a lot of work describing that. I have one very short question on the dollar. What probability would you put on the 10 percent appreciation scenario materializing? That's the question for Steve.

Then I have sort of a meta question about the Tealbook forecast. I don't know that anyone can actually answer this question. Maybe I actually got it wrong. But it seems to me, when I've been watching how the Tealbook updates their forecast meeting to meeting, it seems like the Tealbook takes on movements in the real economic variables only partially. So if payroll employment is really strong in a quarter, they think, well, it's going to be weaker next quarter. And they do seem to take on the 10-year Treasury yield only partially, because the Treasury yield is sort of anchored by the path of the federal funds rate. But when I look at how the Tealbook reacts to movements in the dollar and the stock market, it seems that the staff takes it on to a much greater degree. In other words, they sort of mark to the current value of the dollar and the current value of the stock market. I guess I don't completely understand. First, is

it true that there is this difference? And, second, if there is this difference, what's the logic behind it? It seems to me if the forecast, in fact, is the right forecast, then shouldn't the stock market and the dollar, just like the 10-year yield, adjust to how the forecast materializes? Is my supposition correct? And if it's not, tell me why. And, if it is correct, then why the difference for some aspects of the Tealbook forecast? I ask because I notice the Tealbook seems to move around a lot meeting to meeting based on how these financial variables move. I ask myself the question, should we be reacting so much to market developments? That's sort of a meta question.

MR. KAMIN. Why don't I start with the dollar to buy time for my colleagues? On the dollar, I think there are two questions. First, what is the probability of it indeed increasing by 10 percent? I think our staff actually looked into these variations in the dollar historically using our data and came up with a number in the neighborhood of 10 percent. So a 10 percent chance of it rising that much.

VICE CHAIRMAN DUDLEY. Over what period?

MR. KAMIN. Actually, maybe Chris over there could answer that.

MR. ERCEG. Three quarters. That it would rise 10 percent within three quarters. Some of our staff ran a random walk model of the dollar and assessed the probability that it would rise at least 10 percent within three quarters. It came up with a number on the order of 10 percent.

MR. KAMIN. Okay. I thought Vice Chairman Dudley's question was, over what historical period did you do that analysis?

MR. ERCEG: I think they went back roughly 30 years.

MR. KAMIN. All right. Fine.

VICE CHAIRMAN DUDLEY. That's a good answer.

MR. KAMIN. Let's put it this way. If you have to think of choosing a random date in that 30-year period compared with now, it seems to me, based on the evolution of the economy, that now it might have a higher likelihood.

VICE CHAIRMAN DUDLEY. Yes. I would think it would probably be higher than that.

MR. KAMIN. So 10 percent will be the low number there. And then, your other question is, well, how do we adjust our forecast in light of these changes in asset prices? Certainly, for the dollar, I think our view takes into account a couple of things. Number one, the basis for our forecast, before we add things onto it, is a random-walk model generated under the assumption that the current level of the dollar incorporates all expectation of future developments that the market already perceives.

VICE CHAIRMAN DUDLEY. But isn't that future expectation based on their view of how the economy is going to evolve? And our view of how the economy would evolve might be different.

MR. KAMIN. Right. And when that is true, that is when we add to that.

VICE CHAIRMAN DUDLEY. Okay. You do.

MR. KAMIN. Exactly. That's when we look at how we think interest rates are going to evolve. We compare it with how the market thinks interest rates are going to evolve. And if, for example, we think that U.S. interest rates are going to rise more than the market expects, then we expect that in the future the markets will be surprised by interest rates rising. In that circumstance, the dollar will rise, and we will build that into our current forecast.

VICE CHAIRMAN DUDLEY. But there are these level shifts.

MR. KAMIN. Yes. But then when the level shifts happen, we basically, in that random walk way, start with the new level and then add our “surprise factors” on top of that, just because we think that it incorporates all of the incoming information that has occurred.

And an important point to make, which I think will distinguish this from the 10-year bond yield, is that we don’t really have any good anchors for what the exchange rate ought to be. In other words, you can come up with measures of the equilibrium exchange rate or an equilibrium dollar based on, for example, current account considerations or things like that. But we think that those are extremely poor attractors of the actual dollar. In other words, the dollar tends not to move toward whatever equilibrium you pick.

VICE CHAIRMAN DUDLEY. I can see that. And how about the stock market?

MR. ENGEN: As you correctly pointed out, our longer-term interest rates are anchored by our assumed path for policy rates. On the stock market, we do not have an anchor that is as hard and fast, say, as an assumed path for the policy rate, but we do have a view that is informed by models on what the equity premium will be moving toward. One way to think about it is, if our view on the equity premium at the end of the medium term is unchanged, then our path will not level-shift for stock prices. The current changes will be retraced at some other time. And indeed, in this Tealbook, the reduction in current equity prices, at least at the time of the Tealbook, was greater than the reduction in the endpoint further out. We actually have slightly faster assumed equity price increases over the medium term.

To give a little bit of advertising, not in this next round but the round after, we are planning one of our framework memos that will discuss how we put together the models we use for our financial assumptions. But that equity-premium model is informed by earnings projections as well as projections for the economy.

VICE CHAIRMAN DUDLEY. Okay. Good.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. I had a comment and a question. My comment builds on the conversation we had earlier about market-based measures of inflation compensation. I know that Tealbook, Book A, makes significant use of market-based measures of inflation expectations. And as I talked about earlier, I find these market-based measures particularly helpful. I especially like what the Tealbook calls their “model-free” nature. This is the language used in figure 1 in the box “Recent Declines in Inflation Compensation” on pages 52–53. These market-based data are reflecting the assessments that actual households and firms are putting on the likelihood of events, but also the nature of the losses that are going to be affecting them during those events.

If we see that risk premiums are moving around, as I indicated earlier, it is telling you something about how bad the households and firms expect those events to be, not just how likely they are going to be. And I think that’s something we should be taking into account in our own assessments of policy. So I hope the analysis presented to the FOMC by the staff will continue to feature these market-based probability distributions. My own staff would be happy to work with the Board staff or the Federal Reserve Bank of New York staff on increasing the use of such data. That’s my comment.

My question is about the long-run inflation outlook. So we get back to 2 percent, even though underlying inflation right now is at 1.8 percent. What makes that happen?

MR. ENGEN. In both this Tealbook and prior Tealbooks, the factor that is the most important—it’s the key factor—is the credibility of the Committee. With an understanding that we certainly don’t have great ideas and knowledge of how expectations are formed and what

influences them, we assume that the credibility of the Committee will eventually get inflation expectations of wage and price setters back up to 2 percent. Now, the longer-term projection in the previous Tealbook had the unemployment rate going below the natural rate, and that helped to move actual inflation back to 2 percent more quickly. But it was still based on our assumption of credibility. And it's our assumption of credibility now that gets inflation eventually back up to 2 percent, but, I would note, at a much slower speed than what we had even in the previous Tealbook. Then, with some undershooting on the unemployment rate, it was 2020 when the longer-term projection got back to 2 percent. It now is only 1.9 percent, still below 2 percent, in 2020, and it's not back until the end of 2021 or 2022. So it's a slower process, but it's that assumption of credibility that is the key.

MR. KOCHERLAKOTA. But statistically, I guess that's some kind of autonomous movement in underlying inflation? I mean, you don't really have a good way to model it. I'll let you answer that.

MR. ENGEN. That's basically correct. It's an assumption that it will eventually move up to 2 percent. We do not have a good model by any means on how those expectations will change.

CHAIR YELLEN. Governor Fischer.

MR. FISCHER. Do you think that the 0.3 percentage point difference between the PCE price index and the CPI could explain how we get to 1.8 percent, and the markets get stuck there because the markets think we're looking at the CPI?

MR. ENGEN. I guess that's possible. In terms of market-based expectations, say, from TIPS, clearly those are based on CPI. So they should be adding a differential in terms of about one-third of a percentage point, the difference between CPI and PCE inflation, on average. I

don't know whether the expectations of actual wage and price setters—aside from people in financial markets—are taking account of that.

MR. KOCHERLAKOTA. Thank you, Madam Chair.

CHAIR YELLEN. President Lockhart.

MR. LOCKHART. Thank you, Madam Chair. I, too, have two questions. I'll start with the question that builds on really quite a notable markdown in economic growth in the first quarter and the first half of next year from the September Tealbook. The question is: How and when will we be able to confirm which track we're on? The October Tealbook has solid 3 percent growth in the final quarter with payroll gains at about 225,000, and then starting at the beginning of the year, we slow down. I think that's the basic narrative. Would it be fair to say that it's not clear whether the data are coming in closer to the October or the September Tealbook until well into the first quarter at best, and maybe quite a bit later? And if we're thinking about a liftoff decision, my question is: What will you look at to distinguish which track we're on?

MR. ENGEN. Well, first of all, on your first point that things are slowing going into next year, the main changes in this Tealbook were to the financial conditioning assumptions. Those take a little time to start to build in, and so at least right now, because of some other factors, we don't see large effects in this second half of the year. I guess, as always, we'll look at the incoming data and make some assessment of what we think it implies as we move forward, so no different process than normal in terms of trying to assess which track we're on.

MR. LOCKHART. The second question is to Steve on how SIGMA models the exchange rate sensitivity of U.S. exports. You seem to have concluded that there's potential, at least, for a fairly strong effect over the next three years of a higher dollar, particularly if we get

the shock of 10 percent. I took a look at the structure of exports, and 27 percent of them are to North America, essentially two-way flows around supply chain effects, so arguably probably not all that sensitive. Some of them are commodities, and the commodity prices themselves have gone south as the exchange rate has gone north. So how do you think about that? I mean, the basic question is: How price-sensitive do you think exports really are, and how does that then translate into a GDP effect?

MR. KAMIN. The results that we've recorded in the papers and in the Tealbook, first of all, are based on actual physical regressions of our exports on exchange rates and foreign output. So to the extent that there are issues like two-way trade, a heavy commodity component, and other factors that might end up reducing the responsiveness to price of these exports, that will show up in our regressions. Our parameters in some sense already incorporate that. Broadly speaking—and I'm happy to be corrected by our experts over there—a 1 percent rise in the dollar will depress exports in the neighborhood of 1 percent; is that right, Joe?

MR. GRUBER. Yes, that's about right.

MR. KAMIN. And then, with exports being only a little over 10 percent of U.S. GDP, that translates effectively into about one-tenth on GDP. Then, in terms of the judgmental forecast that we discussed and showed you in the paper that went to the Committee, that gets ramped up by about another half, taking into account spending multipliers.

CHAIR YELLEN. President Rosengren.

MR. ROSENGREN. My question is for Nellie, and it's really on your last two bullets. Two weeks ago when the 10-year Treasury fell below 2 percent, I assumed that the Bloomberg feed was wrong and thought it was quite peculiar that something that was so actively traded and is generally viewed as so liquid could move so much. And when I tried to find the economic

news, there wasn't really anything that struck me—there were some soft reports, but nothing that seemed two standard deviations out of what anybody would have expected.

So understanding how that market could move so much relates to your last two bullets, and I was wondering, do we have position data on broker-dealers? What kind of information are you using? Because when we start thinking about exiting and there actually is news about rates going up as opposed to rates going down, the same processes in reverse could be very destructive of what we're trying to accomplish. I think these last two bullets have become increasingly important as we've seen such a big and liquid market move so much. So what kind of data are you pulling in to try to think about that? I'd just be curious whether we have the data we need to do that.

MS. LIANG. Let me start by saying we are still very much looking at this, and we want to be careful not to suggest that we know. In the data that we have available, at least if you look at Treasury futures, say, at the CME, you can see moves—Treasury prices started to rise and yields fell on the retail sales, and then there was a window starting around 9:34 where you saw some big moves. There are data from the CME that are at 100 milliseconds or some kind of unit like that. You do not know who is on what side, but you can see to a limited extent the size of order books, and you can see volumes and, of course, prices. There are some data from the Treasury market—for example, BrokerTec, which we have access to—and there are people pulling that together now. There are limitations on us receiving the actual position data the CFTC would have. There are, literally, indemnification clauses in the Dodd-Frank Act that require us to do some work, but we are talking to CFTC staff and working on that. If we had all three of those, and maybe one more, we would get a pretty good picture. Whether we can get

them all together is hard to know, but I do think we'll be able to develop a reasonable picture, maybe not exact, but if we have the CFTC data we could probably do it better.

MS. LOGAN. Just to add to Nellie's comments, we have the two big electronic trading platforms in the over-the-counter market, eSpeed and BrokerTec.

MS. LIANG. Right.

MS. LOGAN. And we have some order book data, and we suspect we'll be able to get those with names that would identify who was an algorithmic trading shop and who was not. That may be useful in understanding what a typical trade day looks like and then what these days look like. We have some positioning data that we get from the primary dealers, but that's just the primary-dealer entity within the institution, and those are usually weekly in terms of the actual security. Then we have broader data that we can look at in coupon buckets of Treasury securities that they have.

MR. POTTER. The MarketSource piece on Friday is worth reading for what we knew as of Friday. It gives you a feeling for how big the moves were. The move between 8:30 and 9:00 in the Treasury market was about a six-standard-deviation move relative to retail sales, and then after that I think, well, all hell broke loose in some sense.

MS. LOGAN. And I think what's interesting from the data we've looked at thus far is the volumes were record sizes. So the trade sizes were very small, but there were very many trades going through at much smaller sizes, which was maybe different than the big price gap that we were hearing about on the phones when we first also looked at Bloomberg screens and thought there was a mistake.

MS. LIANG. Right, and then you see a correlation across assets as well, such as at 9:30. The S&P 500 E-mini futures and some of the FX contracts did the same thing at the same time. So there are some things to track down.

MR. ROSENGREN. Thank you.

CHAIR YELLEN. Any further questions? President Fisher.

MR. FISHER. President Rosengren asked one of the questions I was going to ask. And there have been a lot of questions asked, so I have a comment disguised as a question. It goes back to your comment about the Treasury. When I was at the Carter Administration Treasury Department and then went to Brown Brothers—this is in the last century—I joined the Foreign Exchange Advisory Group. It was a great business then, even though the markets were less sophisticated, because we had fewer currencies to worry about, we had a G-6. One thing you learned is that it's notoriously difficult to predict exchange rates, even then, especially short-term movements over a one-year time horizon. And most models don't—or didn't then, at least—significantly do better than a forecast of no change. Of course, you didn't tell your clients that, because they paid you to recommend different strategies. I don't think things have much changed. I read both papers very carefully. The one thing I learned back then, which I still think is to be considered and which the paper in terms of the effect of the dollar on U.S. GDP and inflation did not really deal with, is, in the very end, why. I'd like to see a fuller explanation of that.

The one thing that matters is whether price movements move according to endogenous developments or exogenous developments. I enjoyed reading both papers. And I don't mean to be too critical, but it was rather uninformative on that front, because you have a chicken-and-egg situation. You could argue that one of the reasons that the dollar has appreciated is because our

economic outlook has improved. And indeed, the paper goes back to July. Well, since July, I think by most measurements, compared with the assumption at the beginning of July, the outlook for the U.S. economy has improved. That's an endogenous development.

Let me pose a question. Could you do a little bit better or more on that last part of the paper and try to answer that in a fuller manner? I think that would give us more insight than the observations that existed in the earlier part. If it's endogenous, then it is led by the fact that we are outperforming, or we have surprised to the upside. And I think it makes a big difference. It is less worrisome to me that we have dollar strength as a result of our output increases or improved economic performance than if it is the other case.

MR. KAMIN. We very much take that point, and that's in fact why we added that section at the end of one of the memos.

MR. FISHER. That's a tiny section.

MR. KAMIN. Right. Why was it so tiny? There are a couple of issues. First of all, this is an issue of how to parse out the changes in the forecast that we have made, let's say between July and now, and their effect on the U.S. economy. And in that regard, you certainly have to take into account, what are these impulses that tend to drive economic growth up, and thus, lift the dollar? And then, what might be the partial equilibrium direct effect of the rise in the dollar once it occurred, even an endogenous response to the U.S. economy's better outlook? Let's put it this way. Even if you fully took on board that much of the rise in the dollar might have been an endogenous response to the U.S. economy, in doing the exercise of parsing out the different influences on the U.S. outlook, you'd still want to know what that direct effect was. That was one of the considerations in play.

The other one was, when we took a serious look at what were the factors that lifted the dollar over the course of the last four months or so, we came to the view that there was some favorable incoming data on the United States that was indeed tending to boost the dollar, as well as unfavorable data for foreign economies. But that was not the whole picture, and by our reckoning that wasn't even most of the run-up in the dollar. By our reckoning, most of the run-up in the dollar seemed to reflect worries or uncertainties about the outlook rather than markdowns to agents' modal forecasts for the economies. And so in terms of parsing through the effects, insofar as that wasn't a genuine increase in U.S. growth, but was rather changes in agents' distributions over future likelihoods of economic growth, we thought that a lot of that run-up in the dollar could thus be treated as if it were exogenous, at least in the growth process. So that's one of the other reasons why we tend to focus on explaining the exogenous run-up in the dollar.

MR. FISHER. Thank you.

CHAIR YELLEN. Okay. I suggest we take a break and resume at 3:45. There will be an opportunity then for comments on financial stability, and then we'll go into the economic go-round.

[Coffee break]

CHAIR YELLEN. Next, there is an opportunity to comment on financial stability. We won't have a full go-round, but anybody who would like to make a comment, please feel free to do so. President Rosengren.

MR. ROSENGREN. Just to follow-up, my last question was on high-frequency data, and I did have an opportunity in the Supervision Committee to talk a little bit about data that doesn't come out with such high frequency. Both the Chair and Governor Tarullo have talked about

wholesale funding, but there really isn't very much data on the Y-9 or the Call Report, particularly the Y-9, where broker-dealers are. And I think it actually would be useful to have a little bit more information on both the maturity structure of repurchase agreements and other wholesale financing arrangements, as well as to think about the collateral arrangements, because I believe it gets to some of the same issues that we were just talking about in terms of how sensitive interest rates are to movements, and how a very important intermediary might react when there starts to be a fairly large movement in interest rates. So there is an opportunity to think more broadly, not only about the high-frequency data, but also about quarterly data that perhaps would give us a better feeling of how some of this financing occurred.

CHAIR YELLEN. Governor Tarullo.

MR. TARULLO. Eric and I had this discussion in the Supervision Committee yesterday. I both agree with Eric and would note that there is going to be an opportunity, almost a necessity, to do something along these lines, as we have more regulations that take account of maturity structures, either for liquidity regulation purposes, or if, as is quite possible, we go ahead with a surcharge for the GSIBs that includes a component based on vulnerability to funding runs. And this is actually the right time to think about how we want to standardize reporting, which would align with the regulatory categories that will get created. I think there is not only an opportunity to do it, but that this is the time to do it. And following up on yesterday's discussion, we're going to try to get input from certainly the LISCC supervising Reserve Banks, but also anybody else who wants to contribute, as to how exactly we want to make those changes.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. I'll be brief. I'd like to thank the staff for their excellent assessment of the financial-stability situation. As we know all too well

from past experiences, financial-system shocks can do long-lasting harm to achievement of our inflation and employment goals. And adjustments to monetary policy do have the potential to reduce the probability of such shocks. So I continue to see financial-stability analysis as vital in evaluating whether the current path of policy is appropriate.

I want to make two comments on that. One is about the linkage between our dual-mandate risks and financial stability. I would encourage the staff to continue to integrate analysis of financial stability into the assessment of risks in the Tealbook. The QS report, quite appropriately, focuses on vulnerabilities, but ultimately the FOMC needs to know how those vulnerabilities translate into risks to prices and employment, as I was describing. To go even further, of course, it would be desirable, too, for us to know what monetary policy can do about those risks in the event that supervision and regulation are not adequate to control them. This is obviously work in progress, an agenda that I know we all want to get to, but I think it will start to become more and more pressing as the economy improves.

My second comment builds on something I said last time about the benefits of confidential supervisory information as an input into this kind of analysis. I had some prepared remarks on this, but actually the point has already been made for me by Nellie's presentation. If we look at exhibit 2, at the bottom right, I thought the discussion of fund redemptions at Pimco was very nice and very helpful to the Committee, and that built on confidential supervisory information—information that is not in the QS report directly, but I think, nonetheless, could be of use to us. Thank you.

CHAIR YELLEN. Thank you. Governor Fischer.

MR. FISCHER. Nellie, if I could just ask about the first and third charts on exhibit 2. I don't quite remember how you described what was happening in chart 1 on exhibit 2. That's a

pretty impressive rise in the total outstanding of leveraged loans and high-yield bonds since 2004, and even since 2007. So it just kept on going. And the high yield spread, as seen in chart 5 on exhibit 1, is about 6 percentage points. That's a pretty high yield. What are these bonds doing?

MS. LIANG. Starting with exhibit 2, chart 1 and chart 3, that is the outstandings of leveraged loans and high-yield debt combined. It grew in the early part of the 2000s, from 2004 to 2007. Then we had a crisis. There was a spike in default rates. It flattened out. It has now been growing again pretty rapidly. This is something we look at because it tends to be a predictor of defaults in models that we use and a predictor of bond returns. Following through to chart 3 on exhibit 2, the black line has the leverage ratios for speculative-grade firms. These are the below-investment-grade, the single-B kind of entities. And you can see their leverage ratios are picking up from, say, 2011, when they had bottomed out. So these are designed to think about default rates rising over the next couple years. Usually, there is a lag in the process.

The high-yield bond spread at the bottom of exhibit 1 is currently about 350 to 400 basis points, and we decompose that into a near-term and a far-term piece. The far-term spread is between years 9 and 10, where the assumption is that investors don't have views about how defaults will change between years 9 and 10. And so any differences in spreads presumably reflect a change in risk sentiment, and that's the lighter blue line. That's at a low level, and we think of that as investor risk sentiment. The near-term spread reflects the risk and the risk premium between years 2 and 3, and it's a bit higher. And it has turned up since July. It could be capturing some expectation of higher credit risk.

MR. FISCHER. Okay. Thanks.

CHAIR YELLEN. Any further comments on financial stability? Okay. Seeing none, why don't we go into our economic round, and we'll start with President Rosengren.

MR. ROSENGREN. Thank you, Madam Chair. My forecast for the real economy has not changed much from the last FOMC meeting, despite the financial market turbulence. While some of the international data proved to be softer than expected, that surprise did not seem commensurate with the financial market movements of the last several weeks. My current expectation is that some of the recent asset price movements will prove fleeting, leaving at most a small imprint on real domestic conditions. In effect, I am assuming that there was a temporary flight to quality that will abate as incoming data show only a modest reduction in global growth. While the dollar has appreciated, my forecast had already built in some appreciation. As a result, I've only marked down my net exports slightly to reflect the somewhat greater appreciation of the dollar and somewhat weaker data in Europe than I had previously expected.

I do have some concerns that the combination of an appreciated dollar and reduced prices for oil, grain, and other commodities makes it unlikely we will reach 2 percent inflation as quickly as many of our SEP forecasts predict. Adding in the very modest increases in wages to date, it is quite likely that we will see both core and total PCE inflation rates remaining at 1½ percent or less for several quarters. Because I believe that liftoff should not occur until there's clear evidence that full employment is within reach and inflation is trending toward our 2 percent goal, my monetary policy assumption differs from that of the Tealbook in that it both defers liftoff and assumes a more gradual increase in interest rates after liftoff from the zero lower bound.

The longer we remain well below our 2 percent target, the more risk we take that inflation expectations drift down, implying a loss of credibility with the public. The experience

from Japan and now Europe indicates that indifference to very low inflation rates can generate a significant loss of confidence in the ability of a central bank to hit its 2 percent target. It is hard to rationalize a 10-year German bond trading around 85 basis points and a 10-year Japanese bond trading below 50 basis points with any confidence that 10-year average inflation rates will be anywhere close to the publicly announced targets. The financial market attention to inflation breakeven rates highlights an increased focus on our ability to hit our 2 percent inflation target. While I currently believe the flight to quality has temporarily distorted Treasury prices in a way that obscures the inflation expectations embedded in them, were the low inflation breakevens to persist, I'd become more concerned that they were signaling a downward drift in longer-run inflation expectations.

While my baseline forecast for real variables has not changed significantly, I would say that the financial market turbulence has led me to place more weight on potential downside risks to my forecast. There are at least two possibilities here. First, it could be that the financial market movements correctly portend weaker global economic growth, in which case we will all be revising our forecasts downward over time. But it's also possible that a global tightening of financial conditions could weaken developed economies enough to cause a slowdown in growth. In either case, I would become more concerned about whether we can reach our employment and inflation goals within the forecast horizon. As many have noted, because of our limited ability to offset negative shocks when the funds rate is at the zero lower bound, the costs from the downside risks are much greater than those from risks to the upside. This highlights the advantage of a patient monetary policy, which underlies my current forecast. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Bullard.

MR. BULLARD. Thank you, Madam Chair. Economic conditions in the Eighth District have been mixed since our previous meeting. Anecdotal reports are generally upbeat concerning shipments, sales, and commercial real estate. Contacts in the transportation industry expect to be operating near capacity due to a large fall harvest, increased imports, and e-commerce holiday sales growth. The growth in transportation and e-commerce activity has also helped fuel a boom in industrial construction. In the farm sector, our contacts reported record yields for corn and soybeans and near-record yields for rice. This year, about half the nation's rice crop will come from Arkansas, the highest share ever.

Labor market and residential housing data were generally weaker than in previous months. The District's unemployment rate fell to 6.4 percent but remained higher than the unemployment rate in the nation as a whole. Residential construction remains soft, but construction in the multifamily segment has shown considerable growth. Some of our contacts think that multifamily construction may decline in 2015 because many projects have already been completed. Employment in the health care services sector, which is a relatively large part of the District's economy, has continued to decline in recent months. This is a trend that we will watch carefully in the months and quarters ahead.

Turning to the national outlook, the St. Louis Fed's financial stress index increased during the intermeeting period as global markets apparently priced in a slower global economic growth outlook. This repricing was driven in part by a very gloomy IMF meeting here in Washington and by weaker-than-expected data from Europe, including a sharp downward revision in German growth prospects.

Indeed, in preparation for this meeting my staff looked at the Eurocoin GDP data. Eurocoin is a real-time cyclical indicator for the euro area constructed using

1,000 macroeconomic time series from the major countries of the euro area. We saw a little bit of it earlier from the staff. Its most recent value is the lowest in a year. My staff constructed a simple regime switching model to estimate the probability that Europe is in recession based on this data. The main finding is that the estimated probability that Europe is in recession as of September 2014 is about 63 percent. The model fits past European recession data fairly well. At any point in the past when the recession probability has reached this level, Europe actually was in recession. While certainly far from definitive, I take this type of result as suggestive of a real risk that Europe had reentered a recession state or will enter into such a state shortly.

The Europe-in-recession story seemed to get an extra boost in financial markets when many began to argue that the United States would also suffer from slower-than-expected growth or even outright recession. This argument was, in my opinion, a bridge too far. The U.S. macroeconomic outlook remains fairly robust. Our tracking estimates for real GDP remain at 3 percent for the second half of 2014, and the St. Louis forecast continues to project 3 percent growth in 2015. Labor market data, including revisions to previous months, have been encouraging. Unemployment claims are extraordinarily low, and consumer confidence is at a post-recession high. I expect the unemployment rate to continue to fall in coming jobs reports, moving into the central tendency of the Committee's estimate of the longer-run normal rate in the first half of next year. At the current pace, unemployment may be well below 5 percent by this time next year.

In addition to relatively strong U.S. data and a good outlook for 2015, two factors should provide an important tailwind. One is that recent global financial turmoil left longer-term U.S. interest rates lower: the 10-year Treasury rate is trading around 228 basis points this morning. Lower longer-term rates are normally an important bullish factor for U.S. growth prospects. In

addition, the dramatic fall in oil prices should put additional cash in the pockets of U.S. consumers and cut costs for U.S. producers. This, too, is a bullish factor for U.S. economic growth.

Given these considerations, I have not changed my outlook for the appropriate path of the policy rate. I continue to expect macroeconomic developments, as I have outlined them, to push the Committee toward a somewhat earlier liftoff than commonly assumed. The outlook I have just described is somewhat more optimistic than the marked-down path for GDP described in the Tealbook baseline. In my view, the current Tealbook baseline overemphasizes possible effects through dollar appreciation.

I do not think that we can reliably predict exchange rate movements, at least not to the point at which the Committee can rely on these forecasts for a major part of its policy strategy, and in this respect I agree with President Fisher's earlier comments. Indeed, the staff has been revamping its dollar forecast models, and we have little experience with the new methodology. Also, I have long regarded the empirical evidence concerning the effects of exchange rate movements on important macroeconomic variable as extraordinarily weak. Thus, even if we could gain some confidence in a particular path for the dollar, the real implications are only estimated with a very large confidence band. And finally, the changing nature of global production, as hinted at earlier by President Lockhart, has likely altered the interpretation of any empirical evidence we do have. Factory location, in particular, has changed dramatically since the 1980s, a factor that I am not convinced has been appropriately incorporated into the empirical work in this area that I have seen.

This leaves me with a relatively optimistic outlook for the U.S. economy, and this is the same outlook I described in my interview with Bloomberg on October 16. However, there is a

problem with the story as I have it. Presumably, expected inflation should be rising or staying constant in this environment, but some measures of expected inflation are falling. Indeed, the TIPS-based five-year breakeven inflation rate has declined about 60 basis points since the July–August time frame. In the last 10 days, this measure has stabilized in the 145 to 150 basis point range. The two-year is in the 120 to 125 basis point range. If we subtract out the difference between CPI and PCE inflation, which my staff puts at 30 to 35 basis points, one could interpret the market as suggesting that PCE inflation will be perhaps 1.1 percent or 1.2 percent over the next five years. I know there are subtleties in this calculation, but this is roughly true, provided investors are close to risk neutral.

This level of expected inflation concerns me because I regard expected inflation as one of the primary determinants of actual inflation and because, in my view, the Committee should be able to attain its inflation target over a period as long as five years. Even an expected inflation rate of 1.1 or 1.2 percent over five years may not be that bad, but the direction is concerning. These expectations have been falling since the summer. I know longer-term five-year, five-year-forward inflation expectations are more stable, but that's far in the future. That's just a measure, in my mind, of the ultimate credibility of the Committee. As I was saying earlier, I don't think those expectations should ever change. Still, I think we should be able to hit our inflation target over a period as long as five years.

Undoubtedly, the drop in inflation expectations in the recent data has been wrapped up in the deteriorating global growth outlook. Nevertheless, it's important that U.S. monetary policy remains nimble enough to react to changing macroeconomic circumstances, if necessary. This is the source of my suggestion that the Committee could use its state-contingent clause regarding tapering at this time. After all, we have stated repeatedly that policy is not on a preset path.

Unfortunately, I think that despite our best efforts, financial markets do think that policy is on a preset path and that deviations from that path would require such dramatic changes in the incoming data as to be all but impossible.

Would recent events meet such a high-bar criterion? That is, is this a major macroeconomic event? I think that the specter of renewed recession in Europe is an important macroeconomic development. If this had led to further declines in inflation expectations via continued market turmoil, the Committee might have exercised this state-contingent option at this meeting, possibly with an important effect. As events have actually unfolded, inflation expectations have stabilized for now, but at an uncomfortably low level. I think that this is sufficient for us to go ahead and complete the tapering process at this meeting. I will provide further comments on this in the policy go-round. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Evans.

MR. EVANS. Thank you, Madam Chair. An all too familiar story may be unfolding. The economic data on the domestic economy since our latest meeting have been mostly in line with our relatively optimistic forecast, but at the same time we have seen a notable increase in pessimism and nervousness about the economic outlook for the rest of the world. These global worries undoubtedly impart greater risk to the outlook for the U.S. economy, but it's still unclear how much weakness to take on board in our baseline forecast. If this was our first experience with this storyline, I'd say it's too early to express substantial concern. But we've seen this movie before. When it comes to communicating an upbeat outlook that is later crushed by reality, we have already crossed the "three strikes" threshold, so I'm nervous. Let me turn to specifics.

As most of us expected, the initial release of weaker August job numbers was an aberration. Data through September, including revisions, indicate that employment growth remains robust. Consumer spending appears to have been a little on the soft side this summer but not by enough to change the outlook by itself. After all, the improved job market should support stronger consumption. Moreover, the consumer should get a little boost from the fall in energy prices. Meanwhile, even with today's numbers, business order books continue to be solid, which should support decent investment spending, at least over the near term. We still see the labor and spending indicators as being in line with our relatively upbeat projection from September that real GDP growth will run at about a 3 percent pace over the next 18 months or so. This relatively optimistic assessment continues to be consistent with what I heard from my directors and other business contacts. Bankers are reporting strong loan growth. Almost all of my nonfinancial contacts reported solid third-quarter results and a healthy outlook for their domestic business lines.

The agricultural equipment business is an exception. One large manufacturer is in the midst of laying off 20 percent of his production workforce, both in the United States and worldwide. Much of the story is that this year's big harvest is depressing crop prices and farm income, which will restrain sales of farm equipment. This is good news that becomes bad news for that sector. However, as I said, this market is a bit of an outlier with the reports about recent activity for most other sectors being relatively upbeat. But these anecdotes, like the incoming data, are largely backward looking.

Since our latest meeting, we have also seen a deterioration in the outlook for the rest of the world, an appreciation of the dollar, and increased volatility in financial markets. That is quite some list. Risks have increased that worldwide events may lead to greater caution on the

part of large U.S. multinational corporations. Indeed, the reports I got about the rest of the world became quite a bit darker this time. No one had anything upbeat to say about economic growth in China or emerging market economies. Europe is a mess. As President Bullard indicated, there is a 63 percent chance that they are in a recession. One construction equipment manufacturing CEO that I spoke with said that at a recent sales meeting his previously optimistic European distributors now all look like deer caught in the headlights. The only optimism I heard was at a recent breakfast meeting with a German policymaker who expressed strong confidence in the outlook for the German economy and pointed to continuing improvements elsewhere around the euro zone. He didn't seem too concerned about current low euro-zone inflation, and he seemed to think that every single European country either was or was on the verge of running a current account surplus. I can't say I know he's wrong, but this seems worrisome.

Another indicator of weak global demand is the strong downward cost pressure I'm hearing about from manufacturers. The demand for commodities has declined, and my contacts were pretty much unanimous in reporting substantially lower material costs for this year and next. Meanwhile, labor cost pressures remain subdued. The lack of reported price pressures is consistent with the results from a suite of inflation models we run. Forecasts from both our economic indicator models and those that use the term structure of interest rates point to inflation remaining roughly flat, near 1½ percent. Although we've nudged down our near-term forecast some, we continue to override the model's implications, and we expect better. Like the Tealbook, we project core PCE inflation rising to 1.8 percent by 2017, but this is hardly a victory. It is three years from now, and we are still below target. To get there, my assumption for appropriately realistic policy doesn't start to tighten the funds rate until 2016. That's a good deal later than in the Tealbook.

To sum up, as I mentioned at the outset, the incoming data to date, all backward looking, provide good support for solid economic growth over the next 18 months. But to get there, either the global risks will have to diminish or the U.S. economy will have to strongly decouple from a very weak global economy. I can't say these assessments are wrong. I have that decoupling in the contour of my baseline projection. But my takeaway from recent history is either one of the following scenarios: One, we have been wrong before, and are we ever due for a run of better luck. Or, two, we might consider fastening our seatbelts and convey a bit less complacency in our public projections of economic growth and perhaps be more explicit in warning of the increased likelihood that we will undershoot our inflation objective for another three years. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Williams.

MR. WILLIAMS. Thank you, Madam Chair. The recent spike in market volatility may have been somewhat unsettling, but it wasn't really too surprising. During the preceding months, we heard concerns about how markets were priced for perfection, how unusually low the VIX was, how thin high-yield spreads were, and how markets were whistling past various pitfalls and global risks. Despite the changes in financial markets, I see nothing that alters my basic view that the recovery is on track, still with solid momentum. Particularly, the U.S. real-side data have come in, on balance, in line with expectations, and the further labor market improvement is really quite encouraging. Job gains have been downright robust, and the unemployment rate is finally getting that first digit right with a 5, after so many years of getting that wrong. All in all, real GDP growth looks to be coming in around a solid 3 percent for the second half of this year and going into next year. The cyclical dynamic of the U.S. recovery also appears to be fairly well entrenched.

Now, although I remain upbeat about the prospects for growth, there are notable risks. This being an even-numbered year, I am going to mention one in particular that involves the Bay Area. If you recall, in the 2012 World Series, I mentioned the risk to the U.S. economy if the Giants did not win. In 2010, my alter ego John Moore mentioned that we didn't actually have any experience of knowing what would happen if the Rangers won a World Series. But we did know that if the Tigers won in 2012, that would be catastrophic for the U.S. economy, while when the Giants win the World Series that is actually very positive for growth.

I have some good news on this front. By the way, this is President Evans's fault. I wasn't going to do this comparison until he reminded me of it. The good news is, the Royals have won a World Series. That's good. We have at least some data. Economic growth in 1986, the next year, was actually $3\frac{1}{2}$ percent. That's pretty good. Well, "pretty good" isn't what we're looking for here. When the Giants win the World Series, the average growth rate of real GDP in the next year is $7\frac{3}{4}$ percent. I beg of you, all of you, put aside your parochial concerns, put aside your regional views, and support the U.S. economy, and I will be doing that tonight as I wave my rally cap. Okay. Sorry, Jay. [Laughter]

Importantly, on a serious note, the risks that I do see to the U.S. economy have shifted predominantly outside of our borders, as many of us have already discussed. It is really about the external sector, and the global recovery is in some danger of stalling—Europe, Japan, and China—to say nothing of geopolitical risks from outbreaks of war and disease. Based on these developments so far, I view global factors as likely to have a fairly limited effect on U.S. economic growth. Fundamentally, when it comes to real trade flows, the U.S. economy still acts more or less like a closed economy, and the appreciation of the dollar and the slowing demand from abroad will cut into our net exports a bit but won't derail the recovery. It's important to

remember, as the staff mentioned, that this negative effect will be at least partially offset by the improved domestic demand from the collapse in oil prices that we have seen.

In contrast with the solid domestic growth outlook, the near-term inflation outlook is somewhat more worrisome. In particular, a variety of external factors are lining up together to grind down U.S. prices. Cheaper imports stemming from the stronger dollar, slack abroad, and falling commodity prices will all exert disinflationary pressures at least through next year. A lot of countries, like Japan and those in the euro area, seem likely to be exporting low inflation for quite some time. With inflation already running below our target, this situation warrants close attention, particularly if it were to spill over into longer-run inflation expectations and ultimately affect the perceived nominal anchor. For now, however, I remain cautiously optimistic, especially about the anchoring of inflation expectations. Inflation expectations do appear to be well anchored in two dimensions. First, the perceived inflation target is anchored in the right place, and that's at 2 percent. Second, the anchor still has significant attraction and holding power for inflation.

Regarding the first point, as I mentioned numerous times at our past few meetings, I am unpersuaded that inflation expectations are currently anchored below the 2 percent target as assumed by the Tealbook. The Tealbook view is, in part, based on an estimated constant in a Phillips-curve regression, and these estimates can be sensitive to model specification and the period of the sample. My staff generated a range of model-based estimates of long-run inflation expectations, similar to the analysis conducted by the Board staff. In this analysis, it turns out that the key determinant of measured long-run inflation expectations is the regression sample. In particular, if you look at the past 15 years, a period during which surveyed inflation expectations

have been well anchored, that implies that longer-run inflation expectations are more or less overlapping with our 2 percent target.

Now, you might ask, why focus on the past 15 years? That's a relatively short sample. That's because there's a well-documented shift in inflation expectations that took place back in the 1990s. Before then, we were still in the process of gaining credibility. As a result, inflation expectations were consistently above realized inflation. There was a sustained gap between the two. Over time, as we built our credibility and it firmed, inflation expectations have moved closer to realized inflation. This enhanced credibility is evident in rolling Phillips-curve regressions over various subsamples, and they show that earlier samples actually had the estimated longer-run inflation expectations being about 1½ percent, but now show that to be closer to 2 percent.

Now, I agree with President Kocherlakota that we don't want to just assume that longer-run inflation expectations are fixed, and we must carefully monitor various survey- and market-based measures of these expectations. So far, however, the declines in the various measures that we have seen are within the historical range, albeit at the low end that we have seen. In looking at these models, I do want to say—and I think President Kocherlakota made a really important point about thinking about risk premiums—I think they do distinguish between a risk premium and an inflation premium and a liquidity premium. If a liquidity premium is just a result of market functioning, you wouldn't want to take that as a serious sign of a shift in economic conditions. On the inflation risk premium, I think the evidence that we have so far suggests some of it may be coming down to a reduction in the risk of high inflation. Again, I agree with your point that we want to take this seriously and study it carefully. But so far I, at least, am not

as concerned. I guess I agree with some other comments about the decline we have seen so far in inflation expectations.

The one caveat in interpreting the survey-based measures is that they are often overly influenced by the latest inflation data. For this reason, I wouldn't be surprised if survey measures fall further in the coming months because the price of oil prices is falling and energy prices are falling. My staff at the San Francisco Fed has found that longer-run survey expectations, particularly from household surveys, can be excessively sensitive to changes in energy prices. This was especially true back in 2008, for example, when the jump in oil prices pushed up survey measures of long-run inflation expectations. You actually see this in the SPF, too. I think it's a little warning not to necessarily take any movement one-tenth or two-tenths one way or the other in the SPF or any of these other surveys as literally a loss of credibility. There just seems to be some excessive sensitivity in there that we have seen even in the past 15 years.

Importantly, after the jump in oil prices, you saw a jump in survey responses regarding views of longer-run inflation expectations; once those energy prices stabilized, that bulge in longer-run inflation expectations disappeared. They went back to where they were once the oil price stopped moving around. We may see the converse of this situation in the months ahead, with the drop in energy prices pushing down survey measures for a while. But then, once the energy prices flatten out, these dips in longer-run inflation expectations will likely be temporary. Again, I'm not trying to downplay the role of inflation expectations. I, too, think it's critically important. I think we want to monitor it carefully, and we also have to be aware that those measures do move around a little bit due to transitory factors. Thank you.

CHAIR YELLEN. Thank you. President Fisher.

MR. FISHER. Thank you, Madam Chair. Other than the barb about the Texas Rangers, I agree completely with what President Williams just said.

MR. EVANS. What, did they win the World Series?

MR. FISHER. They never have won the World Series. But anyway, I would echo what President Williams said. I agree nearly completely with what he just commented on.

I'm going to talk a little bit about the Texas economy, my regional economy. I want to make a special comment on oil, maybe refer to what I have heard from some of my interlocutors, and then just conclude. Now, I realize that when you talk about the Texas economy, which is 98 percent of my District, to Texans, it's like driving down the street with your windows open with your favorite song going full blast and annoying absolutely everybody else who is near you. But bear with me for a second. [Laughter]

Our third-quarter job growth, which we have just calculated, was very strong at 3.9 percent. Year-to-date is 3.5 percent. More jobs have been created in Texas this year to date—304,300 according to my staff, and we have adjusted the data we get from the BLS and from the state—than the entire year last year. It's important to understand that employment gains have been broad based, not concentrated in energy. Professional and business services have posted much stronger job gains this year along with another pickup in trade and transportation and, believe it or not, leisure and hospitality as a tourism spot, as well as even government spending. These sectors take up a much larger share of the regional economy than energy. We have been helped by economic growth in Mexico, and I'll come back to that just in a second. Our exports from the 11th Federal Reserve District are extremely strong.

I want to correct a misinterpretation by the New York Fed of the October release for our Texas manufacturing output survey that was just released on Monday. It was not weak; it was

strong. It indicated that manufacturing activity continued at a robust pace with strong positive readings in our production, general business activity, and company outlook indexes.

Wage pressures remain elevated in my District. Wages and benefits are increasing at a 3.6 percent rate. Initial unemployment claims were down 9.6 percent in the third quarter. Our unemployment rate is at 5.2 percent. That is because our denominator in the calculation has been growing at 10 times the rate of that in the rest of the United States. We have high growth in those seeking work. Otherwise you would expect our unemployment rate to be somewhere in the 4s, or whatever it may be. I think it's important to understand that we are very much a diversified economy, growing very strongly, with very high job growth and an enormous supply of workers coming into our work system.

Now, having said we are not energy concentrated, I do want to talk about energy, and the reason for that is because even though it's only 2.6 percent of our employment, including support services, it is about 12 percent of the output of our District—I do have 990 wells in my District out of the 1,900 that operate in the country. I pretend to know something about business, and I'd like to share that with you.

I think it's very important to understand that when you think about the effect of lower energy prices domestically, it has a different effect on different sectors of the energy sector. For example, horizontal wells, which are the hot new thing, typically have a very big burst of production the first year or two, and then they have rapid declines from that point onward. Whereas the vertical wells tend to produce over a much longer period. I want to point to the example of the Haynesville Shale in Louisiana, where when U.S. natural gas prices began to crater in 2011, drillers just moved out of the area, and production is now 35 percent lower than it was at its peak level in 2011.

That said, it may not be as damaging to our domestic production as we think. There are offsets, and there are silver linings. For example, as I have mentioned at many, many meetings here, a Beige Book retail contact noted that you just cannot find mechanics or technicians or truck drivers or welders or pipefitters in areas of the state in which the energy sector was booming. We do now expect to see some relief on that front because of the horizontal well aspect. Indeed, if you go through the cycle of those wells and these prices maintain, you might be able to have some release on some of the wage price pressures that we've seen. There's a little silver lining there. In fact, the CEO of Fluor called to say that he realized I was about to retire sometime within the next year, and he offered me that I could probably make more money as a master welder working for his firm than I did at the Federal Reserve. There's a good anecdotal example for you.

MR. KOCHERLAKOTA. You don't have the training, Richard.

MR. FISHER. I know I don't. [Laughter] I'm absolutely useless from that standpoint. Or truck driving, for that matter. We do find that people complain they can't expand their small businesses because of the unavailability of workers. So there might be some release that comes from this.

Now, I want to talk about the international side of it. Two iterations before you, Madam Chair, every time the Chairman was called upon to make a statement or go to the White House to talk about energy, he would call me and say, "Call Exxon and find out what's going on." I do talk to Exxon, as you know, and I indeed refreshed that memory talking to its CEO this morning—after having talked at length last week plus the other energy independent smaller operators and the larger integrators. I think it's important to bear in mind that, from the standpoint of the Saudis, the Kuwaitis, and the Emiratis, they are not uncomfortable with \$70 to

\$80 oil. They're not uncomfortable because their budgets will still work within that price range. There is the added plus that it gives them a little shove for the Iranians and the Russians and gets rid of the nuisance of the Venezuelans. It is their expectation, according to my interlocutors, that this price level could well maintain itself all the way through 2016. It would not make them feel uncomfortable to do that. They are building, indeed, their own budgets around \$80 oil, and we are beginning to see in the oil sector some companies begin to build their budgets around \$70 to \$80 oil, which means a slight reduction in workforce, but not a dramatic one. We will have to see how that obtains. I just wanted to comment on that.

From the standpoint of the retailers and those that operate shopping malls, which has been the weakest performing sector of the economy, this decline in oil prices, which translates into motor gas after a certain time interval—a time interval that depends, frankly, on how long they wish to capture margins. When prices go up, typically the distributors and the retailers will have to move quickly because they have cash flow problems. When prices go down, they spend as much time as possible capturing the margin. We are beginning to see prices at the tank go below \$3. There's a big article in the *Wall Street Journal* yesterday or today on that. Indeed, the expectation among the large companies that I speak to, and the small operators, is that motor gas will be well below \$3 in fairly quick order.

There are positive knock-on effects, and I am hearing that from my interlocutors, certainly from the retailers and certainly from those that depend on the price of energy. I think we need to take into account in our modeling—and I don't know the degree to which we do—the positive effect of a decline in energy prices and how it might affect retail sales and consumption, as well as be an offset on employment or have counter crosscurrents on unemployment.

Other interlocutors indicate that July and August were very strong months, that there was a slight tailoff in September, but that October is picking up. I found most interesting my discussion with a very large retailer, whose name I won't mention, but it is the largest in the world and is located in Arkansas. In terms of its layaway sales—mind you, this is the bottom income quartile to the second income quartile—it has seen that basically 73 percent of the people that used that facility last year no longer feel the need for it. If the company goes through its surveys and focus groups on what counts the most to its customer base—and, again, these are the bottom two income quartiles with a little bit of the surveys in the beginning of the third income quartile—the ranking in terms of the greatest concerns or interests are the price of gas, the price of heating and cooling, and then employment. But when the company takes a deep dive into what the surveys say about employment, it's no longer worry about finding a job or having a job. It's a question about wages and will their wages be raised. Again, it may be backward-looking, as President Evans mentioned. It is the most recent survey, and the company polls a survey and does focus groups almost weekly and, in some cases, daily.

The bottom line, Madam Chair, is my view of the modal outlook for the U.S. economy has changed very little since our September meeting. I have already factored in—or I had already factored in, and I refer to you to the previous meeting's transcript—the likelihood of some financial volatility and some market correction. Beyond that, the asset price changes we have seen over the past five weeks, I don't believe, are really that large or have such a great effect on the economy. With regard to the dollar, I think it is important, as President Bullard and President Lockhart pointed out, that we are very North America-centric. Only 8 percent of our exports go to Europe, and I think we have to take that into account. I'm less worried about the movement that has taken place in the dollar as well.

I will add, to conclude, that I remain highly skeptical of the Tealbook's assumed level of longer-term inflation expectations, and so remain highly skeptical regarding the baseline inflation forecast. As to recent declines in market measures of longer-term expectations, I think that President Williams had a very good point, and I also accept the judgment of the New York Fed staff, who in their recent MarketSource report said that these reflect mostly a falling inflation risk premium rather than expected inflation. As we go forward, though, I would agree with President Williams that we need to be alert to any indication that longer-term expectations are de-anchoring. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Lockhart.

VICE CHAIRMAN DUDLEY. Can I ask a quick question?

CHAIR YELLEN. Oh, yes.

VICE CHAIRMAN DUDLEY. I take your point that the drop in energy prices has a benefit for households and then has a negative consequence for oil investment. Where do you see the tipping point?

MR. FISHER. It is very hard, Vice Chairman Dudley, and I keep asking this question, and I think part of it has to do with how our economy is currently geared and how it affects confidence. One of the confidence pluses is the fact that we're viewed as more energy-independent, and here's where North America comes into play. North America is energy independent if you take Mexico's potential, Canada's output, and our own. Then you have a different equation from a geopolitical standpoint, and it also has a significant meaning for the 500 million people, which is the critical mass who live in those three countries. I will add parenthetically that Canada is no bigger than Texas population-wise, but it is certainly bigger geographically.

MR. TARULLO. Barely. [Laughter.]

MR. FISHER. I do think it's important to take into account the confidence-building factor that takes place here.

VICE CHAIRMAN DUDLEY. I guess the question I'm asking is if energy prices fell to \$80 a barrel, presumably consumers would benefit, but the oil production wouldn't be really much affected, but if it fell to \$60 a barrel, yes, you'd still get a benefit for consumers, but then you'd start to actually see an effect on production.

MR. FISHER. Yes, what I'm hearing is the \$70 number seems to be the crossing point. Nobody knows, and the reason for that is because it not only varies field by field, but it varies within fields. The Saudis have a two-year study effort on right now to determine the marginal lifting cost of oil in the United States.

VICE CHAIRMAN DUDLEY. Right.

MR. FISHER. As best as I understand it, both from listening to people in my region and talking to those that deal with the Middle Eastern governments in particular, the expectation is that we might get a dip below \$70. This is pure expectation, and, again, I don't think they know any better than we do. They're just practitioners. But the expectation is that it could dip below \$70 briefly, but it's likely it will stay in the \$70 to \$80 range for quite a sustained period. What is a sustained period? Don't know. What are they budgeting? Out to as much as two years, but certainly one year, at least. I can't answer any more clearly than that.

VICE CHAIRMAN DUDLEY. Thank you.

CHAIR YELLEN. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Madam Chair. Over the intermeeting period, my Bank focused our intelligence efforts on business sentiment, confidence in a 3 percent growth outlook,

reaction to global risk developments, and indication of wage growth. We had 65 one-on-one interviews across the Southeast, 14 roundtables, 4 advisory committee sessions, 6 board meetings, 2 of which were joint meetings with other Branches in other Districts. I mention all of this simply to convey that our soundings were extensive.

Reports of our business contacts confirmed a modestly improving tenor of business activity. Demand conditions have generally improved, and the outlook over the short and medium term is for continued steady but not accelerating economic growth. Optimism appears to have spread to locales that were previously less upbeat, such as southern Mississippi. Of course, football rankings helped as well. Reports from retail contacts were mixed and reflected continuation of the previously reported bifurcated recovery. Low- and middle-income households remained conservative with discretionary spending. However, as has already been pointed out, the lower gasoline prices are expected to ease some of the strain on lower-end consumers and allow for more discretionary spending.

Worthy of note, I think, were reports from logistics contacts. They reported the accumulation of inventories of consumer goods in anticipation of strong holiday sales. A year ago, retailers reported they were keeping inventories intentionally lean as a precaution against the weak holiday sale season. Regarding wages, we picked up no evidence of broad-based acceleration of wage pressures, although there are sporadic reports of growing wage pressures in the category of lower-skilled jobs. Where there is competitive pressure for labor, we heard reports of employers altering total compensation packages by increasing incentive pay or enhancing benefit structures rather than raising base pay. Credit across the Sixth District seems to be readily available to qualified borrowers. Credit constraints continue to be reported by small businesses, but there are no suggestions that credit has tightened.

I've not changed my economic growth outlook from that submitted in September. I continue to expect medium-term growth around 3 percent, and I interpret the incoming data to be broadly in line with this expectation. Our tracking estimate for the third quarter is near 3 percent. Along with this growth forecast, I see employment conditions continuing to make progress as best evidenced by sustained payroll job numbers above 200,000 a month. Regarding inflation, I marked my near-term projection lower in response to falling gasoline prices and the expected consumer price effect of the run-up of the dollar. For the medium term, I'm still holding to the projection of gradual firming in wage and price growth, with some risk to the downside.

I am not seeing anything in the data nor hearing anything material in reports from contacts in my District to question this basic outlook. That said, it's obvious there have been economic developments since the latest meeting that give pause, namely, the perception of slower global growth, appreciation of the dollar, and increased financial market volatility. Some of our contacts did express mild concerns about slowing global economic growth and market volatility but did not mention the dollar.

In this meeting's Tealbook, the first half of next year has GDP growth tracking only around an annual rate of 2¼ percent, net jobs growth slowing to around 150,000 a month, and core inflation remaining stuck at 1.5 percent. The Tealbook seems to incorporate effects of adverse international developments into the baseline forecast. In contrast, I'm treating these concerns as downside risks to my growth and inflation outlook rather than taking them on board as aspects of the baseline.

I think the sometimes ritualistic exercise we go through contrasting our forecast to the Tealbook serves, in this case, quite a good purpose. We are setting up in this meeting a forward-

guidance framework for moving toward a decision to initiate normalization. We're likely to agree on verbiage that, whether we like it or not, puts that decision to some extent "on the clock." This is the reality, I think, even with our strong admonitions that liftoff is data-dependent. If the Tealbook is right about the first half of 2015, the weight of the policy decision next year would likely be on a projection of improvement versus my more optimistic, and hopefully data-confirmed, track of economic performance. The Tealbook environment would be a very challenging circumstance in which to signal initiation of normalization of the policy rate. Thanks to the staff for calling out a possible dilemma, I'll have more comments on communication scenarios and strategy and forward guidance in the next round. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Mester.

MS. MESTER. Thank you, Madam Chair. There has been little change in the outlook for the Fourth District economy since our latest meeting. Moderate economic growth continues and the reports from business contacts remain positive despite the turbulence in financial markets and the Ebola scare, which had Cleveland, in particular, on edge because of one patient's travel schedule. Fifty-five percent of our contacts reported an improvement in business conditions over the past six to eight weeks compared with 8 percent reporting a deterioration. Those responses yielded a diffusion index of 47, the same as in September but up from 10 last December.

The manufacturing sector is playing a leading role in the improvement of the District's economy. About half of our manufacturing contacts reported better business conditions consistent with moderate expansion. Although they were slightly less bullish than in September, many of our manufacturers expect demand for their products to remain healthy over the remainder of the year. In the construction sector, nonresidential builders are doing very well, so

well, in fact, that some are turning down work, and there are concerns about the availability of subcontractors. As in the rest of the country, multifamily housing activity is strong, while single-family residential construction is slowly improving after a weak summer.

Continued growth is reflected in the steady strengthening of District labor markets. Employment in the District is growing at an annual pace of nearly 1 percent this year, up from just over ½ percent in the past two years. The District unemployment rate fell over the intermeeting period and is down more than 1 percentage point from the start of the year. At 5.6 percent, the District unemployment rate is now slightly less than its average over the 2001–07 expansion. There continue to be few signs of price pressures either building or diminishing among District firms, though firms have noticed the lower oil prices. We continue to hear anecdotal reports of hard-to-fill jobs. There are few reports of significant compensation pressures, but some are now increasing benefits to retain and attract some types of workers and others are planning to increase wages.

Turning to the national economy, I have not made any material change to my modal economic growth forecast. I see moderate growth of about 3 percent, which is somewhat above trend for the next two years. Incoming data have been mixed but largely as expected. Financial markets have been volatile, but I'm not taking too much signal from that yet. I have not marked my forecast down as much as the Tealbook in response to the stronger dollar and recent variability in other financial market conditions. The weakness in the European economy and slowdown in China are not new information. I had already incorporated much of that into my forecast. Still, the chance these economies may be weaker than expected has increased the downside risk to my forecast.

Lower oil and commodity prices will temporarily lower headline inflation over the near term, but as these prices stabilize, I expect inflation to move back up and to continue gradually moving toward our goal. Most models suggest that monetary policy shouldn't respond to these relative-price shocks.

My forecast that inflation will gradually return to our goal reflects anchored inflation expectations. The Cleveland Fed's 10-year CPI inflation expectations measure and survey-based measures of medium- to longer-run inflation expectations remain quite stable near 2 percent. Measures of inflation expectations based on asset prices suggest some decline, but I'm wary of reading too much into these measures because during periods of heightened volatility like we've seen, flight-to-quality flows into Treasury securities affect the risk premiums on those assets, making it harder to draw a conclusion about inflation expectations from market prices.

Nothing over the intermeeting period has changed my view that we've made significant progress in labor markets since the start of the asset purchase program in September of 2012, which was set as one of the important conditions for ending the program. Recent research by Cleveland Fed staff suggests that the degree of underutilization of labor resources has been significantly reduced. Our research has estimated the so-called longer-run, normal level of unemployment using five different conceptual approaches. Most of the approaches were more statistical in nature. One was consistent with the concept from a New Keynesian sticky-price model. Over the past few years, the estimates of underutilization varied quite a bit depending on the concept being used. However, all of the estimates indicate that underutilization has declined, and they all suggest relatively little underutilization remains today. Of course, these estimates are subject to considerable uncertainty, and they're based on the unemployment rate rather than

on broader measures of labor market activity, but even these broader measures, as summarized in labor market condition indexes, show improvement.

In thinking about the implications of the broader index of labor market conditions for policy, I took advantage of the fact that one of the creators of the Board's index is now a Cleveland Fed economist and asked him to examine what a Taylor-type rule would look like if instead of using the unemployment rate we used the broader conditions index. This turned out to be a more complicated exercise than I had anticipated because the conditions index is constructed to indicate a change in conditions rather than a level of activity. One way to get around this issue is to focus on monetary policy difference rules. What we find is that currently a policy rule based on the conditions index and a policy rule based on the unemployment rate would yield pretty similar levels of the federal funds rate and point to a federal funds rate slightly above the current level. Now, this is work in progress, but so far the results support the view that judged by either the unemployment rate or the broader labor market conditions index we are getting nearer the liftoff. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Lacker.

MR. LACKER. Thank you, Madam Chair. The most striking economic development of the intermeeting period was the spike in financial market volatility. Movements in prices of stocks, bonds, and commodities as well as the foreign exchange value of the dollar seemed to largely reflect concerns about slower economic growth in Europe and China, which would, in turn, suggest the possibility of lower growth in U.S. exports. That said, my outlook for the United States has not materially changed. I'm still expecting GDP growth between 2 and 2½ percent over the next year or two. I recognize the downside risks to economic growth abroad do appear to have risen and would imply at least some increase in the downside risk to U.S.

growth. But, all else equal, lower commodity prices and lower long-term interest rates should tend to bolster growth. Moreover, the recent data flow for the United States has been positive. The fact that U.S. equity markets have basically retraced over the past week or two seems consistent with little net change in U.S. growth prospects over that period. The fact that Treasury yields remain lower suggests that safe-haven flows represented the more persistent shift in views about growth prospects for Europe and China.

A few comments on the recent data. Some observers have been expecting substantial acceleration in consumer spending, and they saw the September retail sales report as an unwelcome downside surprise. But others have been projecting consumption to grow at rates in line with recent trends, and against that more modest expectation, the latest retail sales report was not so discouraging. Similarly, some observers have been anticipating a surge in housing activity. Against a more modest expectation, however, the recent residential investment data have not been as disappointing.

On the brighter side, investment in equipment and intangibles has been reasonably strong for several years, and reports for recent months have been promising. New orders for nondefense capital goods, excluding aircraft, are up more than 8 percent over the past year, despite a downtick in the most recent month released this morning, and equipment investment seems poised to make a strong contribution to third-quarter GDP. New orders also look robust in the ISM indexes and in our own Fifth District indexes.

Speaking of our indexes, they've been remarkably strong lately. Our composite index of manufacturing activity measured as a three-month average is at its highest level in more than three years, and our index of service sector revenues is at its highest level in 17 years. These figures are especially notable in light of the sizable dependence of our District on federal

government contracts and employment, as a result of which much of the area around D.C. and southeast Virginia has been lagging the nation as a whole. To give you a feel for these differences, over the past 12 months, employment grew by less than 1 percent each in D.C., Maryland, and Virginia. In contrast, employment is up year over year by more than 2 percent in West Virginia and North and South Carolina. Much of the growth in the Carolinas has been in relatively high-wage occupations. For example, over the past year, employment in professional and business services grew by more than 7 percent in North Carolina, while it fell 1.8 percent in Virginia. The heavy drag from federal expenditures makes the strength in our Districtwide indexes even more impressive.

I should add that our surveys also show over the past few months an uptick in the reported change in current prices paid and received, as well as in expectations for price changes over the next six months. These inflation indicators have been relatively subdued for several quarters, and so the recent moves may signal some emerging firming of inflation. Too soon to say, of course, but worth watching. I do expect inflation to move back toward 2 percent after this energy price move plays out. I agree very much with the comments and perspectives of President Williams on inflation analysis. Thank you.

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 remain very optimistic. Our Manufacturing Business Outlook Survey's current activity index for October came in slightly higher than expected at 20.7 and remains considerably above its nonrecession average of 10.1. Growth is broad based across a wide range of manufacturing goods. Strength is mirrored in our new Nonmanufacturing Business Outlook Survey. Its current activity index rose to 44.1, again, a

very high level, but the sample is more limited. With respect to future expectations, the future activity index for manufacturing came in at 54.5 in October, which is a very high number by historical standards. The nonmanufacturing side also indicated optimism, with its index coming in at 79.4. Interestingly enough, our contacts across the region remain very optimistic, and surprisingly none of them have focused on or raised issues concerning international developments—either financial or nonfinancial developments.

The District is showing some signs of moderating, however. Unlike the nation, employment was flat over the three months ending in September. That was mostly due to some decline in jobs in Pennsylvania, obviously one of the larger of our states. Unemployment rates in Pennsylvania are 5.7 percent, slightly below the U.S. average, but in New Jersey and Delaware, the unemployment rates remain about 6.5 percent, somewhat higher than the national average. The recent softness in the District's labor markets is also reflected in the current employment index, as I said, which pulled back to 12 from 20 in September, but that, too, remains well above the nonrecessionary average of only 2.

Residential real estate is a sector that continues to exhibit weak growth in our District. Single-family permits and existing-home sales remain below a year ago's average, although multifamily activity remains well above and is growing quite briskly. On a more upbeat note, auto sales continue to be robust in the region, and consumer confidence is, in fact, rising.

At the risk of sullyng President Williams's reputation further, I, too, agree with almost everything that he said about the national economy and his assessments of inflation. Hang onto your hat, John. My view of the national economy is still fairly positive. A portion of that optimism revolves around the continued strength in the labor markets. Progress is steadily being made on both employment and unemployment fronts. This should support somewhat stronger-

than-trend growth in 2015. Moreover, long-duration unemployment and U-6 continue to decline. The four-week moving average of the level of initial claims is at its lowest level since 2000. Given the ongoing strength in labor markets, the continued decline in debt-to-income ratios of households, and improving credit scores, I project that consumption will grow slightly above trend over the rest of this year and next. Given above-trend consumption demand and easier lending conditions, I also continue to anticipate that business fixed investment will grow somewhat above trend.

The only near-term weakness that I foresee is in residential real estate, particularly single-family construction, and nonresidential structures. And to summarize and sort of use a horse analogy: The labor market seems to be galloping along; investment is kind of trotting along; consumption is kind of moving at a steady pace and walking; and residential investment doesn't know whether to walk or simply to graze. [Laughter.] Putting these broad features together leads me to continue to anticipate aggregate growth of about 3 percent, no change since my September forecast, over the second half of this year and into next year. Weakness in Europe and the appreciating dollar may result in a modest drag on net exports. On the other hand, the decline in energy prices, as many have already said, is likely to support some sectors of the economy to the good. Once again, I think that, as President Williams said, we are still largely a closed economy. I think weakness in Europe and around the world could have some modest effects, but by and large, I remain optimistic about the U.S. economy. Thank you very much, Madam Chair.

CHAIR YELLEN. Thank you. President George.

MS. GEORGE. Thank you, Madam Chair. The District economy continues to expand, and our business contacts remain generally optimistic about the future. Consumers have

accelerated the pace of spending, and businesses in the services sector are reporting stronger growth. In addition, manufacturers' capital spending plans remain solid. Unemployment is 5 percent or less in most District states, and contacts continue to report difficulty in finding qualified labor, both low skilled and for skills in demand. Still, wage pressures remain mostly limited to select occupations and to new hires. Plans for base wage increases for 2015 remain at about 3 percent according to our contacts.

Falling oil prices are a concern for the region as a whole, although the District is much less dependent on oil and gas than it was in the 1980s boom-and-bust period. Firms responding to our quarterly energy survey reported needing an average price of \$79 per barrel in active fields to make a profit. In the most productive shale plays, the profitable price is closer to \$65 per barrel with the cutoff even lower in the sweet spots. At current prices, most firms, especially large ones, plan to continue drilling. Although prices are generally expected to remain in the \$75 to \$90 band, our contacts suggested a decline to \$70 to \$75 per barrel that persisted beyond their hedged positions could cause activity to plummet.

In the agriculture sector, weak crop prices continue to weigh on farm income and demand for farm operating loans is up substantially. Food processing and agriculture machinery and related businesses are slowing as a result of lower farm income and a drop in exports.

Recent financial volatility, renewed concerns about growth, and low inflation in Europe bear watching but have not yet fundamentally changed my view about economic growth. Notwithstanding President Williams's wildly optimistic World Series forecast [laughter], I continue to expect moderate growth of around 3 percent for the remainder of this year and into 2015.

MR. LACKER. Solid Midwestern growth.

MS. GEORGE. While the stronger dollar and weaker foreign growth may tend to damp U.S. growth, I see the decline in both oil prices and longer-term interest rates providing a countervailing impetus to economic growth.

Fundamental indicators of employment and production remain solid, and I remain encouraged, like others, by recent labor market developments. For example, the decline in the unemployment rate this year has been almost entirely due to increases in household employment rather than declining labor force participation as in previous years, and job openings are at a 13-year high with the number of unemployed workers per job opening down to 2, its lowest level since the recession. Looking across these and a host of other labor market indicators, the Kansas City Fed's Labor Market Conditions Indicators registered another increase in the level of activity in September and continued strong momentum near its historical high. The level of activity was the highest since October 2008 when the unemployment rate was 6.5 percent, and for the past six months the momentum indicator has remained at high levels relative to what can be considered normal.

Finally, my staff recently looked at wage growth among jobs switchers, as reported by ADP. This is potentially an important signal about the extent to which businesses are competing more aggressively to attract existing workers away from their current employers. Based on the ADP data, wage growth for these workers has risen from 4 percent to 5.3 percent over the past 18 months as the quit rate has increased from 1.5 to 1.8. As more workers voluntarily seek alternative employment and employers compete to hire them, the wages of job switchers are rising at a faster pace. I expect this trend to continue and increasingly to put pressure on overall wage rates.

Turning to inflation, I expect to see some softness in the near term due to the stronger dollar and lower oil prices. And although the recent decline in longer-term inflation expectations as measured by the five-year, five-year forward breakeven rate bears watching, survey-based measures of inflation expectations remain well anchored. As the unemployment rate is expected to fall to its natural rate by late 2015 and longer-term inflation expectations remain anchored, it seems reasonable to assume that inflation will move toward the 2 percent target. Thank you.

CHAIR YELLEN. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. I will focus my remarks on the evolution of the inflation outlook and market-based measures of inflation expectations.

In December of 2013, when we initiated the taper, the FOMC statement made reference to watching for evidence that inflation was moving back to target over the medium term. In the first part of this year, there were such signs, as inflation rose more rapidly than many forecasters had expected. These signs have proven to be transitory. At this point, the medium-term inflation outlook is no better than it was last December. Indeed, in December 2013, the Tealbook projected that inflation would be back to target by 2018. The Tealbook now projects that inflation will remain below target until early in the next decade. This more subdued inflation outlook comes even though the Tealbook's outlook for monetary policy is considerably more accommodative than it was a couple of months ago.

We have a 2 percent inflation target, and that target is like any other goal. Its credibility relies on our consistently taking clear actions to push inflation back toward that target. I am concerned that failing to react to the ongoing subdued inflation outlook has begun to create significant downside risks to the credibility of that target. We can see that downside risk reflected in the behavior of longer-term market-based inflation expectations. As of last week, the

five-year, five-year forward inflation breakevens—measured by spreads between TIPS and nominal Treasuries—fell to under 2.2 percent. It is very low by historical standards, lower than all but 1 percent of the daily observations in the previous 10 years. Now, as many have noted, the potential variation over time and the relative liquidity demand for TIPS and nominal Treasuries sort of reflect quality issues in the Treasury market. It means we should interpret these data with care, and it's useful to supplement this observation about Treasury inflation breakevens by looking at the recent behavior of five-year, five-year forward inflation expectations embedded in zero coupon inflation swaps. The current reading on that measure is also unusually low, lower than all but 3 percent of the daily observations of the previous 10 years.

I focused on market-based measures of inflation expectations. As many of you have noted, survey-based measures of inflation expectations have been considerably more stable, but I do not think we should be overly sanguine about this stability. As a January 2014 memo on the staff inflation outlook described, survey-based measures of inflation expectations remained surprisingly stable in Japan, even as the credibility of that central bank eroded.

To sum up, Madam Chair, the inflation outlook remains subdued. I see little evidence that inflation is, indeed, trending upward over the medium term. I am concerned that our failure to respond to the subdued inflation outlook is creating a substantial downside risk to the credibility of our inflation target. Consistent with this concern, market-based measures of longer-term inflation expectations are unusually low by historical standards. Thank you.

CHAIR YELLEN. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Madam Chair. My view of the economy hasn't changed much despite the turbulence in financial markets. We've marked down our

forecasts for economic growth and inflation slightly, but the fundamental narrative regarding the outlook remains intact. Fiscal restraint is ending. Financial conditions remain very accommodative. Banks are well capitalized and tending to ease lending standards. Moreover, fuel for continued gains in consumer spending is evident in solid job gains and lower energy prices—lower energy prices that are likely to boost the growth rate of real income. Moreover, we have a saving rate that still seems relatively high compared with the underlying trend in net worth to income. A growth trajectory of just short of 3 percent still seems the most likely outcome. In particular, I'd be very hesitant to put too much weight on recent financial market developments. Yes, financial market conditions are slightly tighter than where we were the previous FOMC meeting, but they're still very accommodative, and what we've seen could reverse quickly, and, in fact, already has reversed to a significant degree.

With respect to the labor market side of our mandate, I want to just offer a couple of brief thoughts. Now, some have argued that the large increase in job vacancy rates that we've seen, which are above and beyond what one would expect given the unemployment rate, indicates a significant tightening of the labor market and a potential precursor of faster wage growth. That was brought up by President George and was part of the weekly briefing at the Board this week. I think that's certainly a possible explanation, but I think there is an alternative explanation worth considering. The end of the extended unemployment compensation benefits at the end of last year essentially led to a significant expansion in the effective supply of labor, as people basically had to start really looking for work. This meant that the ability to hire someone at a given wage increased, as there was a larger effective pool of potential employees available. Put differently, firms had an incentive to post more job openings because the prospect of actually making a match and bringing someone on board increased.

What did we see? We saw payrolls growing rapidly relative to the underlying growth base. It sort of fits what we actually saw in terms of the economic data. In other words, some of the increase in job vacancies reflects an increase in demand responding to the increase in effective supply. It would not have happened to the same degree if extended unemployment compensation benefits had not been ended. This alternative explanation, and the fact that compensation trends haven't accelerated, makes me less concerned that the decline in job vacancy rates is a sign of tightness in the labor market.

On the inflation side, I think we need to carefully distinguish between the fall in actual inflation and developments in terms of inflation expectations. Overall inflation has fallen and will fall considerably more next month, reflecting the recent sharp decline in gasoline prices, but it strikes me this is mostly a positive for the outlook, assuming that oil prices stabilize at or above \$70 to \$80 per barrel, as the drop in energy prices will boost real income and the effect on overall inflation will likely be transitory.

In contrast, I would put somewhat more weight on the decline in market-based measures of inflation compensation. However, even here there are few signs that what's going on in the TIPS market is feeding through into survey-based measures of inflation expectations. In fact, an analysis by our research economists in New York suggests that most of the decline in forward TIPS-based breakevens that is beyond the next year or two is due to a decline in the inflation risk premium, in other words, what investors are willing to pay for inflation protection rather than reflecting an actual decline in expected inflation.

Finally, although I said it before, I think it bears repeating. The dangers of too-low inflation are considerably less when the economy is growing and nominal incomes are rising at a decent rate. The risk of the United States getting locked into a debt–deflation dynamic seems

very low to me. In contrast, in Europe the risks are considerably higher—lower actual inflation, much slower nominal income growth, very high debt burdens, very little deleveraging having actually taken place, and a greater decline in inflation expectations. If I was going to worry about it, I would be much more worried about it with respect to Europe than the United States.

Now, the European outlook obviously was important in provoking the risk-off trade we saw a few weeks ago, but even here I think it's important to highlight that it isn't all negative. On the positive side of the ledger for Europe, the impulse toward fiscal contraction does seem to be fading. In addition, although we didn't discuss it, I think the early read on the asset quality review and the supervisory stress test seems, at worst, neutral and possibly even favorable because the exercises, I think, are viewed as mostly credible, and the fact is that the net capital need for the banking system appears very manageable.

One more broad question, in terms of risks to the outlook, it seems like we're going through a pretty significant regime shift in terms of what's happening to commodity prices and what's happening to terms of trade around the world—a regime shift that's the first major change in this for many, many years, and I'd like to highlight it and encourage the Board staff to maybe look into this a little bit. It strikes me that there's going to be quite a bit of collateral damage associated with this, especially to some emerging market economies. I think it would be very interesting to just sort of do a deeper dive into this issue to sort of see what kind of things could actually happen in terms of bad macroeconomic performance, but also financial-stability consequences, corporate failures, *et cetera*, because I think this shift in commodity prices is pretty noteworthy. My own story about what's happening is basically that we had this huge impetus to commodity demand as China was rapidly urbanizing, and commodity supply took a long time to catch up. But commodity supply has finally caught up with demand, and so we're

actually seeing pretty much a sea change in terms of the sustainable level of commodity prices. I think we're just seeing the very early signs of what this means, and I'd like to delve into this a little deeper because I don't really understand what the implications are, and I think the implications potentially could be pretty significant for the global economic outlook. Thank you.

CHAIR YELLEN. Thank you. Governor Fischer.

MR. FISCHER. Thank you, Madam Chair. Well, I can agree with almost everyone, because we seem to have all been saying roughly the same thing. The economy is growing pretty well, somewhere between 2½, or 2¼ percent, according to President Lacker, to 3 percent and possibly a little more. Unemployment is declining. However, inflation is below target. Some of that is temporary, but the core was also marked down a bit, and it's the inflation behavior that is a concern relative to the dual mandate. There are a lot of reasons to believe this may be temporary, and a lot of reasons to hope that it's temporary, but it's been there a while. We have to keep watching that very, very carefully. I'm inclined to put more weight than most people are on what comes out of the TIPS, adjusted for the two premiums, but I don't have a good idea of how we measure those premiums. I don't know how accurate our measures are. It is clear if you look at the two surveys you're going to get that they're reasonably flat for expected inflation over the longer term.

I'd like to just discuss two or three of the issues that are in the background. I think President Lockhart said he thinks of these issues as downside risks and hasn't built them into his baseline forecast: We're talking about the weakness in foreign economies, the appreciation of the dollar, and the other big change, the decline in the price of oil and energy. More generally, and finally, I'd like to ask about how we should think of the implications of the recent market

turbulence, which, if this meeting had taken place a week ago, we'd all be talking about and worrying about.

On the exchange rate, I'm not sure where in the whole set-up this comes in, but I think the exchange rate has been a sign that those countries that we're worried about who had weak economies actually have a factor going in their favor. I just gave a lecture a few weeks ago in which I explained that when we cut our interest rates and/or engage in QE, on balance, we're doing good for foreign economies because the output effect is quite large and typically outweighs the substitution effect of the exchange rate.

In some countries the exchange rate is declining because of expansionary monetary policy, and that means they're acting in a way that will cure some of the effect on us of the foreign growth decline that we're worried about very much. Secondly, I think that in Europe the big fear at the IMF meetings was based on the decline in German output of automobiles in September, and all of a sudden if you look at the numbers, that's sort of mostly disappeared, and it looks like a one-time shot. And China, we were all very worried until we got a number that essentially was close to 7½ percent, and now we're all feeling much better. I have a feeling that the dynamics of what we're seeing in the foreign economies, both in terms of what is likely to happen from their side as a result of their depreciations and of what's been happening in the data is less bad than we had thought until a few days ago.

On the implications of market turbulence, I just want to talk about it. When it was happening there was a lot of concern—something is going on. I think that's a bit strange in the sense that we've been saying for a long time that risk premiums are far too low and yields are compressed and all sorts of unhealthy developments are taking place in the capital markets. Then we get a sign that they're changing, and the premiums are rising, and we all get upset

because there's a lot of turbulence. Then there was a discussion that I had with myself—I said to myself, I wouldn't say this about the possibility that, if we did anything, we'd hear about a new, let me call it a "Fed put." Well, the next day I saw it in all the headlines so I realized that it wasn't a particularly original thought. I've been thinking about that put. Some puts are very healthy. When you talk about stabilization policy, we are in fact giving people who invest the belief that if things go wrong, we'll act. That's encouraging and that's stabilizing and that's not a problem. But nobody says this—a "Fed output put"—because it would indicate that the Fed is doing something useful. [Laughter]

I think if we look at the capital markets, the reason we don't want to have a Fed put is that we rely on the capital markets, particularly the equity markets, to also send price signals. If every time a signal is appearing we suddenly go in and wipe it out, in a way that doesn't change the underlying realities—and maybe it could change the underlying realities—then we stop the capital markets working as they should. I think we need to recognize on this put issue that if the economy gets into really bad trouble—October 1987, 22 percent decline in one day—you might actually want to do something rationally, and it will be good for the economy. But on things that look reasonable—I know that there was a six standard deviation move, which doesn't look reasonable, but which relative to recent behavior looks reasonable—we should just let it go by. I think that's particularly important now because we need to expect that as we move ahead there is going to be a lot more volatility in the capital markets.

We more or less agree with the path of market interest rates, and that gives a nice impression that as we move along that path it will all be a nice, smooth thing, and everybody will be very happy because we are just going down this gradually rising path. But actually the way it happens is that there are different groups of people with different sets of expectations making up

the market. At some point, a bunch of them get an idea and realize they misdiagnosed and they move. They don't move one after the other in line delicately; they all try to jump. We'll see quite a lot of volatility, and we'd better be ready for it. We'd better just take it in stride and not get ourselves too upset about something that I think is waiting for us for quite a few months.

I'm also sort of worrying about the following. I am very impressed that we are focused on liftoff, and liftoff is very important. You've got to do it if you want to raise the rate to some higher level. But it's only the first step of a process. It is not the end of the story. We need to prepare ourselves. Once we've understood it properly, we also need to start preparing the markets for what is likely to happen or for the range of things that could happen, because those standard errors in the handout we got today and in the Tealbook are pretty broad around almost every variable in which we're interested. I think that's the way it's going to work. But on the whole, I am impressed that economic growth remains more or less constant.

I'll throw a question onto the table and just ask somebody to reply to it. We are way more pessimistic about the third quarter than the other two groups of researchers who give quarterly forecasts and update them every day—that is, Macroeconomic Advisers and Capital Economics. They come in at 3.5 percent and 3.3 percent for GDP growth, and we are coming in at 2.7 percent this quarter. The difference, it has been explained to me, is inventory investment, which we think is going to move more into the fourth quarter, and they were all putting it in the third quarter. As a question, would the dynamics of what happens after this look different if we were growing at 3.3 percent in the third quarter? Is there somewhere in the dynamics a lagged growth rate in the equation with a positive sign? Or is it totally irrelevant to anything that happens in the future? That's a footnote question.

But, on the whole, I think we are doing pretty well. Despite the concerns about inflation, like the others who have discussed it, I think we've got to watch it very carefully. If it doesn't rise, it could well affect the pace at which we go after departing the ELB. But I think if we keep delaying that departure, we are going to probably have a negative effect on economic growth rather than a positive one. I'm not allowed to say my policy views, Madam Chair, so I won't.

[Laughter]

CHAIR YELLEN. People occasionally do allow policy comments in the economic round.

MR. TARULLO. But we give them dirty looks when they do it.

MR. ENGLISH. That's what your gavel is for. [Laughter]

CHAIR YELLEN. For hitting the table, that's right. Governor Tarullo.

MR. TARULLO. Thank you, Madam Chair. As Governor Fischer noted, I think almost everybody has reaffirmed that the outlook for the United States has not changed that much, notwithstanding some increases in downside risks abroad and the turbulence of a couple of weeks ago. A number of you have said things that I had noted, so I won't repeat them. I think I'll just make two points, which at some level are both about aggregate demand, but one is a bit of an upside and one is a bit of a downside.

The first point picks up on something to which President Plosser alluded but didn't elaborate, which is capital expenditures, business fixed investment. I think a number of us noted at the beginning of the year that there was some potential upside with cap-ex this year after a number of years of really quite low levels. That, to date, has been realized. It's still a little hard, at least for me, to figure out how to decompose the increases in capital expenditures among three kinds of expenditures. One, just to be a little homey about it, is when whatever you've got

breaks down and you've got to buy something new; it does increase spending in the economy, but it doesn't have a particular effect on productivity or capacity. The second is when you replace existing stock with more efficient capital stock, thereby enhancing productivity, even if you don't increase capacity. Then, obviously, the third is when you're increasing capacity. As I say, it has been a little hard for me to get a sense of how the uptick in spending has broken down among those categories, but I would assume that after several years of categories 1 and, to some extent, 2 being dominant, category 2 is probably now a little bit more dominant. I think there is still not much evidence of increases in capacity.

What would it take to sustain the higher levels of capital expenditure? Almost surely an increase in aggregate demand or expected aggregate demand. Given where we have been getting increases in income over the past couple of years, which I think has been predominantly from more people at work but not from higher compensation for the people at work, the logical place to expect that we could have an even greater push on income and thus aggregate demand would be from rising wages. I just wanted to state that, although many of us have been talking about the absence of increases in wages over a period of sustained job growth, we sometimes are almost implicitly acting as though once you start getting wage growth there is going to be a problem. I just want to say, I think it's quite the contrary. We're in need of wage growth right now in order to provide the boost to aggregate demand, which will perhaps, in turn, push capital spending more into what I classified as category 3, and certainly into category 2.

Let's remember that we have quite a ways to go before average wage increases are equal to inflation plus productivity growth. Even if we get to that point, given how relatively high profitability has been, it is quite possible that competition for workers will pull some returns to capital into returns to workers, although as John pointed out a meeting or two ago, that's not at

all clear. But there is at least some possibility that that would happen. Of course, in any case, the relationship between wage increases and overall inflation is not the easiest thing in the world to pin down in recent years. That's the potential upside, but I think it does depend significantly on wage increases that would contribute to increased aggregate demand.

I see the downside risks, like many of you, in the international economy. Here I'm a little less sanguine than Stan, although maybe that means I'm just placing the risk level slightly higher—it's still a risk, not a reality. We've obviously seen some slowing of foreign economic performance. That's not just a downside risk; it's part of the background now. But, like many of you, I do see some further risks. I won't repeat what many of you have said but just add to it by saying that I do think when you talk to people who are doing business in Europe, Japan, China, and Asia outside of China, one is struck by the absence of upside stories or risks at all. It is all downside, and it's just a question of how much. You don't find anybody who says, "Oh, the euro zone will bounce back in a big way next year," or "China has got another surge of growth right around the corner." On the contrary, during the gloomy IMF weekend—it was almost like they were hanging funeral bunting on the 13th floor of HQ1. I mean, everybody was just gloomy. But one thing I was struck by was how, at least in private conversations, European policymakers were basically saying, "We don't really have any particularly effective tools that are going to get deployed." A number of them wished for some sort of fiscal action but thought it was highly unlikely. Even in monetary policy, I think expectations are pretty modest for what can be done. With all the issues, the risks of deflation that Vice Chairman Dudley mentioned, the downside risks, the structural problems, and the fact that I don't think that stress tests are going to give much of a boost to the economy, you do have a circumstance in which such risks as there are decidedly downside.

China had a good number; that is true. But I was struck by the fact that every international banker with whom I spoke—and they came by for supervisory meetings, so I saw about a dozen—who has significant China business was basically saying, “We see more of a slowdown than is apparent in the existing data.” I think that was probably a prospective observation. They weren’t necessarily saying the data, as reported, is wrong. But they are bankers, and they were seeing a substantially reduced level of inquiry about lending for future activities, for financing activities domestically. The only exception was help in doing acquisitions abroad, so that a number of Chinese companies are now following the old Japanese pattern of saying, “We don’t see much growth potential here. We’ve got to go and buy something abroad.” No one seemed to see a significant upside risk in the next year. Nobody was thinking this is going to be an area of growth for us in the near term. On Japan, I don’t think there is a particularly convincing upside story to tell either. Again, although they can get some boost from the depreciation of their currencies, when so many countries seem to be relying on currency depreciation and increased exports, it feels as though the only source of aggregate demand in any big way is us. Under those circumstances, I am a little less sanguine about the sort of self-correcting nature of their economic performance.

Finally, I wanted to say a complimentary word about the memo that we got on the dollar and the dollar effects, because I thought the staff who wrote it were trying to be very careful and actually slightly conservative. I think they were stipulating for us an increase and then trying to trace through what the effects would be. It’s true that it’s hard to capture all of the effects, but my own reading was the staff was on the conservative side. I think they did try to build in some things other than export and import prices. That is, I think they tried to assume some effect on primary income, which is, again, hard to pin down. But I don’t think they are able to project the

negative wealth effects that are associated with the decline in the dollar value of assets that are held in markets whose currencies depreciate significantly against the dollar, the effect on balance sheets. All of those things that do happen and that we've seen in the past can have an effect are really, I think, hard to incorporate and model, but they are probably going to have some effect.

I actually found it quite useful, sort of as a level-setting exercise. Again, I actually assume a slightly greater rather than slightly lesser effect. As I think Chris or somebody said earlier, they're not saying there is going to be a 10 percent appreciation of the dollar. They are just trying to tell us what the channels for transmitting those effects would be. And we can bring down the amount of expected appreciation and still trace through some of those effects. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Powell.

MR. POWELL. Thank you, Madam Chair. Like others, the broad picture I see is one of continued U.S. strength threatened in the medium term by weakness abroad and accompanied not only by more volatile financial conditions and a stronger dollar, but also by lower commodity prices, lower interest rates, and a still-strong equity market. Markets are focused on the possibility of a synchronized slowdown in global growth and the likely effects on economic growth and inflation here if that happens. Without making a prediction, I'm going to join others in suggesting that the risks run on both sides of that case. I guess I would say I have a low level of conviction that the significant effects on economic growth that are in the baseline will turn out to have been justified, and I would tend to look at them more as real downside risks.

On U.S. performance since the last meeting, that has been well covered around the table. I would just say it suggested overall continued strength, and in the aggregate was pretty close to expectations. I would add to what others have pointed out that the Michigan survey, the

Conference Board survey, and the Gallup U.S. Economic Confidence Index all stand at their highest levels since before the crisis. Fiscal headwinds are all but gone. GDP growth has been 3 percent, really, since the beginning of 2013 and through 2014. I am ignoring for this purpose the puzzling crater that was the first quarter of this year; I realize that. But I'm just going to do that and say it has been 3 percent. I believe lower oil prices are going to increase economic growth, on net. Of course, housing is disappointing, and overall we are looking at 3 percent for the second half of this year, and I guess not much has changed.

In the Tealbook forecast, economic growth is marked down, and employment growth is marked down substantially. Monthly payroll growth is marked down from 220,000 to 150,000 in 2015, and I guess I would say that seems like a big markdown to me. That would push out the time to full employment by about 50 percent, and it just feels to me like there is significant upside risk there, the mistake being that for any quantum of GDP growth, we're underestimating the amount of payroll growth.

Turning to inflation briefly, it is declining and now thanks to lower energy prices and a strong dollar, the forecast has moved down. As I think someone else mentioned, those are good reasons. On the market inflation expectations, I would wait and let markets settle out, because we know that liquidity plays probably the biggest role. I have seen a decomposition of the Board's model, and the single biggest piece of the move in breakevens was the liquidity premium, which accounted for almost half of the move. That's something that should not persist. It clearly bears close watching, but I'm inclined to look through what are probably temporary effects. I continue to see inflation returning gradually to 2 percent, assuming that we hit our economic growth projections. I do see that the real risk to inflation is lower growth, and I

do believe that if we hit our growth projections we will see inflation move back to 2 percent as we get around full employment.

On financial conditions, they clearly have become more volatile, although I guess I'm not really ready to say that they have tightened significantly on net. In fact, I would say that financial conditions remain highly accommodative. Treasury rates are much lower. Market readings of expectations at liftoff are way out. Equities are almost back where they started, and the equity market, I wouldn't say, cuts either way right now. Mortgage lending standards remain tight for less creditworthy borrowers but continue to loosen modestly for most others. You can sort of think of the strong dollar as being offset by lower interest rates and lower energy prices. On volatility, I want to join Governor Fischer in pointing out that many around the table, including myself, bemoaned the lack of volatility. Now it's here, and I just want to say that I continue to expect and welcome more normal levels of volatility, albeit not compressed into the space of one hour as it was. [Laughter] Not exactly what we were thinking of.

Turning to the big risk, it clearly is that of a synchronized weakening in global economic growth. I don't see it as the most likely case. Our own forecast for Europe is for 1½ percent growth next year, then 2 percent for the next two years after that. I think if that level of growth materializes or is seen as likely to materialize, the dollar could easily retrace some of its recent strength, which seems to have been driven by increased perceptions of tail risk in Europe. China has consistently shown the ability to avoid a hard landing, although there are certainly major structural issues to be dealt with in the medium term.

To wrap up, financial markets are sending strong signals of concern about global weakness and the resulting effects on the U.S. economy, but there is a disconnect between the actual performance of the economy and what the markets are pricing in ahead. I would close by

saying it is worth remembering that markets often overshoot and may have done so here. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Brainard.

MS. BRAINARD. Thank you, Madam Chair. The data on the domestic economy since September have been about as expected. In contrast, the continued appreciation of the dollar and growing concern about growth of foreign demand in particular suggest the balance of risks for activity and inflation are somewhat more tilted to the downside. I think the added uncertainty and that downside risk validate our strategy of remaining patient about removing accommodation, recognizing the asymmetry of our policy toolkit, and argue for caution in adjusting communication in any way that might signal otherwise.

I see the news on financial stability since July as somewhat mixed. We have seen a return to somewhat more normal levels of volatility, and I think it is notable that the market absorbed very large outflows from an asset manager with very little difficulty. On the other hand, we saw a massive price move and huge volumes in a market that is among the most liquid in the world for reasons that we still don't really understand, which I view as somewhat concerning.

On the inflation front, as everyone has noted, we have seen a fall in inflation due to energy prices, which I think should not be a concern, and has some positive potential, particularly for lower-income consumers. The market-based measures of inflation expectations, which have fallen, do bear careful watching. I think it is too early, really, to be able to tell how much of that is due to a change in expectations versus the other liquidity and risk premiums that people have discussed. But I do also think we should continue watching it in the context in which some of the other large economies in the world are exporting disinflationary pressures.

Recent data on the labor market, overall, signal that conditions continue to improve, although not as rapidly as we saw earlier in the year. The unemployment rate, as has been noted, has declined by 0.2 percentage point over the most recent three-month period, which is encouraging. The share of employees working part time for economic reasons has moved lower since June, but the current level remains well above pre-recession norms, suggesting slack not captured in the unemployment rate. Reinforcing the evidence of slack, the labor force participation rate edged down again in September, and it seems possible that a nontrivial part of that movement and the weakness in participation remains cyclical given continued essentially flat real wages. Taken together, I think the moderate pace of increases in employment, together with the potential for slack to be somewhat larger than indicated by the unemployment rate, counsel continued patience in adjusting the stance of monetary policy.

Although the data on aggregate spending have been about as expected, stubbornly weak data in the single-family housing market, in which starts have changed little in recent months, is worrisome. One might think, given the low level of interest rates, some recent improvement in the availability of mortgage credit, and the large scope of increases in household formation, that this historically interest-elastic sector would be more robust. Instead, the housing recovery remains painfully slow.

I commend the staff for reevaluating its method of projecting movements in the dollar. I found the analysis on this subject, together with the alternative simulations on a higher dollar and lower foreign growth, informative in trying to size the possible headwinds to U.S. growth and inflation from the gloomier foreign outlook. I agree with the decision to revise up the projected path of the dollar and lower the outlook for foreign growth. In fact, I would probably be inclined

to go a little further with an emphasis on very weak growth in foreign domestic demand, which I think is the relevant concept.

The recent stagnation in euro-area activity in the context of monetary policy at the zero lower bound, and both inflation and inflation expectations heading lower, calls for fiscal action as well as monetary policy action. The staff did some interesting simulations that suggest that such a policy, in conjunction with further monetary policy stimulus, could provide a meaningful boost to demand and could alter the economic trajectory of the euro area. Unfortunately, I think the very likely scenario is one in which monetary policy gets no help from fiscal policy. While more accommodative monetary policy may keep the euro area out of severe recession, it is likely to operate primarily through the export channel, and it is unlikely on its own to produce robust domestic demand.

Moreover, I think there are significant downside risks around even this gloomy outlook. Given the fact that debt-to-GDP ratios remain very elevated for some important euro-area countries, the prospect of policy paralysis, stagnant growth, and deflation could reignite concerns about debt sustainability in important economies, in particular, Italy. Most immediately, there may be some turbulence as Greece attempts to negotiate the next chapter beyond its current IMF and euro-area program. On top of this, the prospect of ongoing stagnant growth in Japan is very real, and the support that China will be able to provide to global demand growth will diminish.

Putting the risks to the U.S. economy from shocks or negative developments originating at home in this broader context of weak global demand and disinflationary pressures from abroad only reinforces the asymmetry in the risks to our economy. If, as in the faster recovery scenario in the Tealbook, demand growth in the United States is significantly greater than the baseline, it's very plausible that much of this added demand could be absorbed globally, with the United

States kind of playing its traditional role as the residual provider of global demand. If, by contrast, as in the increased financial turbulence scenario, domestic demand is considerably weaker than in the baseline, I think the ability of the global economy to buffer any U.S. weakness is very limited. Thank you.

CHAIR YELLEN. Thank you. What I propose is that we go have dinner. I gather there is some baseball game or something tonight? [Laughter]

MR. WILLIAMS. Indeed, there is.

CHAIR YELLEN. I surely would want to do nothing to make it difficult for you to watch.

MR. TARULLO. I thought you said you needed to get home to watch the game.

CHAIR YELLEN. I'm not promising, myself, to watch. [Laughter] I'll start off tomorrow by trying to sum up this discussion and make a couple of comments, and then we'll go to our policy round. We'll break for now for the reception, and tomorrow we're starting at 9:00 a.m.

[Meeting recessed]

October 29 Session

CHAIR YELLEN. Well, we're two minutes early, but everybody is here. Let's get going. What I'd like to do is start with a summary of yesterday's discussion and a few comments, and then we'll turn to policy.

I want to thank everyone for a very thoughtful round of observations on the economic outlook. Our presumptive decision to end our asset purchases marks a milestone to me. The sobering experience of the past six years has taught us to be cautious with declarations of victory. Yet we should also recognize that the economy has made a good deal of progress since the depths of the recession. I believe that the highly accommodative policies that this Committee has pursued since then, including our asset purchases, have made crucial contributions to these outcomes. Nonetheless, the job of returning the economy to maximum employment and price stability is not yet finished.

Let me now try to summarize some main themes in your economic comments by noting how they bear on the progress we have achieved in closing the employment and inflation gaps and the question of whether incoming evidence suggests any meaningful change in the likely future pace of progress.

Starting with the labor market, I think we all agree that conditions have continued to improve, and that the degree of underutilization of labor resources is diminished. Payrolls posted a solid gain in September, and the low initial August reading was revised up. Three- and six-month average gains remain well above 200,000 a month. The unemployment rate declined 0.2 percentage point, even though the labor force participation rate also declined 0.1 percentage point, but the employment-to-population ratio edged up. The share of employees working part time for economic reasons continued to edge down, and, although it remains very high, it has

declined about ½ percentage point since the start of the year. Even though the labor force participation rate ticked down again in September, it has leveled off, on balance, since last fall rather than continuing to decline, which suggests some progress in reducing the cyclical shortfall in participation. Job openings have risen, although, as Vice Chairman Dudley pointed out, this increase could be partly related to the ending of extended unemployment benefits. As some of you noted, firms report somewhat greater difficulty in filling some jobs. Broad measures of labor market indicators, such as those produced by the Kansas City Fed and the Board, also show improvement. In some areas and sectors, a pickup in wage growth is now evident, and President George noted research by her staff suggesting that larger wage gains are being achieved by workers who switch jobs, as the quit rate has gradually risen. This may be a sign of improving labor market conditions, but we're not yet seeing broad-based evidence of stronger wage gains.

For the purpose of the goals we established for the asset purchase program, my sense is that everyone around the table sees a substantial improvement in the outlook for the labor market as now having been achieved. The sustainability of labor market improvements depends importantly on the outlook for economic growth. In this regard, I heard most of you express reasonable confidence that growth will be adequate in the period ahead to sustain continued improvement in the labor market over coming months. U.S. spending data, on balance, have come in largely as we expected in September, and most of us appear to anticipate economic growth running near 3 percent in the second half of the year. Indeed, many of you noted that your outlook for the U.S. economy has not changed much. There has been some downgrading of the modal outlook for global growth, but the resulting downgrade to the U.S. modal outlook is relatively modest, especially if, as in the Tealbook baseline, monetary policy responds by raising the funds rate somewhat more gradually than previously anticipated.

Moreover, many of you noted that the decline in oil prices provides an offset to the factors restraining demand. Consumers, especially low-income consumers, will benefit from the decline in energy prices. That said, an assessment of the overall effects of lower energy prices also needs to take into account the effects of price declines on producers and the effects that lower prices may have on their production and investment. On balance, energy price declines of the magnitude seen so far seem likely to be a positive for the outlook. Recent readings on consumer confidence remain quite high, and you noted that businesses remain reasonably optimistic. Financial conditions also remain highly supportive of economic growth. Although financial markets have been volatile and there has been some decline in the stock market and increases in credit spreads and the dollar, Treasury yields and mortgage rates have also declined, and credit conditions seem to be easing somewhat.

Turning to inflation, we also specified that a condition for ending the asset purchases is that incoming data continue to support our expectation of inflation moving back toward 2 percent. Several of you emphasized that inflation has been running well below our 2 percent objective and noted that there hasn't been any significant progress in closing the shortfall. On a 12-month basis, both total and core PCE inflation are running at about 1½ percent. Over the next few months, we will almost certainly see a substantial deceleration in headline PCE prices from lower energy costs. Moreover, several of you pointed to downward pressure on inflation from dollar appreciation and hence lower non-energy commodity and imported goods prices.

On the question of whether lower energy prices and the higher dollar will leave an imprint on inflation beyond the next couple of quarters, however, I heard mixed views. A number of you argued that inflation will move back to 2 percent over time, in an environment of continued reductions in resource slack and well-anchored expectations, but a number of you

noted worrisome downside risks. Of course, there is the question of just how well anchored inflation expectations really are. Many of you noted that measures of longer-term inflation expectations are challenging to assess at this time. Survey-based measures, including the latest reading from the dealer survey, have remained stable, but both five-year and five-year, five-year-forward breakevens have declined noticeably since our September meeting. As President Bullard and others noted, this is a concerning development. However, a large share of the decline in breakevens could be attributable to factors other than a reduction in longer-term inflation expectations, such as a decline in the inflation risk premium, perhaps partly reflecting lower probabilities of high-inflation outcomes, the appreciation of the dollar, and liquidity effects.

Even in survey-based measures, we may see some movements in the near term. As President Williams noted, we've often seen in survey measures a relatively short-lived overreaction of longer-term expectations to events that should produce only a transitory increase in inflation, particularly an increase in oil prices. Thus, we should be aware that survey measures of longer-term inflation expectations could decline in coming months, but that such effects could well prove transitory. In all, while most of you see these recent developments as largely transitory, and thus continue to expect that inflation will move gradually back toward 2 percent, some of you are concerned that we may be seeing the beginning of a worrisome downward adjustment in inflation expectations. As President Kocherlakota emphasized, a failure on our part to take decisive action could exacerbate this risk by diminishing the credibility of our commitment to our 2 percent inflation objective. Inflation developments will certainly bear close watching.

With regard to risks to the outlook, almost all of you discussed risks pertaining to the global outlook. Markets have been quite focused on foreign developments, and economic news from abroad since the September meeting has, on balance, been less reassuring. Many of you mentioned downside risks from China and Europe. Because the euro area is at the zero lower bound and fiscal policy options are limited, the risks to economic growth and inflation seem asymmetric and weighted to the downside. In terms of the spillovers to the United States, some of you noted that the United States is still a relatively closed economy, and thus the risks to the U.S. outlook are not outsized. However, several of you worried that with the United States also operating at the zero lower bound, it would be difficult to respond to weakness in the U.S. economic growth or inflation outlook if there was a more significant downgrade in the foreign outlook.

A number of you also commented on the recent spell of financial market volatility. You noted that because many of us at past meetings have expressed concerns about signs of complacency in some market segments, some increase in volatility could arguably be a healthy development from a financial-stability standpoint, and several of you noted that we're likely to see further episodes of volatility as normalization approaches. While movements in financial markets that significantly threaten the economic outlook could certainly require some response, many of you cautioned that we should take market movements like those we recently saw in stride.

Let me stop there and see if anybody would like to comment on this summary. [No response] If not, I have just a couple of very brief comments. As I mentioned at the beginning of my remarks, I think we've reached the point at which we can declare that there's been a substantial improvement in the outlook for the labor market since the inception of our asset

purchase program, and I think it's also important that we acknowledge the recent progress that we have seen in labor market conditions. Alternative B proposes to do that by eliminating the reference to "significant" slack. I support that change, but I would note that in my assessment appreciable slack still remains in the labor market, so we do have some way to go before reaching our goal of maximum employment.

On inflation, the recent declines in oil and other commodity prices, along with the effects of the dollar appreciation on prices of other imported goods and services, will surely hold down inflation in the near term. My own medium-term inflation outlook, however, is little changed, and I continue to believe that the risks of inflation running persistently below 2 percent have diminished since earlier in the year.

In our December 2013 SEP, the central tendency for four-quarter PCE inflation in 2014 was 1.4 to 1.6 percent. This projection appears to be right on the mark, but our central tendency for the unemployment rate in the current quarter was 6.3 to 6.6 percent. Given that we've revised down our estimate of the longer-run normal rate since December by only a small amount, we seem to be on the path of measurably tighter resource utilization than we expected at the beginning of this year, which, in my view, diminishes the downside risk to inflation.

The shift down in TIPS inflation compensation was nontrivial, and if longer-term inflation expectations were to shift down, this would clearly be a concern. However, I would join those who pointed out that recent readings on five-year, five-year-forward breakevens are difficult to parse. Indeed, the dealers were about evenly split on the question of whether the decline mostly reflects inflation expectations or other factors. Clearly, we must pay very close attention to this issue as we go forward, but at this point, like many of you, I think we should be cautious about reading too much into the recent market moves.

Finally, despite the recent flare-up in financial market volatility, I view financial conditions as remaining highly accommodative. On approach to liftoff, we are very likely to encounter further pockets of turbulence, and I think we should set a high bar before we decide to lean against such developments. Let me stop there, and with that I think we're ready to turn to our policy round. I will now turn to Bill for his briefing.

MR. ENGLISH.⁶ Thank you, Madam Chair. I will be referring to the handout labeled "Material for Briefing on Monetary Policy Alternatives." The alternatives are the same as those distributed on Monday but with all of the changes now shown in the usual Tealbook format.

The first page of the handout provides information relevant to some of the key issues you face today. The top two panels address recent progress in the labor market. According to the staff's composite measure, shown to the left, labor market conditions have improved further over the past three months, albeit at a somewhat more gradual pace than earlier in the year. September's unemployment rate (the black line in the exhibit to the right), at 5.9 percent, was about ½ percentage point above the middle of the central tendency of your estimates of its longer-run normal level but just below the top of the range of your estimates. Longer-duration joblessness has been coming down noticeably; however, the rate of involuntary part-time work remains well above levels previously associated with an unemployment rate in the vicinity of 6 percent. Other indicators, such as hiring plans and wages, are still relatively soft.

Turning to inflation, as we've discussed over the past two days, TIPS-based measures of inflation compensation, shown in the middle-left panel, have moved lower. As Lorie noted yesterday, models and market commentaries offer mixed views about the extent to which the decline in the forward measure of inflation compensation reflects lower longer-term inflation expectations as opposed to a reduction in inflation risk premiums or other risk premiums. As she also noted, and as shown to the right, survey-based measures of expected longer-term inflation remained fairly stable as of mid-October.

The bottom panel summarizes the approach to revising the forward guidance that emerged from your discussions during the intermeeting period. Reflecting the completion of the asset purchase program, the proposed new language focuses on the target range for the federal funds rate rather than on accommodation more broadly. In alternative B, to avoid the tendency for qualitative guidance to roll forward over time, as well as the substantial market reaction that might be associated with changing such guidance, the statement would retain the reference to "considerable time" but start the clock at the end of the asset purchase program "this month"—an approach

⁶ The materials used by Mr. English are appended to this transcript (appendix 6).

that could be retained in future statements by changing “this month” to “in October.” In addition, to reflect participants’ desire to be clearer that policy decisions are contingent on the economic outlook, the statement would add language emphasizing the data dependence of the timing of the first rate increase.

Regarding the updating of this forward guidance over time, the Committee could use paragraphs 1 and 2 of future statements to update its assessment of whether economic conditions were evolving as anticipated or were deviating significantly from its modal outlook. The forward-guidance memo distributed on October 3 proposed options for adjusting the reference to “considerable time” as the anticipated timing of liftoff approaches.

Turning to the alternatives for this meeting, despite the recent volatility in financial markets and concerns about the downside risks to economic activity abroad, you may view the U.S. economy as likely to stay more or less on the track you expected at the time of your past few meetings. If so, you may see the language in alternative B, page 6, as appropriate.

The first paragraph of alternative B indicates that the Committee continues to see economic activity “expanding at a moderate pace.” It goes on to note that “labor market conditions have improved somewhat further,” citing both the lower unemployment rate and solid job gains reported during the intermeeting period. The reference to “significant underutilization” of labor resources is replaced by “underutilization of labor resources is gradually diminishing.” That new language conveys the Committee’s judgment that the labor market is not yet fully healed while recognizing the progress that has occurred. Alternative B also recognizes the somewhat divergent signals on inflation expectations from market-based measures of inflation compensation and from survey-based measures, with the revised language treating the two observations in parallel. Paragraph 2 notes that the drop in energy prices, along with other factors, is likely to hold down inflation in the near term but reaffirms the Committee’s view that the likelihood of inflation running persistently below 2 percent is somewhat lower than early this year.

With respect to balance sheet policy, alternative B announces the conclusion of asset purchases this month citing “a substantial improvement in the outlook for the labor market” since the program began. It also incorporates the changes to the forward guidance regarding the federal funds rate that I discussed earlier.

Market participants would not be greatly surprised by a statement like alternative B. The decisions to end asset purchases and to maintain the current target range for the federal funds rate are widely anticipated. The forward guidance in alternative B is broadly in line with the expectation of respondents to the Desk’s survey. The new language regarding the dependence of the timing of liftoff on realized and expected progress toward the Committee’s objectives will no doubt garner attention, but because the language closely tracks earlier communications from the Chair and others, it probably will not be seen as signaling a shift in policy. For the most part, the updates to paragraphs 1 and 2 seem in line with expectations,

although market participants will note the removal of the reference to “significant” labor underutilization and the addition of a reference to lower longer-term inflation compensation. All told, a decision like alternative B would likely have relatively minor effects on financial markets, although after last week’s volatility, that outcome is more than usually uncertain.

Alternative C, page 8, may appeal to those of you who believe 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. Accordingly, you may think it is appropriate not only to end asset purchases at this meeting but also to adjust the forward guidance to signal an earlier liftoff than financial markets currently expect.

In characterizing the incoming information and the outlook, alternative C states more positively that labor market conditions have improved, that underutilization of labor is diminishing, and that inflation expectations have remained stable. It does not mention the transitory effects of energy and other factors on inflation.

In paragraph 4, “for a considerable time” is replaced by “for a time” in order to convey that liftoff is likely to occur sooner than the Committee anticipated in September. The final sentence of paragraph 5, which characterizes the Committee’s expectations for the path of the funds rate after liftoff, is rephrased to indicate that the period of below-normal policy rates may end somewhat ahead of the time that the Committee’s objectives are achieved.

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 to anticipate a steeper subsequent path of the funds rate. The market responses would likely include a rise in medium- and longer-term interest rates, a fall in inflation compensation, a decline in equity prices, and a further appreciation of the dollar.

Finally, alternative A, on page 4, may appeal to policymakers who are concerned that inflation will remain significantly below 2 percent over the medium term and who see the information received since the September meeting as pointing to greater downside risks and to increased uncertainty about the economic outlook. Paragraph 1 paints a less sanguine picture of incoming data. It retains the reference to “significant underutilization of labor resources,” indicates that “financial conditions have tightened,” and points to a decline in market-based measures of longer-term inflation expectations without noting that survey-based measures have remained stable. The second paragraph indicates that developments in financial markets here and abroad have “increased the downside risks to the outlook for economic activity, the labor market, and inflation,” making the outlook “more uncertain.”

In response to these developments, alternative A would maintain asset purchases at their current pace and retain the earlier guidance governing the pace of purchases and the conditions for ending the program. Regarding the timing of the first increase in the target range for the federal funds rate, alternative A would replace the current qualitative guidance with a 2 percent inflation floor.

An announcement along the lines of alternative A would come as a surprise to market participants, likely pushing further into the future the anticipated timing of liftoff and perhaps flattening the expected subsequent trajectory of the funds rate. Medium- and longer-term interest rates would likely fall, the dollar could depreciate, and equity prices and inflation compensation might rise. However, depending on the size of the negative signal investors took from the statement about the economic outlook, equity prices might not rise as much, or could even fall, and inflation compensation might decline.

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 any questions for Bill? [No response] Okay. Seeing none, why don't we begin our round, and I'll call first on President Williams.

MR. WILLIAMS. Thank you, Madam Chair. I support alternative B as written. Recent developments do not alter my expectation of an ongoing moderate expansion, with inflation gradually returning to our 2 percent objective. Performance in the labor market has been impressive, with virtually every indicator signaling that the outlook has improved substantially since the start of our asset purchase program, and it's fairly clear that the broader economy will make continued progress toward our maximum employment goal, implying that our asset purchase program has done its job and further purchases can be stopped.

There are cautionary flags. Perceived weakness in economic conditions overseas has contributed to recent volatility in stock markets and a rising dollar. These unfavorable factors have to be balanced against lower oil prices, and overall they do not appear sufficient to significantly alter the path of recovery. Now, the inflation data and outlook do raise concerns. However, the downdraft in the inflation data is likely to be transitory, as the effects from the decline in oil prices and the rise in the dollar fade. Alternative B provides a nice balance of recognizing recent developments while sending the signal that the medium-term outlook of progress toward our goals remains intact.

I would also just mention in this context that with alternative B we still have an extremely accommodative policy stance. We have a \$4½ trillion balance sheet. According to the Board staff analysis, it has a significant effect on longer-term yields. We have negative short-term real rates. In thinking about going forward, we are still very accommodative to the economy.

More generally, the statement provides an excellent foundation for the required adjustment of monetary policy in the future. It's important for the public to understand the data dependence of our decisions, and I do think that the language that is written in alt-B gives us that flexibility for people's market expectations to change as economic conditions change, and the two added sentences at the end of the new paragraph 4 amplify this message. Now, in the past, I have been an advocate for shorter statements, not longer statements, and the extra two sentences do add a lot of words that describe opposite sides of the same coin. But given the importance of this message, I do think it's okay this time to sacrifice word count and brevity in favor of directness and emphasis. These sentences leave no doubt that the timing of liftoff and our policy, more generally, will be determined by economic conditions. Again, I think that's a very important message to reiterate. Thank you.

CHAIR YELLEN. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. Thank you, Madam Chair. A couple of general comments before I go into my prepared remarks. Actually, I have a third comment, which is that I'm surprised President Williams didn't downgrade his forecast in light of events last night.

[Laughter]

But a quick comment on inflation breakevens and compensation. You can think about dividing inflation breakevens and compensation, as President Williams pointed out yesterday, into three components—expected inflation, risk premiums, and liquidity premiums. I think it's

very important for us to strip out liquidity premiums as best we can. Those are due to market function issues that we do want to get rid of. That's why I think it's useful to supplement what is going on in the Treasury market with what's happening in zero-coupon inflation swaps as a market-based measure of expected inflation. But I want to reiterate a point I made yesterday, which is that I would counsel against stripping out risk premiums. Risk premiums are telling you about the co-movement of what is happening with inflation and what is happening with anticipated economic growth, and, basically, how scary things are going to be when inflation is low. When we see the market-based measure of expected inflation go down, even though our statistical models are forecasting inflation remaining the same, that's telling us that when growth is going to be low and times are going to be bad, inflation is more likely to be low.

As Bill English pointed out yesterday, some of this is just due to people putting less weight on the outcome of high inflation with low economic growth in bad times. But that's still telling us that low inflation is going to be viewed as more of a problem because it's going to be taking place with low growth. If an event like low inflation is taking place with low growth, that's what we should be putting more weight on. I think we want to be including risk premiums, not stripping them out.

The other comment I will quickly make is that I was very struck by Governor Fischer's comment on thinking about liftoff as but one component of interest rate policy. I agree with him. We need to be thinking through liftoff to the meetings beyond. The markets, and the public will want us to be thinking about this as a sequence of interest rate moves, but it's important for us not to get into that. I think it's very important for us to be thinking about this as a strategy of how we're adjusting interest rates to the data, especially in terms of downside risks. Because we

remain close to the zero lower bound, we're going to have to be very sensitive to the timing of interest rate moves in response to downside shocks.

With that as prelude, Madam Chair, at this meeting I favor alternative A. At the launch of the taper in December, the FOMC statement said that the Committee would be monitoring inflation developments carefully for evidence that inflation moved back toward its objective over the medium term. I see no such evidence. As I described in the earlier go-round, the medium-term outlook for inflation shows no signs of improvement since last December and is, indeed, arguably worse. The outlook has deteriorated especially markedly since July, and the staff now projects that inflation will not return to target until the next decade. Failing to act in response to this ongoing subdued inflation outlook creates a downside risk to the credibility of our inflation target. In my view, we see that downside risk reflected in the recent fall of market-based measures of longer-term inflation expectations to unusually low levels by historical standards.

Madam Chair, under your leadership and that of your predecessor, this Committee has made an explicit commitment to a 2 percent inflation target, but we cannot take the credibility of that commitment for granted. As we have seen in Europe, as we have seen in Japan, the credibility of central banks depends on their taking actions on an ongoing basis to ensure that inflation does indeed stay at 2 percent. In my view, the evolution of the data over the past few months means that we need to take such actions today.

To summarize, in light of the continued sluggishness in the inflation outlook and the recent slide in market-based measures of longer-term inflation expectations, I support alternative A. In particular, I believe that the Committee should commit to keeping the federal funds rate target range at its current level, at least until the one- to two-year-ahead inflation

outlook has returned to 2 percent, and that the Committee should continue the asset purchase program at its current level. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Madam Chair. I support alternative B as written. The primary focus of the bond purchase program was to achieve substantial improvement in labor markets. With the unemployment rate at 5.9 percent and the strong payroll employment growth over the past several quarters, labor markets are substantially improved relative to when we began the purchase program. Thus, I think it is appropriate that we now end the purchase program. The addition of the two sentences at the end of paragraph 4 that highlight data dependence makes it easy for me to support alternative B. While my own personal preference would be to expunge calendar-based language at this meeting, the current language is clear that liftoff will depend on incoming data.

The low current inflation rate and the disinflationary pressures we are currently experiencing indicate we may not make much progress toward our inflation goal in the near term, which is certainly consistent with the Tealbook forecast. With inflation expected to remain below our target for some time, we are provided an opportunity to probe how tight labor markets need to be for us to achieve our inflation target in a reasonable time period. I would not be in favor of lifting off the zero lower bound until we are clearly making progress toward our 2 percent inflation target. This could result in liftoff occurring later than I expected at the previous meeting, although, of course, I will make that assessment in a data-dependent manner. Thank you.

CHAIR YELLEN. Thank you. President Fisher.

MR. FISHER. Well, first, Madam Chair—RIP, QE3. I am thrilled that we are ending this program, as you know, and I hope it does rest in peace. Time will tell, depending on how we manage our exit over time. I pray that it will rest in peace permanently.

With regard to alternative B, first, I'm very pleased that in this draft we dropped what I consider to be risky references to financial conditions. I really believe that's wise, particularly from the standpoint of avoiding the risk of developing the notion of what I call a "Yellen put." The Vice Chairman and Governor Fischer referred to that yesterday. I hope you'll recall that Governor Stein and I long ago argued the need for volatility to resume, although obviously you don't want to see extreme out-of-control volatility, or one-day volatility like we did. But I think we don't wish to look like nervous Nellies because we have seen some long-overdue volatility or because of a market correction, which I have, as you know, repeatedly warned as a distinct possibility.

Although the statement, as written, is far from ideal from my personal perspective, it is, without a doubt, an improvement over September's statement. In particular, paragraph 1, as you point out, no longer talks of significant underutilization of labor resources, but instead acknowledges that the underutilization of labor resources is gradually diminishing. Paragraph 4 includes what I consider still to be the objectionable calendar guidance "considerable time" phrase that has been pointed out by Bill English and others. It emphasizes more strongly than before that the timing of liftoff will depend on incoming data. On these grounds, because I am on record as stating that it's my policy to move on once I have registered an objection except when new grounds for objection arise, I will support option B at this meeting, unless the wording is changed during this meeting.

That said, my remaining concern is the very last sentence of the statement. I have used in speeches, and I think in this room, an analogy to duck hunting. That is, you want to lead your mallard rather than aim right at it when you shoot. Otherwise, you're not going to bag it. I worry that if we stick with the last sentence, as written, it could result in our overshooting, and then be followed by a tightening ex post that in every instance I know about historically has resulted in recession. This is the conclusion of the *Economic Letter* that Evan Koenig—as the staff would say, exhibit 1, seated behind me—and I wrote recently. I think it's also in keeping with the sentiment you expressed in your most recent speech in Jackson Hole. I would urge us to reexamine that last sentence at our next meeting.

Let me add just one last comment. I am very skeptical about the Tealbook policy simulations. Built into the inflation forecast is the assumption that long-term expectations are anchored at 1¾ percent, which holds down the trajectory of inflation over the next couple of years by approximately ¼ percentage point. Also, the simulations don't reflect or acknowledge the recessionary momentum that kicks in once the unemployment rate begins to rise.

One last comment. In my opinion, the Tealbook, Book B, optimal policy simulations on page 8 show yet again why calendar-based forward guidance is a bad idea. The optimal policy rate path today—which at least the copy I have in front of me is showing in that red line in the top left-hand box—is markedly different from the one calculated in September, because the optimal policy is very sensitive to changes in economic conditions. Given the sensitivity, I don't want to be locked into a particular timing of liftoff or pace of subsequent rate increases. You don't want to give the impression that only a big change in the outlook will get you to change course, which is why I consider “considerable time” as having been, and continuing to be, a bad idea. I believe that we need to consider this in December. If economic conditions improve

between now and then, that will certainly condition my vote then. But for now, Madam Chair, I support alternative B.

With regard to the concerns about inflation, I do note that the trimmed mean has been constant the past six months. The trimmed mean is calculated by the Federal Reserve Bank of Dallas and is 1.65 percent. Thank you very much.

CHAIR YELLEN. Thank you. President Bullard.

MR. BULLARD. Thank you, Madam Chair. Let me begin by discussing alternative A today. Alternative A contains language that would delay the end of tapering at this meeting. This would mean maintaining a small amount of purchases into our next meeting. Because the amount of purchases is small, the direct macroeconomic effect would be minimal. However, such a move would maintain some additional optionality for the Committee in the event that the Committee felt the current meeting is not an appropriate one to close a major program.

With QE1 and QE2, we closed programs based on calendar timetables, not macroeconomic conditions. In both of those cases, the Committee was forced to reopen QE at a later date. In retrospect, I consider both of those occasions as suboptimal policy decisions by the Committee. Are we making a similar mistake today? Certainly QE has been quite successful compared with the goals that the Committee set out in September 2012. As I detailed at the previous meeting, forecasts of the Committee and the staff as of September 2012 have been largely accurate, except for unemployment, which has been a very large surprise.

The short version of this is the following: The level of GDP today is about as expected in the September 2012 forecast. Inflation remains below target, as expected in the September 2012 forecast. But unemployment, at 5.9 percent, is much lower than expected. The staff forecast for the end of 2014, as of September 2012, was 7.6 percent, more than a point and a half

above where we actually are. The SEP had a somewhat lower unemployment forecast, but it was still much higher than what actually happened.

If you don't want to look at unemployment and you want to look at more of the broader measures of labor market conditions, you could look at a labor market conditions index, but such indexes also show substantial improvement in labor markets. We definitely saw substantial improvement in labor markets relative to expectations, and in this sense the program was quite successful. I think that the open-ended nature of QE3 was very successful as well. This feature enabled the Committee to continue with the program until goals could be achieved instead of maintaining an artificial calendar end date as with QE1 and QE2.

When the QE3 program was launched, many around the table probably expected it to end in the summer of 2013, a timetable that would have been similar to the one that we used for QE2. However, Committee attempts to pull back on the program at that juncture proved premature, as the taper tantrum of the summer of 2013 pushed up longer-term rates by around 100 basis points globally. The open-ended nature of the program allowed the Committee to recommit to QE at the September 2013 meeting. It would have been much harder to end the program in June 2013 and then restart the program in the fall of 2013. Despite the taper tantrum, I think we avoided a lot of unnecessary volatility by having an open-ended program that could be adjusted. The bottom line is that I think QE3 was a very successful open-ended QE program, and if we have to go to QE in the future, I would advocate that we again adopt the open-ended nature and set explicit goals for what we're trying to achieve with the program.

For today, should we delay the end of tapering as outlined in alternative A? During the intermeeting period, there was substantial market turmoil brought on by rising recession probabilities in Europe. The effects on the United States are questionable, in my view, but at one

point markets were signaling dire consequences for the United States as well. Financial markets have retreated from that view over the past 10 days to two weeks. Had we come into this meeting with markets still pricing in a major slowdown in U.S. GDP growth and further downward movements in U.S. inflation and inflation expectations, alternative A might have been a reasonable response. It is, after all, a low-cost option. You've got a low level of purchases that you're maintaining for one more meeting. It would buy time for the Committee to see how data evolve. The Committee would retain the option of simply ending the program at the December meeting instead of at this meeting, provided that our forecast of the U.S. economy is the correct one, as opposed to the market view. And then if things did turn into a very dire situation, as markets were pricing in 10 days ago, we would have the option of ramping up QE again instead of starting a new program or being forced to consider the start of a new program. However, because markets have retreated from their Europe-U.S. contagion view and because the decline in market-based measures of inflation expectations has stabilized, albeit at an uncomfortably low level, I think we can go ahead with alternative B today and end the asset purchase program at this meeting.

As for the details on alternative B, I support all of its major elements. The statement removes the word "significant" in the characterization of the underutilization of labor resources. I definitely support that in paragraph 1. The statement would include a mention of market-based inflation expectations in conjunction with survey-based inflation expectations. I think this is also appropriate in paragraph 1. In paragraph 2, there's a remark about near-term inflation developments, which I think is appropriate because it does appear that inflation will, at least temporarily, be weaker in the months ahead. We have a statement in paragraph 3 that there has been "substantial improvement" in labor markets as the reason for the ending of the QE3

program. I think that's appropriate. Finally, on "considerable time," I think we've done a lot of work on that and reached a reasonable consensus around the table to try to make that more state-contingent than it's been up to now in paragraph 4. I also think that that's appropriate. I can support alternative B for today, Madam Chair.

CHAIR YELLEN. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Madam Chair. I support the policy prescription laid out in alternative B. While I see scope for further improvement in labor market conditions, I agree that the cumulative improvement in labor markets so far justifies concluding the asset purchase program at this meeting, and I think the draft statement is satisfactory as written.

I view the "considerable time" formulation of the forward-guidance language as consistent with my current assessment that projection of a funds rate liftoff in the third quarter of 2015 is appropriate. Looking forward to the December statement, I anticipate wanting to keep the "considerable time" language. However, I do not see the value of staying with the phrase "considerable time" following the end of the asset purchases in October as suggested in the staff memo. The fixing of "considerable time" to a past date instead of the current meeting strikes me as problematic, given the intended emphasis on data dependence. I think we should lean against the interpretation that the reference to October is intended to signal a likely change in March or the second quarter. I think we have to drive home the point that "considerable" only means something in the context of the data and the outlook.

I asked one of my colleagues to plot what we will know in data terms at each meeting next year. In March, first-quarter tracking estimates will be firming up. We will have January data and some key February data. At the June meeting, we'll probably have several key May reports, some actually received during the meeting. The second-quarter tracking estimates going

into that meeting will have only April data in reality. As I said in the economic go-round, recent developments suggest more downside risk. If the Tealbook forecast is right or even half right, we'll be facing an ambiguous situation through much of the first half. I don't expect to be able to make a data-grounded judgment on the path of the economy with much confidence until the third quarter. I think we should, therefore, put in place a flexible approach. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Evans.

MR. EVANS. Thank you, Madam Chair. Regarding alternative B, I agree that our open-ended asset purchases have served their purpose and we can end them today. With regard to the forward-guidance language, I'm fine with that as well. But I am worried about the language in paragraph 2 regarding inflation, and I share the low-inflation concerns expressed by President Kocherlakota.

In September I talked about why I think the risks of tightening too quickly and too aggressively far exceed those of moving too late and too cautiously. This robust control perspective still leads me to think that we should not be tightening rates for more than a considerable time. If we stay accommodative but the economy turns out to have more strength than we think, inflation may rise somewhat above 2 percent, but we know how to fix that. However, if we tighten early and the economy encounters further unexpected headwinds, we have much less room to maneuver. Our unconventional monetary policy tools are likely to be less effective after an unceremonious retreat back to the zero lower bound. As a result, we could find ourselves in a very difficult spot. The economy could be stuck in a bad state for a very long time, with attendant damage to its future productivity.

This perspective means we should be highly attentive to downside risks, which today, especially, seem to be to our price stability goal. We've underrun our 2 percent inflation target ever since we announced it in January 2012, almost three years ago. We continue to express optimism that we will fulfill our obligation, but the time by which we expect to do so keeps receding further and further into the future. Since the September meeting, we've encountered some further potential impediments to meeting our policy objectives. I don't want to claim that they are major game changers. I haven't changed my forecast very much. The downside risks are stronger today. I think we should avoid sounding complacent. That means acknowledging that the risks of lower-for-longer inflation have ratcheted up a notch.

I also want to mention that our discussion of long-run inflation expectations has taken on perhaps greater prominence than I'm comfortable with. I think it's somewhat unsatisfactory that our inflation forecasting models rely so heavily on long-run inflation expectations. Our statistical models are crafted in terms of this more stable, long-run inflation expectation as far out as 10 years, but the economic theories that we tend to write down would place much more emphasis on short-term inflation expectations, things having to do with how marginal costs are expected to change over the future horizons and wage contracts and things like that. Yet there's no good empirical traction that those models can gain for forecasting inflation. That's why we end up with the models that we have. It's a tough compromise, and I understand how we end up with long-run inflation expectations being there, but I think we should be uncomfortable with those models leaning so extensively on long-run expectations. Having been below our 2 percent objective for so long should make us even more uncomfortable as the horizon is extended. As a policymaker, I'm just not as comforted by constant and unchanging survey measures of inflation expectations at the 10-year horizon.

I worry that alternative B as written is overly complacent in suggesting that inflation is heading back to our objective within an acceptable period of time. It fails to mention additional risks of low inflation. Specifically, the last sentence in paragraph 2 worries me. Given developments in Europe, the rest of the world, and perhaps most importantly our own recent low inflation data, the compromise wording that the Committee adopted in September now seems problematic. This language states “that the likelihood of inflation running persistently below 2 percent has diminished somewhat since early this year.” It said that in September. While it’s still possible that this is true, it now seems dated and a bit out of touch. I think it is highly likely that inflation will underrun our 2 percent objective for at least another three years. The best anyone has at this point is an optimistic forecast and a belief in the magical pull of long-run inflation expectations. Indeed, with the markdown in the Tealbook, its inflation projection is still below 2 percent in 2019.

I think this sentence is really only viable if it says “well below 2 percent,” but that’s not helpful today. The issue is, when do we think we will return to target? I prefer the language that served us in our statements from December 2013 to June 2014: “The Committee recognizes that inflation persistently below its 2 percent objective could pose risks to economic performance, and it is monitoring inflation developments carefully for evidence that inflation will move back toward its objective over the medium term.” This statement seems far more consistent with today’s heightened inflation risk, while the proposed alternative B sentence seems to have become overcome by events. That’s my opinion. I prefer changing that language. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Mester.

MS. MESTER. Thank you, Madam Chair. I support the action in alternative B today. The forecast for the economy is largely unchanged since the September meeting. There has been substantial improvement in labor markets since the asset purchase program was announced in September 2012, so the conditions for ending the program have been met.

I can also support the language in alternative B today. Although some aspects of the statement still concern me, I welcome some of the changes in language. In general, I believe the characterization of the economy in the statement should not be just a recitation of movements in the data since the previous meeting, but an indication of the Committee's view of the implications of changes in the data for the economic outlook and progress toward our goals and, therefore, for policy. I actually thought that the draft statement language circulated before the Tealbook, Book B, got us closer to this ideal. Nevertheless, the suggested change in the characterization of labor markets in paragraph 1 seems consistent with the improvement we've been seeing for some time and supports ending the purchase program. In paragraph 2, I think it is appropriate to acknowledge that near-term inflation will be held down by the drop in energy prices, but that our consensus outlook of inflation rising gradually back to target remains intact.

In contrast to President Fisher, I would have preferred that we include some reference to financial market volatility in paragraph 1 along with our evaluation that overall financial market conditions remain highly supportive of economic growth. The volatility has been front and center in the minds of the public, and I believe it would be appropriate for us to give our interpretation of what it means for the outlook. Moreover, although we have signaled an end to the purchases, I could imagine the end of the program will still be met with some volatility, as may occur as we approach liftoff. Giving the public some idea of how we interpreted the

intermeeting volatility we have seen might help them assess our likely reaction to volatility of this type in the future.

In our forward guidance on the path of interest rates, the addition of the two new sentences provides some welcome emphasis that our policy is state contingent. I personally would still prefer that we remove the reference to “considerable time following the end of its asset purchase program.” Leaving it in poses problems for our forward guidance at subsequent meetings, especially if the intention is to continue to use the end of the purchase program as the benchmark, even as that event recedes increasingly into the past. This is one of the suggestions in the staff memo on forward guidance, but it would not be my preference. On this issue, I agree with President Lockhart.

I don’t believe there is any economic rationale for tying liftoff to the end of the purchase program, and doing so seems to link the timing of liftoff to that particular event rather than to economic conditions. In addition, continuing to use the end of the purchase program as our reference state would muddy our communications. For example, suppose, for the sake of argument, liftoff is to occur next June, which we are going to characterize as a “considerable time from the end of the purchase program.” Such guidance would technically be correct next May, but this would be a month before liftoff, and I don’t think anyone would want to use that forward guidance in May. It would be very misleading. So we would need to change the benchmark at some point well before liftoff.

My hope is that in December we will find a way to omit the reference to the conclusion of the purchase program in our forward guidance, replace “considerable time” with a more generic “a time.” And if there is concern that the public will misinterpret the change in guidance, we should include a sentence clarifying that the change in the Committee’s guidance

doesn't indicate a change in the Committee's policy intentions. If that is indeed the case, we should be able to point to the December SEP for confirmation of that. There is precedent for this, as the Committee included such a sentence in March when it replaced the threshold forward guidance with the current formulation. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Lacker.

MR. LACKER. Thank you, Madam Chair. I strongly support ending our asset purchase program at this meeting. As for the statement, I think the modifications to the first paragraph are appropriate and useful, particularly the characterization of labor market conditions. I believe acknowledging the decline in inflation expectations is reasonable as well, and the statement nicely balances that concern by noting the stability of survey-based measures and maintaining the language in the second paragraph expressing the Committee's judgment that "the likelihood of inflation running persistently below 2 percent has diminished." I think that's the right stance because, even though inflation expectations have fallen, they're still within ranges we've seen over the past few years. The market-based measures don't seem to have broken out on the downside.

A key choice for this meeting, of course, concerns the forward guidance. The strategy on the table is to retain "considerable time" but backdate it, as it were, to the end of the asset purchase program, although I guess we don't have to make a call on that until December. The sequence sketched out in the staff memo would be to maintain that formulation until a meeting or two just before liftoff, and that approach has the advantage of sparing us—mainly the staff, I suppose—the task of finding a lengthy sequence of adjectives to employ as we count down to liftoff. But I do find compelling the arguments of Presidents Lockhart and Mester and see some advantages in considering in December the dropping of "considerable" and moving ahead on that

basis. Either way, we're still going to face the critical task of describing economic conditions as time goes by, and I think the way we're going to approach forward guidance is by pulling away from these little mechanisms and using our description of the economy more. There's going to be more weight on the description of the economy.

Overall, this statement strikes me as more positive in telling about the economy, and I think that's a good thing. Part of the reason for the more positive cast is that, at the beginning of paragraph 3, we call out "a substantial improvement in the outlook for the labor market." Based on the data, we could have easily made that statement at earlier meetings if it weren't for the fact that we tied our asset purchase program to a substantial improvement in labor market conditions and we hadn't ended our asset purchase program yet. Ending the asset purchase program, in a sense, released us from that inhibition and let us upgrade the tone of the statement a bit, in a way we might not otherwise have done.

More broadly, my sense over the course of this recovery is that our statements have been a bit on the dour side and have tended to convey a sense of dissatisfaction with the recovery—sort of a "glass half-empty" tone. And, assuming that the data come in as most of us are expecting and we head toward raising rates sometime next year, I think it's going to be useful to set the table by gradually shifting to a more positive characterization of the economy—more of a "glass half-full" tone. We don't want to go so far as to strain our credibility, obviously, but I believe we have room to work with as we describe economic conditions. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President George.

MS. GEORGE. Thank you, Madam Chair. I support alternative B. Ending the asset purchase program is a positive step as the Committee looks ahead to policy normalization, and I support the statement as written.

As the recent staff memo on the forward-guidance approach highlights, between now and the time of the first rate increase, we face some challenging communication to adjust our forward guidance. The staff memo discussing the progression of guidance strikes me as a sensible and workable plan. After liftoff, however, it seems to me that the special role for forward guidance at the zero lower bound argues for it to be retired and the communication returned to a focus on economic conditions, the forecast, and related risks. In this regard, I found recent comments by the governor of the Bank of Canada instructive on forward guidance.

Regarding the timing of liftoff, my preferred approach is to move in the second quarter of next year if the labor market continues to tighten and inflation makes progress in moving toward 2 percent. Many of the policy rules already point to a tighter stance of policy. And, while an accommodative stance of policy was certainly appropriate—on account of the constraint posed by the zero lower bound, as we were coming out of the crisis—if we lift off in June, we will have been below prescriptions advocated by the standard policy rules for more than a year. While I don't see events necessarily running ahead of our policy now, I do see a risk that economic conditions may warrant a more aggressive action down the line than markets are currently expecting. Thank you.

CHAIR YELLEN. Thank you. President Plosser.

MR. PLOSSER. Thank you, Madam Chair. I support the ending of the asset purchase program at this meeting. At the last meeting, I repeated my dissent over the forward-guidance language in alternative B. That language is now improved. The new wording in paragraph 1 is

improved, as it accurately reflects the economic progress we've made and eliminates the "significant" from the description of the degree of underutilization. While I still don't see the need for or the desirability of clinging to this "considerable time" language, the additional language in paragraph 4 now stresses the data-dependent nature more forcefully, and I support that. I do prefer the language in paragraph 4 of alternative C somewhat. I would actually prefer the elimination of all references to time when we discuss our forward guidance. It has not served us well. It continues to create problems for us, and I think we need to strive to just eliminate it entirely. However, I can support alternative B at this meeting as a transitional step, in my view, toward a better effort at articulating a reaction function that describes how we will respond if the data move.

My view remains that our statement needs a great deal of reworking, because its effectiveness as a communication device has been diminished over time as it has become ever more complex and ever more unclear. For example, I think our next task is paragraph 5, which needs considerable revision. It's unclear in paragraph 5 if we're referring to the pace at which we are returning to a normal funds rate, or to what we consider to be level of the normal funds rate, or both. As was alluded to earlier today by President Kocherlakota and yesterday by Governor Fischer, we need to start thinking about our post-liftoff policy, how we approach that, and how we want to describe it as we go forward. I think we have a lot of work to do in that arena.

I would actually prefer that we blow up the statement entirely and start all over again. That's going to be the only way we can purge ourselves of some of the legacy language that's come to be a yoke around our necks at various times, and I would urge the subcommittee on communications to tackle this immediately. [Laughter]

From a policy perspective, I believe we are very close to our goals, and we're moving toward them at a steady, if perhaps unremarkable, pace. Monetary policy rules that I've used to benchmark my views on policy and those that are reported in the Tealbook do indicate a somewhat tighter stance of future policy than is implied by our current forward guidance in the statement, as President George just articulated. I remind people that such rules fully acknowledge that inflation is running below our target. They take that into account, yet they still suggest that policy may be more accommodative than it needs to be. I remind everybody that, as President Williams said, even after we end the asset purchase program, we will still have a very accommodative policy by any standard.

I become more nervous that, as these various policy rules suggest, we may be overly accommodative, and that we might find ourselves in the position later of having to raise rates rather aggressively in response to an improving economy. That would prove somewhat at odds with the gradual adjustment that seems to be implied in paragraph 5. Historically, when the FOMC has gotten "behind the curve," it's led to monetary-policy-induced recessions on occasion. I remain somewhat concerned that our current anticipated policy rate path is steadily increasing the risk of just such an outcome.

We say that we're data dependent and that we will react to better-than-expected outcomes, yet we have not shown much affinity for doing so in the past. Indeed, as I argued back in July and as the Chair reiterated just a little while ago, the economy has performed better than we've expected over the past year, the first quarter notwithstanding. But we have yet to adjust policy in response to that improvement. Finally, today we're taking a positive step in that direction, I hope.

Given that the Committee has more forcefully stated that, as we go forward, we will be responsive to data in a symmetric manner, I will support alternative B at this meeting as a transitional step. However, I look forward to seeing further improvements in December that remove all references to time in our forward guidance. I think this would usefully serve the Committee—both those who anticipate an earlier liftoff and those who anticipate that the data will drive us toward a later liftoff. That can only be good for the Committee. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Fischer.

MR. FISCHER. Thank you, Madam Chair. I support alternative B as written but would like to make a few comments on issues related to the statement. I think we should all remember the cardinal rules of central banking. One is, we're supposed to look dour. [Laughter] The second is—and it's the most important rule I've found in my experience—never say "never." We may have to reintroduce QE. We'd better think about that, and we'd better not make it the greatest defeat in the history of science if we are driven to that. I was moved to look around, hoping to see the jersey that President Williams brought yesterday and thinking about what we could raise to the ceiling in memory of QE. But we really ought to think of it as a victory and something that we look at from time to time in case we ever need to use it again.

I am concerned about low inflation. But there are going to be policy decisions after liftoff, and I suspect that if inflation fails to react, we'll be slower to move, with a longer gap between our decisions.

I agree with President Mester about the draft text concerning what happens after this decision. I don't like that very much, either. I think of it as really being somewhat of an insult to the intelligence of people—that is, saying, "It's going to be a long time after October, but we're

not telling you anymore.” That’s what “considerable” means—it’s sometime after October. And it will look very odd after we get there.

With regard to volatility, if we show that we’re not willing to react to bouts of volatility, which is what I believe we want to show, I think it’s 50-50 whether the best way to do it is to mention it and say we’re not changing anything on that account or to just ignore it and pretend that we didn’t notice it, which is probably not that good of an idea. But I haven’t been able to persuade myself that one is better than the other, so I’m willing to go with what my colleagues want.

We are very tied up, as President Plosser said, with the language we’ve had to develop over the past *X* years. And I thought that, when we came to the discussion afterward of the consensus statement, I could just say that the subcommittee is busy at the moment trying to recast the statement for future use. But it would be useful to have something that starts off much simpler. It won’t stay that way, but we might want to do it.

In any case, we’ve reached an important stage. It’s important that we’re doing it more or less as we implied we would when we started the tapering. I think it’s also useful to take out the word “significant” at this stage, and, at some point, we’re going to have to take out “considerable.” I hope events justify that happening soon. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Madam Chair. I want to begin, actually, by referring to something President Plosser said a minute ago when he mentioned that the “considerable time” language had not served us well and that it created problems. I disagree with the first, but not the second, part of that statement. I think it actually has served and did serve an important purpose at the time it was adopted, but it has caused problems, and that’s in the nature of most policy

decisions. As I said yesterday, sometimes when I listen to the discussion around the table, I hear people almost saying that their preferred policy approach has only benefits and no costs, and that's just not the way policy decisions are going to be made. That is where we are, I think, on ending the tapering today. It's pretty clear that there's been substantial improvement in the labor market over the period of time in which we've had it in place. Narayana makes a very potent point, which I don't think was anticipated by those who wanted the language "in a context of price stability." I believe the people who wanted "in a context of price stability" were thinking that maybe there would be too much inflation from QE and thus would want to adjust it. But as Narayana points out and as we'll have occasion to discuss a little later this morning, that gets us back to our concept of what the inflation language in the longer-run goals statement actually means.

Having said that, though, I think President Lacker's point about signaling is quite important here. To not end the QE program at this juncture, given the path we've been on for some time and how much has relatively changed over the past six or seven weeks, would send a signal that doesn't actually reflect where the Committee is. I think the Committee is at about the same place where we've been over the past few meetings, and to not end it now would send a more dire signal than people here, as a whole, probably believe. Some of the issues President Kocherlakota raises are very important, but they actually reflect difficulties or problems in our practice over the past six meetings rather than today.

The one thing, Madam Chair, that I miss in the statement and hope we could find a way to include is some reference to international developments. As I listened yesterday, I think there's a range of views on how much of a risk is posed by what's going on in Europe, Japan, China, Asia excluding China, and elsewhere, but I didn't hear any dissent from the proposition

that whatever downside risks are out there, that's high on the list. I don't think there would be an appetite for, nor would it be appropriate to include anything as strong as, the language that we had back in 2012, when we said that "strains in global financial markets continue to pose significant downside risks to the economic outlook." My preference would be something in paragraph 2, such as "Developments in global markets may pose some downside risks to the economic outlook." But I'd be content with something in paragraph 1 that was pretty neutrally stated, such as "Uncertainty around global economic prospects has increased"—something that just indicates that there is a negative potential out there. And we can avoid the use of who thinks it's increased, how much we think it's increased, or how high the risks can be—but just take note of that.

Finally, with respect to the forward-guidance language, as I suggested at the beginning, there are disadvantages to the approach that's being taken here, even though I was an advocate of it. There's no question about it. There's a certain clunkiness that comes with it, and that clunkiness will be felt, if not in December, then sometime early next year. But I think the reason why those of us who supported it did so was not because we thought it was perfect, but because, first, we thought there were greater risks associated with, for example, removal of "considerable" today and the potential effect on markets that that would have had even if we had qualitative language in there. Second, at least from my point of view—as someone, I think, already referred to—the debate over the right adjective at each succeeding FOMC meeting seemed one that would elicit mostly frustration among a lot of people. So, again, I don't think it's perfect. Nobody thinks it's perfect. It's just a question of, is there a better alternative? And I don't think there is, even though it's going to, in President Plosser's language, create some problems for us over the next few meetings. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Powell.

MR. POWELL. Thank you, Madam Chair. I do support alternative B as written. I think it's clear that there has been a substantial improvement in the outlook for the labor market. And I can say "in a context of price stability" with a straight face because, as I said yesterday, I do believe that, given our forecast for economic growth, we will see a return to 2 percent inflation in the medium term. I believe strongly that low inflation remains a risk, but it's one to be addressed with our other tools. I would also say that financial conditions remain highly accommodative.

Turning to the language, on "considerable time," my hope is that the market will see starting the clock, as Bill English put it this morning, in October as a modest downgrade of the term, which would set us up for continued opportunistic downgrading. It may well be that in December, depending on conditions and expectations, we can take it out of the statement completely, but I would hope that we would have downgraded it somewhat at this meeting—whereas if you were to say it again in December, it would say a whole new period is set. So if we all want to get rid of "considerable time," the hope is that this would be a start on that.

On what Governor Tarullo just raised, a reference to global economic conditions, I see that as a really close call, and it comes down to what goes in the statement versus what goes in the minutes. I can see that the second of the two alternatives that Dan mentioned, in paragraph 1, might work. The benefit is, we don't look clueless for 10 days until the minutes come out. The risk is that we send a signal of concern about the global economy, and I think you have to weigh those two. So that's where I would be on that. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Brainard.

MS. BRAINARD. Thank you, Madam Chair. I think alternative B does a pretty good job of making clear that we see developments in the domestic economy proceeding much as we

had anticipated while recognizing some risks. The progress on employment is appropriately acknowledged both in paragraph 1 and in paragraph 3. I do have some concerns about the movement in the market-based measures of inflation expectations, but it's very early to take too much information from that. There, too, I think it's appropriately called out cautiously in paragraph 1, but I also want to convey that we will be carefully watching that.

I see some downside risks, as I stated yesterday, of further strengthening of the dollar and weaker-than-expected growth of foreign demand, which is not currently noted. And I recognize that putting something in there on downside risks may be too strong a signal. But, given the uncertainty about global growth prospects, continued slack in the labor market, and the news on inflation, which is not good, I continue to favor holding our fire for a few more meetings before signaling we will initiate liftoff. Again, because we have very limited ability to respond to risks of greater-than-expected slack and disinflationary pressures when we're at the zero lower bound, as compared with a much greater ability to tighten faster if inflation or the elimination of slack were to accelerate, I think our strategy of vigilant patience is very appropriate. The global environment of weak demand growth and disinflationary pressures only reinforces that asymmetry.

Alternative B does an admirable job of clearly communicating that strategy of vigilant patience. I support it as written, although I would prefer some neutral reference in paragraph 1 to the increase in uncertainty surrounding global economic prospects, which I view as both factually accurate and relevant to our outlook. The alternative, which will be to say nothing and again have the minutes be the mechanism for communicating that, has some risks, as we saw last time around.

I think the approach of anchoring “considerable time” to the end of purchases this month is the best option, while acknowledging that all options have some risks. It corresponds to my current expectations, and I believe it holds the best prospect for providing a message of continuity and clarity to the markets and provides less risk of misinterpretation and having markets respond in ways that we don’t fully anticipate. We will need to revisit this language if the pace of convergence to our inflation and employment goals changes materially, and that is very clearly stated in the two new sentences that amplify the data dependence of our stance. Thank you.

CHAIR YELLEN. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. I support alternative B as written. Ending the asset purchase program is appropriate because of what we’ve seen in terms of the substantial improvement in the labor market outlook. I certainly wouldn’t want to say “mission accomplished.” That’s a scary proposition. But regarding what the program was designed to do, I think we’ve been successful in that endeavor.

My views about the likely timing of monetary policy haven’t changed much. Slightly weaker growth and lower inflation would argue for more patience, which, to my mind, takes March off the table. But economic growth still seems likely to be strong enough to generate sufficient job gains to continue to tighten the labor market as we go through 2015. So I see June as remaining, still, the most likely date, with some risk that the date could slip later. With that in mind, it strikes me that alternative B as written is just about right. That said, I think the markets will receive it as somewhat hawkish in three respects, and we should be clear about that as our going-in proposition.

First, the thing that will be received as hawkish is the removal of the “significant underutilization” language. I think the surveys were split on whether that would be removed or not, and so, obviously, if you do remove it, it’ll be a change that will be noted. It’s a change that didn’t have to be made at this meeting, because, obviously, “significant” has a vagueness to it, and we could have chosen to wait. The fact that we’re not waiting will be noted by the markets.

The second aspect that I think will be noted is the fact that there’s nothing in paragraph 1 or 2 that references the financial market turmoil or the downside risks to economic growth abroad. That’s probably appropriate because what I was struck by yesterday in the go-round was that people’s views really hadn’t changed very much about the U.S. outlook despite those two developments. But the fact that they’re not mentioned will be noted by markets.

The third thing that I think is going to be noteworthy is that the new sentences at the end of paragraph 4 are essentially undercutting the commitment of the “considerable time” language. They’re basically saying, “Yes, you anticipate it’s going to be a considerable time, but you’re really saying that the economic data matter.” That, again, will be read, I think, as a little bit hawkish.

This is all appropriate. I’m not arguing with that. But the fact that market prices have moved pretty far away, I believe, from where the Committee is means that there could be a significant reaction in the fixed-income markets.

Lastly, I want to talk briefly about the issue of what happens after liftoff, because I think Governor Fischer raised this yesterday. We really need to be careful about how we discuss what we’re going to do after liftoff, in terms of how fast we’re going to go, because it seems to me that it really depends on two things that are highly uncertain: one, how the economy itself evolves; and, two, how financial conditions react to tightening. As we tighten monetary policy, financial

conditions are going to respond. If they respond very mildly, like what happened over the past year in response to the asset purchase taper, then we're probably going to have to do more. If they respond really a large amount, like the taper tantrum, then we're going to have to do less. I think we really don't want to lock ourselves in with markets in terms of how fast we're going to go once we actually lift off, because it depends on these two things. And I'm just totally uncertain about how these things are actually going to evolve. Thank you.

CHAIR YELLEN. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. I thought Vice Chairman Dudley's comments about post-liftoff decisionmaking were really useful. For my taste, I don't think we should be committing to a pace of liftoff or the sequence of interest rate moves but rather trying to communicate, as you just did, the factors that will be entering into our decisions. I thought what you just said was very helpful. So that's what I think we should be doing more of. Thanks.

CHAIR YELLEN. Thanks. Well, thanks for a very good set of comments on the policy issues before us. In terms of the statement, there were several things. First of all, I did hear a good deal of support for alternative B as written, but, nevertheless, there were a number of suggestions, so let me turn to those.

On inflation, President Evans suggested modifying the language in paragraph 2 to essentially suggest that the risk of inflation persistently running below 2 percent has not diminished or has arguably increased. I did not hear, as we went around, a great deal of support for that, although I did hear a great deal of concern expressed about the inflation outlook. I think a number of you share the concern that I have as well—that inflation may persistently run below our objective, and, if that turns out to be the case, we may need a policy response. It could be deferring rate increases until later than we currently expect. We may have to recognize that in

the statement in the future. The sense I have is, we've opened the door in the statement to telling markets we are concerned about that in two different places, particularly in paragraph 1, noting that market-based measures have gone down. And, to me, not simply dismissing the fact that that's a meaningless development will be interpreted as a sign. So unless I hear a flurry of support to change the characterization of inflation in paragraph 2, as President Evans suggested, I would say, why don't we consider that in the future and watch what happens with inflation developments but leave that as is?

On whether to mention financial volatility, President Mester suggested that maybe what we should do in paragraph 1 is to include it and then basically say, "Yes, but we're not really paying attention to that, because financial conditions are still quite accommodative." As Governor Fischer noted, there are two ways to go on this, both essentially saying the same thing. We could mention it and dismiss it or not mention it at all, and the proposal here is, don't mention it. I think I heard several people supportive of taking the approach the statement does of not mentioning it, but, please, if there are others who would prefer to add a sentence in paragraph 1 of the type that we had and got rid of, speak now or forever hold your peace.

Finally, let's turn to the question about the global outlook. Suggestions there came late in the round—from Governors Tarullo and Brainard—and most of you didn't really have a chance to react to this. So let me put on the table the suggestion that I think both of them endorsed. I think Governor Tarullo suggested some language in paragraph 1 that would say something like "Uncertainty around foreign economic prospects has increased." Or we could just say something like "The foreign economic outlook has become somewhat more uncertain." It would be a way of acknowledging what many of you mentioned, but, again, I'd be interested in your reactions.

VICE CHAIRMAN DUDLEY. One thing I would think about is, if I were sitting in one of those foreign places, would I be pleased by having this in the statement or displeased? And I think I'd be slightly displeased, frankly.

MR. FISCHER. Well, you could always say it was in the other countries. [Laughter]

VICE CHAIRMAN DUDLEY. I'm serious. I think we'd be pointing to other people's problems and highlighting them, in a way.

MR. TARULLO. But wait a second, Bill. We did that for a year and a half.

VICE CHAIRMAN DUDLEY. I know. But the question is whether what has happened has risen to a similar level of concern.

MR. TARULLO. Well, I think that's a different question, though, than whether a foreign country is pleased with the fact that we say something.

VICE CHAIRMAN DUDLEY. No, no, no. If you look at the outlook for global economic growth, my understanding is that, basically, we were expecting a slight acceleration and now we're expecting it to be flat. That's really what's changed since the September meeting—is that correct?

MR. KAMIN. Yes. Since the September meeting, we've marked down our forecast around $\frac{1}{4}$ percentage point in the second half of this year and a little bit less after that. So it has not been a large markdown over the intermeeting period, but a somewhat larger markdown going back earlier in the year. And, while the uncertainties about the outlook have not increased demonstrably over the past six weeks, if you looked at our position earlier in the year—before the euro economy slumped back, before the Japanese economy started running into its problems, and before property prices in China started to move down—I think you could make the argument, looking over a longer period than just the intermeeting period, that, yes, our

uncertainties have increased somewhat. Then what we've observed is the markets, as they often do, catching up to that all at once.

CHAIR YELLEN. Comments? President Plosser.

MR. PLOSSER. I guess my inclination is, these two are actually tied together, the financial-stability and international developments, because they're both recent events. They both were clearly discussed within the Committee, and I, frankly, am of the opinion that we ought to treat them the same way in the following sense. If we're going to leave them out, I think it's certainly appropriate to talk about both of these conditions in the minutes—to convey that the Committee talked about them. Particularly on the financial-stability issues and volatility issues, as President Mester said, it was important that we talked about them. We also can explain that we are not reacting to them. It's important to get both sides of that. By the same token, while we changed the forecast ever so slightly because of the international events, I don't think we're reacting a lot to them. Perhaps from that perspective, making sure that both are discussed in the minutes and leaving the statement as it is might be a path forward.

CHAIR YELLEN. President Mester.

MS. MESTER. I was going to say that my preference would be to have it in the minutes. But then in December, we're going to have new SEPs, and I think everyone will be sitting around assessing how big a change they want to make to their own forecast because of the foreign economy. So my preference would be not to put it in today but to leave it on the table as something to think about when we meet again in December.

CHAIR YELLEN. President Lacker.

MR. LACKER. I'm in the same place because I believe it hasn't crossed the threshold of being a change of sufficient magnitude, and I'd suggest we think about how it evolves. If this is

elevated uncertainty, what's it going to take for us to decide that we're willing to drop it and indicate that uncertainty has gone down? It's likely to be there for quite a while. And I'm afraid it's going to be one of these statement carbuncles [laughter]—hard to scrape off.

CHAIR YELLEN. President Fisher.

MR. FISHER. I agree with Governor Powell's initial suggestion. It's a thoughtful idea. I think it should be in the minutes. If we started to write out how we do it, we'd have to make an exception for Mexico and Canada—the NAFTA countries—because they aren't experiencing the kind of turbulence that we're seeing elsewhere. It's very Eurocentric or, perhaps, Asiatic. So it should be reflected in the minutes, but I don't think it's appropriate for this statement, and I would not support it.

CHAIR YELLEN. Does anybody else want to weigh in on this topic? [No response] Okay. I guess, having listened to the set of comments, my proposal would be to leave alternative B as it stands. Obviously, there will be a discussion in the minutes about the concerns that everyone has expressed about Europe, in particular; China; and the global economic outlook. When the minutes had such a discussion last time they certainly received a good deal of attention, and there was a market reaction to them. I'd like to propose that we just vote on alternative B as written, without changes. Matt, do you want to call the role?

MR. LUECKE. Yes. The vote will be on alternative B, as shown on pages 6 and 7 of Bill English's handout and in the directive on page 12.

Chair Yellen	Yes
Vice Chairman Dudley	Yes
Governor Brainard	Yes
Governor Fischer	Yes
President Fisher	Yes
President Kocherlakota	No
President Mester	Yes
President Plosser	Yes

Governor Powell	Yes
Governor Tarullo	Yes

CHAIR YELLEN. Great. Do we want to take a break? Okay. I think we've done a good slog of work so far, and we have more to do, but let's reward ourselves with a 15-minute break.

[Meeting break]

CHAIR YELLEN. Let's shape up and get on with it. [Laughter] Thank you. I would like to call on Governor Fischer to introduce our next topic, which is longer-run goals and monetary policy strategy.

MR. FISCHER. Thanks very much, Madam Chair. I'd like to begin by thanking the members of the communications subcommittee—Loretta Mester, Jay Powell, and John Williams—for their good work and collegiality in leading me through the graveyard of buried bodies and buried ideas, as I understand are there. [Laughter] I also want to thank the staff who supported our efforts: Bob Tetlow, who you'll hear in a while; Todd Clark from the FRB of Cleveland; and Stacey Tevlin. And there was helpful participation from a changing cast of several people. I'm never quite sure on what basis people show up to meetings, but I was very glad to have them there.

At Ben's last meeting, I think it must have been, he referred to the need to revise the Statement on Longer-Run Goals and Monetary Policy Strategy, so there seemed to be an extra need to get it done this year. But it's also been three years since the first consensus statement was issued. It is a very important component of the transparency of Federal Reserve policy. I know that because I read it from a long distance, and it actually clarified enormously relative to my understanding of what the FOMC was doing before I saw this statement. I even managed to

identify what “a balanced approach” means—or at least I thought I did—and I think it’s the interpretation we’re going to hear in a while.

Now, Loretta sent me a note at the end of it saying that, in essence, we may not be able to change anything, but that that would just show how good a statement the original statement was. There’s something to that—it is a very good statement. And there are, no doubt, reasons for some formulations that are less than totally transparent on first reading.

You received a list of questions that we chose to take up in this first attempt to change, or at least to review, the original consensus statement, and we were guided by discussions with several of you—especially with the Chair, who had chaired this subcommittee previously—about the issues to take up. The three, which Bob Tetlow will introduce in greater detail soon, were the symmetry of the 2 percent inflation goal, what the “balanced approach” characterization of policy strategy means, and the relationship between the objective of financial stability and the dual-mandate goals of price stability and maximum employment. We do not have legislation that puts financial stability on an equal footing with the dual-mandate goals, but it’s being talked about more and more in many central banks, and we thought it was worth taking that up.

This is not a meeting to decide on the statement. This is a meeting to decide on the work that we will do before January. If there is sufficient support for at least looking at these views or others that people may suggest, we’ll take them up and come back with a formulation in January.

We have in mind an approach that is similar to the one that was used on the normalization principles. If the discussion at this meeting indicates that there’s some common ground, the subcommittee will prepare and circulate a memo before the December meeting outlining some possible revisions to the consensus statement, with a request for feedback via the SDS comment system. Taking these comments into consideration, the subcommittee will then

provide a draft revised consensus statement for consideration at the December meeting, and that'll give us time for discussion of and comfort with any proposed changes before the scheduled renewal, which is at the January 2015 meeting. Any suggestions you might want to make for us to examine additional issues connected with the Federal Reserve's communications and communications policy would be welcome, but we'd expect to begin to deal with them after the January FOMC meeting.

You have all received the staff background paper, and Bob Tetlow will now introduce the topic and the considerations relating to these three issues that we've begun to consider. Bob—thank you.

MR. TETLOW.⁷ Thank you, Governor Fischer. I'll be referring to the handout titled "Material for Briefing on Longer-Run Goals and Monetary Policy Strategy ('Consensus Statement')." My briefing will summarize the memo that Todd Clark, Stacey Tevlin, and I prepared under the auspices of the subcommittee on communications. As you know, the subcommittee identified three topics for discussion at this meeting. As shown at the top of the handout, these topics were the clarification of the symmetry of inflation preferences around the Committee's 2 percent goal, the clarification of the "balanced approach" monetary policy strategy, and the clarification of the role of financial stability in achieving the dual mandate. I will go through each of these topics in order and then close with a few words on why you might prefer to leave the statement as it is now.

The memo first explored the case for preferring symmetry—or asymmetry—of inflation around the Committee's announced 2 percent longer-run goal and for communicating that preference to the public. The memo argued that a symmetric target would provide a clear focal point for longer-term inflation expectations. This is so in large part because a symmetric target would be more likely to deliver a record of inflation that aligns with the announced level of the target. An asymmetric target—a "ceiling," for example—would tend to render inflation that averages less than 2 percent, with the shortfall of inflation from 2 percent likely to be a function, in part, of the variances of the shocks that are affecting the economy. In this way, a symmetric target facilitates clear communications by generating outcomes consistent with the stated goal of 2 percent inflation. This, in turn, fosters transparency and public accountability.

It might be worth noting that the evidence from surveys and financial market expectations suggests that at least a portion of the public currently regards the

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

Committee’s preferences as being symmetric. This may be because some policymakers have said as much, including Chairman Bernanke in his April 2012 press conference.

We also identified reasons why participants might have asymmetric preferences for inflation around the 2 percent goal. First, while participants may agree that 2 percent is the best single target for inflation, they might view the costs of the distortionary effects of inflation above 2 percent as higher than the costs of inflation below 2 percent. Second, as the memo noted, the history of inflation in the United States during the 1970s and 1980s might lead policymakers to fear that long-term inflation expectations are more likely to become unanchored when inflation is above 2 percent than when it is below that level. Of course, a case could also be made for the opposite—namely, that inflation is more likely to be costly when it is persistently below 2 percent than when it is above. This might be so because, all else being equal, lower inflation increases the likelihood of the zero lower bound becoming a binding constraint.

The staff memo also reported on possible benefits of clarifying the meaning of the “balanced approach” monetary policy strategy. On the one hand, “balanced approach” could be a statement about the Committee’s loss function, without specific reference to what that function implies for the conduct of monetary policy. Alternatively, “balanced approach” could describe how the Committee might respond to deviations of variables from their target levels in a dynamic setting; that is, it could be seen as a statement about the reaction function.

Regarding the loss-function interpretation, “balanced approach” might mean that equal weights are applied to the inflation and employment arguments of the Committee’s loss function. The memo noted that there is little in the research literature that provides reliable guidance on what the proper loss-function weights should be; results tend to be idiosyncratic to the model under consideration, although some recent research suggests that at least some popular, mainstream models are consistent with roughly equal weights on the two objectives. Finally, a number of policymakers have at times alluded to “balanced approach” being consistent with, or equivalent to, the two legs of the dual mandate having equal footing as objectives in monetary policy.

Regarding the reaction-function interpretation, “balanced approach” might suggest that the time horizons over which the Committee would aim to return the two goal variables to target, conditional on “appropriate monetary policy,” would likely be similar. Alternatively, the Committee could provide information about the conditions that would lead it to tolerate an overshooting or undershooting of one mandate variable relative to its longer-run goal in order to facilitate the more rapid convergence of the other mandate variable to its goal. At a more modest level, a statement to the effect that tradeoffs between mandate variables always matter—so that the public understands that one variable is never subordinated to the other—might be helpful.

On financial stability, the memo discussed whether the consensus statement could address the possibility that monetary policy could respond to financial-stability concerns, as a way of promoting the Committee’s dual-mandate goals. The memo took as given that macroprudential and supervisory tools would be operative and noted that these tools presumably would be the first line of defense against financial instability. At the same time, we also argued that it would be imprudent to assume that these nonmonetary tools could be relied on to consistently achieve their goals.

The memo devoted some space to considering why financial instability might warrant special attention from monetary policy, in view of the fact that financial stability is not directly a part of the dual mandate. Or, to put the same point in the form of a question, what makes financial instability different from other asymmetric risks? We identified two main reasons. First, monetary policy may be able to affect the probability of an episode of financial instability, its likely cost, or both. And, second, an episode of financial instability can reduce the efficacy of monetary policy for offsetting the effects of that episode or the effects of other shocks. Either of these reasons provides a *prima facie* case for using monetary policy to mitigate a buildup of financial market vulnerabilities.

We argued that this *prima facie* case is not one that is operational at all times. Financial instability is an episodic phenomenon. As such, emerging instability might induce policymakers to set aside temporarily their direct pursuit of maximum employment and price stability in order to temper the likelihood or severity of a possible episode of financial instability. At the same time, however, it bears noting that identifying the appropriate monetary policy response to incipient instability might not be a straightforward exercise.

The staff memo closed by listing three reasons why participants might choose to retain the current consensus statement language—even if policymakers largely agree with the affirmative arguments outlined in the memo. First, any change in policy communications runs the risk of being misinterpreted. Second, to the extent that policymakers view changes in consensus statement language as likely to be costly to reverse, there is some value in retaining the option value of waiting until the appropriate change in language becomes clearer. And, finally, the current language of the consensus statement is the product of compromise. Participants may judge that the comity of the Committee is best served by not perturbing that compromise.

That concludes my prepared remarks. I am, together with Todd and Stacey, happy to answer your questions.

CHAIR YELLEN. Are there questions for Bob? President Bullard.

MR. BULLARD. Bob, I thought you said that economic models come out with roughly equal weights, and my comments are different from that. So I’m wondering what you meant by that statement.

MR. TETLOW. There's a reference in the full memo to a paper by Debortoli, Kim, Lindé, and Nunes. They took the Smets-Wouters model and looked at what the optimal Ramsey policy was in there. Then they said, what would the loss-function weight on the output gap be for the kind of loss functions that, for example, we use to carry out optimal control scenarios for the Committee? It turns out that the coefficient in that case would be a coefficient of unity, which would actually be much higher in unemployment space. This is one of these cases in which, once the model starts to get sufficiently complex, there are some more channels through which monetary policy works, and, more important, there are more shocks that break the "divine coincidence." Then you get the result in which a higher weight on resource utilization becomes appropriate.

MR. BULLARD. Okay. So you would agree that, in the broader literature, it would be maybe more coincidental that you would come out with exactly equal weights, because these models have preferences and all kinds of assumptions in them, and then you have to figure out what the optimal weights are. They might come out one way, or they might come out another way, but they wouldn't come out exactly equal. Is that fair?

MR. TETLOW. Yes, that's certainly fair. And I think that's what we said.

CHAIR YELLEN. Are there other questions? [No response] Okay. Then let's begin our go-round. Governor Tarullo is first.

MR. TARULLO. Thank you, Madam Chair. Let me apologize in advance for doing what I always say we shouldn't do, which is to read statements. But because I knew I was going first and I wanted to make sure I made the points I wanted to make, I did write this one out.

When we were debating the original version of this statement nearly three years ago, I suggested that its practical benefits would be limited. And I think this has turned out to be the

case. The statement has received relatively little attention, in large part because the agreed-upon text did not reflect an actual consensus on the Committee and was necessarily drafted with significant ambiguities, as I believe are well explained in the staff memo. I suspect most people who read it already knew that a 2 percent target was in some way or another assumed by most, if not all, FOMC members.

Sometimes, of course, agreed-upon wording turns out to have a life of its own, particularly when that wording is committed to later interpretation or implementation by actors other than those who originally agreed to it. That's why, for example, vague statutory language can, over time, acquire reasonably well-specified meanings. But there are no such authoritative interpreters of the goals statement, with one quasi-exception that I'll mention in a bit. All members of the FOMC are able to stick to their own preferred interpretations, contradictory as they might be, and I think this is precisely what's happened.

There is a case for changing the statement so that it will have some information content. Three years ago, I was largely focused on the meaning of "balanced approach" in paragraph 5. This paragraph purported to address, albeit in a very general way, how the Committee would deal with situations in which circumstances create policy tension between the inflation and unemployment goals. I'll return to this issue in a moment. But the intervening period has revealed, at least to me, that there is not even consensus on the most basic goal articulated in the statement. And, while there has always been disagreement on the unemployment goal, the differences in the past year or two have surprisingly centered on the inflation goal. Of course, the reason most emphasized by our former Chairman for adopting a statement was that it ratified in a formal way the Committee's embrace of a flexible inflation target.

I would have anticipated that disagreement would arise when some argued that temporary toleration of above-target inflation would lead to higher employment in the steady state, and others would have weighted more heavily the risks of nontransitory above-target inflation. But, instead, over the past few years, we've had discussions in this Committee during which some participants have seemed to suggest that, because they find slack in labor markets to have diminished substantially, it is time to raise rates even though inflation has persisted below target for much of the period since adoption of the goals and strategy statement.

Now, one's first reaction to this circumstance might logically be to conclude that perhaps estimates of the natural rate are too high, given the absence of wage pressures or above-target inflation. But let's put that issue aside for a moment in order to note that those taking this position have essentially converted our two goals into a single goal. But here's the irony, at least to me: Implicitly, that single goal is not the inflation target, which is usually the aim of those on the hawkish side of monetary policy who don't like the dual mandate. Instead, the single goal appears to be, while maybe not maximum employment, enough employment.

How does this circle get squared for those taking this position? It happens in one of two ways, I think, which are, in practical terms, consistent with one another. One is to treat the 2 percent inflation number as a ceiling, not a target, with no policy response being called for unless inflation threatens to exceed the target. The other is to stipulate, as a formal matter, that there is an inflation target but to assume that inflation will somehow and always, almost gravitationally, move upward in periods of even modest economic growth. So, again, policy attention to measures to increase inflation is never needed.

I disagree with both of these propositions, as I suspect many of you do. There may be other reasons for the position taken, and I suspect I'd disagree with those as well. But for present

purposes, the issue is not who's got the better policy position. The issue is whether there is a shared commitment to an inflation target. Given current and, possibly, future conditions, it would be useful to clarify, if we could, that the controlling view on the Committee is that we do have a flexible inflation target, which contemplates policy action in at least some circumstances in order to raise inflation from a level that is persistently below 2 percent as well as to lower or stave off inflation that would rise above 2 percent on a nontransitory basis. While I hope I am proven wrong, I suspect that not everybody would agree with such an articulation. Still, for a healthy majority of the Committee to adopt it would be to communicate some significant information to the public.

On the symmetrical issue raised in the staff memo, I think the fact that the Japanese experience of the past 20 years seems at present more threatening in parts of the world than the stagflation of the 1970s might actually argue for asymmetrically worrying more about inflation risks on the downside. But that perspective is obviously time contingent. An explicitly symmetrical position seems better suited for a statement of longer-run goals and strategy.

As to the “balanced approach” issue, the illustrations I suggested to elaborate the very general statement in paragraph 5—I suggested these three years ago—are perhaps of less immediate relevance today, though they may, again, be so in the future. In any case, I would anticipate considerable difficulty in agreeing on such illustrations, even among those who could agree on much else in the statement. So I'd be happy with a statement such as that crafted on the top of page 8 of the staff memo, indicating that the Committee is equally concerned about deviations from both mandates.

With respect to financial stability, I've done a good bit of thinking about the role of financial stability in monetary policy. And, to be honest, I still don't have a formulation that

even I'm satisfied with. So I'd anticipate that even a subset of us who more generally agree on broader monetary policy matters would have a lot of difficulty agreeing among ourselves, certainly in the next couple of months. A threshold issue, of course, is that, unlike price stability and maximum employment, financial stability is not even an explicit statutory goal. Important as the issue is, I think it probably requires more discussion, analysis, and, perhaps, experience before we'd be ready to integrate financial-stability considerations in succinct form into the current or revised statement elaborating on the statutory mandate.

That's the case for making a change. I actually think that the case for not making a change is somewhat stronger, and I'm going to turn briefly to that now before ending.

I do think that the views on goals and policies offered by our former Chairman and current Chair have been noted by market actors and commentators, and this is what I meant earlier by the one quasi-authoritative interpreter. In that sense, the statement has provided some useful color in public understanding of the goals and strategy of a majority of the Committee. We didn't necessarily need the statement to accomplish that, but the statement has been a vehicle for Chairman Bernanke and then-Governor, now Chair, Yellen to articulate a shared general—if not, perhaps, unanimous—interpretation.

Given the large and fractious nature of this Committee, making any noncosmetic changes would likely be a difficult process, and any changes coming out of that process might, as Bob was warning us, actually risk injecting confusion rather than more clarity into public understanding of FOMC proclivities. So even though I have, in the past, advocated for changes in what is the current statement, I think there's a good argument—and, as I say, in the end, I believe this is the better argument—for following Hippocratic principles and leaving it alone. It's not all that relevant, but, for that very reason, it's not having a negative effect on public

understanding of Fed policies. And if this is the outcome in January, I'll be content to abstain once again, rather than to dissent, again on the ground that the statement does not affirmatively advance the understanding of Fed policies. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Plosser.

MR. PLOSSER. Thank you, Madam Chair. As someone who was deeply involved in trying to craft the earlier statement in the subcommittee on communications, I know, as does Chair Yellen, how difficult that was to get to where we ended up. I think that, for those reasons and some other reasons, I'd prefer that we not attempt changes at this time. I'm concerned that, in doing so, we might inadvertently signal a shift in policy. Should this occur, it would be particularly disruptive at this stage of the normalization process. I'm actually not opposed to considering changes, in principle, to the statement, but I think doing so at a time when policy is more nearly under normal circumstances would be a more fruitful way to proceed. I'm just concerned that attempts to change it could lead to an unraveling of the delicate consensus and the vagueness of what we've achieved.

That said, I do have some reactions to the memo, and I'll try to share those a little bit. I'm not averse to specifying the symmetry of our objectives. I always thought that that symmetry was implicit in what we had said. We could even go further by stating a target range that is symmetric around 2 percent. Again, I wouldn't have any real, serious objections to that. In fact, the subcommittee did consider such language at one point. I do have some trepidation as to what that might imply regarding how we might then go about discussing the symmetry of the employment mandate in a similar way, if we really wanted symmetry. And what that might devolve into could be quite complicated and very confusing. So I would approach that with a bit of caution.

I also suggest we leave “balanced approach” as is. Trying to parse out or agree on a loss or objective function would be extremely difficult in a Committee this big. The economic viewpoints on the Committee are very diverse at this point, and trying to get it to a common loss function or weights on the objective function could be quite difficult. It would be like opening Pandora’s box. In particular, trying to do so in such a short time frame would be very difficult. To approach this, we would need many careful discussions and thoughtful alternatives and approaches, because if we did it on short notice, we would undoubtedly regret it at some point down the road.

I do regard the diversity of views on this Committee as a strength. And, while I understand and appreciate that “balanced approach” is a bit vague, it does indicate that the Committee weighs both nominal and real factors as an important part of its policy deliberations. As Governor Tarullo just mentioned, both our former Chairman and our current Chair have articulated that message quite clearly. So I think it does have some content. All told, the language of the current document was carefully and painfully crafted. Upsetting that balance at a time when policy is in flux would not be a very wise approach.

With regard to financial stability, I oppose elevating financial conditions to the same level as our fundamental goals of maximum employment and stable prices. I think they should be used primarily as an indicator of economic conditions that we would respond to when activities in financial markets are worrisome and when monetary policy can perhaps have a direct effect on that behavior or perhaps is precipitating that behavior. At a minimum, different financial developments will likely entail differential monetary responses of various kinds. Reacting to a bank panic might be one response, whereas reacting to a stock market crash or a currency crisis in some part of the world could be very different responses. We have no

systematic way of thinking about that. How the Committee would act in such circumstances is best left to particular episodes and to the FOMC statement, which would presumably describe or explain why policy was being set, perhaps, in an unusually tight or unusually loose stance or maybe not reacting at all. Determining appropriate monetary policy in response to financial market conditions is a more complex undertaking, and I would rather that we not get engaged in that in our statement of longer-term strategies.

Finally, I don't think the material in the memo devoted to how the Committee would act in a precise way in some hypothetical examples really belongs in a statement of longer-run goals and objectives. Those tend to be tactics, and we should avoid those. Thus, at this juncture, I believe it would be wise to avoid upsetting the apple cart. We should simply leave the statement as is for the time being. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Lacker.

MR. LACKER. Thank you, Madam Chair. Let me start with an endorsement of a characterization of the consensus statement as a delicately crafted compromise. We each bring particular frameworks to bear on monetary policy questions we face, and then some of these frameworks conflict, as Governor Tarullo pointed out. I think the consensus statement we drafted did a masterful job of articulating as much as it could by way of areas of agreement while allowing each of us to read the statement as compatible with his or her own framework. In a sense, it's the smallest tent we could get all of us—or all but one of us—into. I don't see this as a weakness. I see this as a strength. I see this as just a recognition of the reality of the scientific uncertainty about many of the questions that face us when we do monetary policy, about which reasonable people—reasonable, well-informed economists—can disagree. And I think it strengthens policy that we have a framework that encompasses different views.

The fourth paragraph, the one about our maximum-employment mandate, is an illustrative case in point. There are serious differences of opinion around the table about how to interpret the natural rate of unemployment, though we all agree that it makes sense to think of maximum employment in terms of some form of what you would call a natural rate. There are different meanings of that term, though. Paragraph 4 is careful not to call the question. It's agnostic about whether maximum employment does or does not correspond to the "estimates of the longer-run normal rates of output growth and unemployment" that are published in the SEP. The proponents of any of a variety of views about the behavior of the natural rate can thus read the consensus statement as not inconsistent with their views.

I'm deeply skeptical about prospects for modifying the consensus statement in a coherent way. Let me first say that I think the consensus statement should be a relatively permanent document, conveying what we believe to be timeless principles. It shouldn't reflect commentary on current or passing issues in monetary policy. Accordingly, there's a risk involved if we're to make regular, substantive changes to the statement. Observers could come to doubt whether the Committee is going to stick to its precepts long into the future—that what's in the statement represents precepts that will guide our behavior long into the future. This risk would be particularly acute if we were seen as making opportunistic changes motivated by this year's issues *du jour*.

The current shortfall of inflation strikes me as one such preoccupation. It's legitimate to debate what to do about it. We've been doing that every meeting. But if we choose this time to add some forceful language about the symmetry of our inflation preferences, I think it could look a bit contrived—it could look a bit oriented toward where inflation is now relative to 2 percent.

I'm dubious about the notion of symmetry on more fundamental grounds as well. In our standard theoretical models, there are a variety of costs and benefits. They vary asymmetrically about the optimal inflation rate, and the symmetry that we see in a lot of reduced forms is an artifact of the linear-quadratic approximations, a popular analytical technique. But it's really a shortcut, and so it essentially imposes symmetry when there often is none in the fundamental underlying models. Beyond that, these frameworks reflect equilibrium, in which we have perfect credibility, and it's quite plausible to think that, if our credibility erodes, we'd be quite likely to be different above 2 than below 2. So I'd oppose attempting to articulate some sense of symmetry around our inflation goal. I haven't advocated 2 percent inflation as a ceiling. I'm not quite sure I've heard that around here, and I'm not sure it isn't something of a straw man. But I could be wrong about that.

I'm skeptical about going beyond the current "balanced approach" language. One's mind is instantly drawn to the notion of equal weight in a policymaker's objective function. However, as the staff memo points out, in the models we use—and there was an exchange between President Bullard and Mr. Tetlow about this—for applied policy analysis, the policy objective function that maximizes household welfare generally places much larger weight on inflation, and we have just a couple of examples in which they're roughly equal. So it would take a very special coincidence of model parameters to deliver equal algebraic weights in a reduced-form policy objective function that policymakers thinking about household welfare can be thought of as acting as if they're maximizing. Remember, this is a Committee that can't agree on what constitutes maximum employment. We're talking about a weight on deviations from something, and we can't agree on what the thing is that we're taking deviations from. So it's hard to believe

we're going to agree on weights to place on deviations from maximum employment. We should stick with "balanced approach"—it's hard to imagine a smaller tent we can all fit in.

Adding language to our consensus statement about financial stability strikes me as equally hopeless. Here the economics are even less developed and even more contentious. I don't think we have a clear sense of how much financial stability or instability we want or is optimal. So I don't see us finding a consensus way of doing that.

I'm not unalterably opposed to amending the consensus statement, in principle. Maybe with the passage of time and the accumulation of greater insights, we will be able to collectively improve on it. But for now, I think that it's served us reasonably well and we should leave well enough alone. Thank you.

CHAIR YELLEN. President Mester.

MS. MESTER. Thank you, Madam Chair. First, let me also thank Todd Clark, from my staff in Cleveland, and Bob Tetlow and Stacey Tevlin, from the Board, for the useful background memo and helpful advice and counsel. I'd also like to thank my fellow subcommittee members.

In my own view, the consensus statement has served the Committee well, and I commend the earlier communications subcommittee on their careful crafting of the statement. January marked the third year in which a statement was issued, and, as indicated in the January meeting, the Committee decided that this year would be an appropriate time to consider whether the statement could be enhanced in any way. So I view the discussion today as following through on that decision. However, I want to reiterate that a decision to make no changes to the statement should not be viewed as a failure to complete that mission. We should be open to considering changes, but I think we should set a high bar for making changes to the statement. For one thing, the consensus around the current statement is valuable and worth preserving. I agree with

President Lacker's view that the statement is meant as a set of principles, and I think it means it should be fairly static. If it's changed too often, it could lose its effect. Finally, as President Plosser pointed out, depending on the nature of the changes, it might be better to delay any changes to a time when we are closer to our goals and normalization is well under way, lest we be accused of changing the rules of the game midstream and confusing matters rather than clarifying them. So I personally don't see a compelling reason to change the language of the consensus statement, but I do see value in having the discussion on longer-run goals and strategy.

Regarding the inflation goal, I believe the public perceives our inflation goal as a symmetric target. A number of Committee participants have said in speeches that persistent inflation above our goal and persistent inflation below our goal are both undesirable. But I want to note that a shared view on the symmetry of the 2 percent inflation target does not necessarily mean that there's agreement on the policy to achieve it. I don't think there's that much to be gained by changing the language on this. But should there be a consensus to do so, I would not object to an appropriate revision acknowledging symmetry and clarifying that inflation can be expected to vary in the short to medium run, but that, over the longer run, we aim for 2 percent inflation.

Regarding financial stability, before making changes to the consensus statement, I would prefer the Committee to have a fuller discussion of its approach to financial stability, the tools that it will use and their efficacy in addressing financial-stability issues as they arise, and the nexus between monetary policy and financial stability. I think we'd benefit from further work on these issues by Governor Fischer's Committee on Financial Stability and others at the Board and in the System. The FOMC might then discuss its preferred approach and, in light of that

discussion, consider potential revisions to the consensus statement later next year or further in the future.

I am perhaps most trepidatious about making changes to the “balanced approach” language. I admit that it is ambiguous, and, in the abstract, it perhaps would be desirable to clear up some of that ambiguity. On the other hand, it is not clear to me that the language could be clarified in a satisfactory way to encompass the nuances of various interpretations, economic models, and approaches to monetary policy around the table. So before making such a change, we might do well to have a fuller discussion of loss functions. Before we can even ask about the weights in the loss function, we need to first agree on the form of the loss function and its components. Do we agree that the loss function is quadratic? How do we think about the treatment of financial stability in the loss function? Unless we have such a discussion, it would be premature to change the “balanced approach” language, which, in the end, seems to have done a very good job of balancing many considerations.

The last question on the agenda was about the SEPs. I do think the SEPs are valuable. I could see that they could be improved with further enhancements. And perhaps we should think about a consensus forecast again. We took this up in 2012. We were not successful. As we approach normalization, we have fewer tools on the table. Now that policy is getting to a more normal footing, maybe we can take this up again. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Madam Chair. The longer-run policy statement is a consensus document that is intended to capture broad agreement by the Committee. Because it’s a longer-run statement, I would have a high threshold for making any changes to the statement. While I agree that more precise language is possible that makes even clearer that our inflation

target is symmetric and not a ceiling, I think the previous Chairman made that quite clear in his press conference. Similarly, his press conference made clear that there was a balanced approach to the dual mandate, a position I strongly endorse. Given the broad acceptance of the previous Chairman's comments in the markets, I see little advantage in relitigating these issues. The risk is that, rather than simply clarifying what I see as critical elements of the framework—symmetric attention to inflation deviations and balanced responses to both pillars of the dual mandate—we could raise a question in the markets as to whether we are now or continuously reconsidering one or both of these elements. In my view, any uncertainty about symmetry and balance would be counterproductive.

In terms of financial stability, I think this is a good area in which to seek a broader consensus on how we define financial stability, as well as the appropriate responses of the central bank to incipient or full-blown instability. I am not optimistic that a consensus can be reached by January. However, I do think it would be productive to have a special session in which we can have a structured discussion on the role that financial stability should play in our monetary policy deliberations.

I also believe that it might be useful to consider whether there is a consensus that there are times when we would make monetary policy to address financial-stability concerns even though it might move us away from our inflation and employment targets. Once we have a clearer, common understanding of what financial stability means and when it would affect monetary policy decisions, we could then discuss how it might be incorporated into the longer-run policy statement. Also, there might be some advantage to thinking about a consensus forecast over time as well.

CHAIR YELLEN. Thank you. President Bullard.

MR. BULLARD. Thank you, Madam Chair. My comments are going to strongly echo what's already been said here, so I'll be brief.

The consensus statement established an inflation target for the United States. Therefore, it's quite an important document for this Committee. Previous to that, the FOMC did not have an official inflation target. I think that establishing an inflation target has been quite valuable to the Committee during this era of very low inflation. It could have gone very differently if there had been some doubt that maybe a large fraction of the Committee thought 1 percent inflation or 0 percent inflation was okay. That could have led to very different dynamics for the U.S. economy. So it's actually been quite helpful to adopt the inflation target, as former Chairman Bernanke predicted at the time.

My general feeling, echoing many of the previous comments, is that the statement does not require modification. The statement is written in a way to garner widespread consensus around the table—I would not want to disturb that consensus. I think that trying to change the consensus statement before we return to a more normalized policy environment—that is, this coming January—carries substantial risk of muddling our near-term policy intentions in the minds of financial market participants and the general public. So I recommend no change.

I have a few comments on specific issues that also echo the previous comments. I regard the inflation target as symmetric, and I've said so publicly on many occasions. Hitting the inflation target, on average, is closer to price-level targeting. In this sense, it's closer to optimal policy in many leading theories.

I think the “balanced approach” language is brilliant and should not be altered. It may seem fair to say that the weights on inflation and unemployment are equal or should be equal, but research on the topic suggests otherwise. If you read the literature, the actual weights on the two

objectives are going to depend on details of modeling assumptions, preferences, technology, and frictions that are in the model. Those parameters are all going to come together in a way to determine what the right weights are on the two objectives from the point of view of household utility, as President Lacker was saying. So it's just not clear that it always comes out to be exactly equal. That is something that seems as though it would be the right thing, but it's not.

As an example, I'll point out a favorite paper I like to quote to all of you here—Ravenna and Walsh. That's a New Keynesian model with explicit search-theoretic unemployment in it. You have the unemployment friction in there. You have the sticky price friction in there. You might have thought you were going to get roughly equal weights to balance the two frictions. That isn't what they got. They got pretty heavy optimal weight on inflation. That's just the outcome of one piece of research, but I think the nature of research shows you that it's not going to come out to be equal and it could go the other way. It could be that other types of models with other types of assumptions would put heavy weight on the unemployment side and less weight on the price-stability side. So it's just not something that naturally falls out of models, at least in my experience. Another example, one from the older research literature, is Rotemberg and Woodford, who calculated optimal weights in their model that certainly were not equal.

On financial stability, I agree with the previous comments that this would be very difficult. Anything beyond what's in the existing consensus statement would be very difficult. There's a clear lack of consensus on models or even approach on this issue around the table. It's an issue of our time. It's a macroeconomic issue of first-order importance. But I don't think we have anything like the right approach or language to be able to put it into a statement of this kind. How the Committee should react to asset price bubbles remains a vexing issue, as it has been for

this Committee since the 1990s, and I don't believe we're likely to resolve it anytime soon.

Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Madam Chair. I tend to agree with those who've already argued to leave the statement unchanged at this juncture. I think the benefit versus the cost of changing the statement at this time doesn't add up for me. But should the Committee—and it doesn't appear to be the trend—decide to consider adjustments, here are my views.

Our preferences should be symmetric around the 2 percent inflation objective. I'd object to any change that suggests an asymmetric preference. I think there is some risk in fiddling with the language that is already interpreted in a way consistent with the Committee's intentions.

I'm satisfied with the current "balanced approach" language. It adequately captures the general principle that the Committee gives due consideration to both elements of the dual mandate. I don't think more explicit language is likely to do justice to the diversity of views about how that principle would be applied tactically by various members of the Committee across a wide range of circumstances. In my view, tactical flexibility—in which more emphasis is put on one element or the other, depending on circumstances—should be preserved. I don't think risk-management nuances, for instance, are easily captured by a more narrowly constructed explanation of "balanced approach." Also, in reaction to a deviation of inflation from our objective, my emphasis on the inflation side would depend on my reading of how solidly inflation expectations are anchored.

As regards further clarification of how financial-stability considerations relate to the dual-mandate goals, I am comfortable with the current language. In my view, financial-stability concerns should be given consideration in monetary policy, as opposed to macroprudential

policy, to the extent that there's a threat to the attainment of our price-stability and employment objectives. I think the current language is flexible enough to accommodate incorporating financial-stability considerations into policy decisions if, in the Committee's judgment, the threat to our statutory objectives is sufficient and we believe monetary policy tools can be effective.

Regarding SEPs, I've already said in earlier meetings that I favor a review of this element of our communication tool set. I'd like to see another try at a consensus forecast. In a conversation with President Rosengren—and correct me if I misinterpret what you said—he noted that the Bank of England's Monetary Policy Committee actually votes on whether the forecast is the consensus, as opposed to agreement with the forecast. That's a distinction that struck me as providing some potential for us to take another look at this and possibly succeed. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Fisher.

MR. FISHER. Thank you, Madam Chair. I think Governor Tarullo summarized this adequately and appropriately. The better argument is the Hippocratic argument, which is to do no harm in the end. And I would suggest that we worked very hard, as was mentioned earlier, to achieve a very delicate balance here. I'm worried that if we open this up, centrifugal force might just tear it apart at a very delicate time as we approach liftoff.

Having said that, I want to make a couple of comments very quickly. With regard to the first question and the 2 percent longer-run objective, just to clarify in my antepenultimate meeting, I have no problem with a strategy that has policy respond symmetrically to above-target or below-target inflation, as long as inflation is appropriately measured. I think we want to be very careful not to give the impression, though, that deviations of inflation from target are always undesirable. Supply-driven inflation deviations can actually improve resource allocation

and the distribution of risk in the economy. Accordingly, I don't think we should deduct price-stability penalty points from the grade we assign policy just because realized inflation is off target over a period. To me, genuine signs of poor policy are significant fluctuations in medium-term average inflation that are not linked to real activity and any indication that, as President Lockhart just said, expected average inflation at medium-term horizons and even longer is not firmly anchored. That's what I worry about. But I have no problem with having a symmetrical approach to inflation.

With regard to the case for changing the use of "balanced approach," the memo—I thank you and the subcommittee for putting it together—appropriately says that the primary reason the Committee might determine that it would like to change the "balanced approach" sentence is that it is vague. However, I view specificity as also having a downside. It can take us to a stated plan of action, and, if we deviate from said stated plan, it could undermine our credibility. I've argued many times at this table, as any businessperson would, that certainty clearly helps decisionmaking, uncertainty undermines decisionmaking, and false certainty is a destructive force. And, for what it's worth, I view central banking and economics to be a judgmental art form and definitely not a science. I think the mathematization and quantification of economics have helped but are no substitute in the end for judgment, and I would not argue for anything more specific than what's already in the consensus statement as written.

Lastly, with regard to the issue of financial stability, there is some wiggle room for doing this, in that the act calls for us to maintain moderate interest rates, but I'd be very careful here. First of all, financial stability is not exogenous to monetary policy. In fact, it's implicit in it. I would suggest that we not tamper with the way the statement currently reads.

Here's the bottom line, Madam Chair: My approach is, do no harm—leave it as it is.

Thank you.

CHAIR YELLEN. Thank you. President George.

MS. GEORGE. Thank you, Madam Chair. I appreciate the work of the subcommittee and staff to give us a head start on considering whether changes to the statement are needed. My own conclusion is that the statement has done a pretty good job of representing a consensus at this table and has held up well in the public eye over the past few years. Given that, I would not revise the statement, particularly at a time of heightened interest in and attention to policy normalization and related communications.

Quickly, in terms of the questions, I view the Committee's goal of longer-run inflation at 2 percent as a symmetric target. If inflation moves above 2 percent, as it did throughout most of 2011, it warrants the same level of concern and monitoring as when it's running below 2 percent.

Regarding the balanced approach, my view is that paragraph 3 of the consensus statement offers the necessary context because it rightly notes that firmly anchored inflation expectations are key to meeting our objectives. Determining the relevant monetary policy stance by ascribing weights to either inflation or employment could be misleading and oversimplifies the policymakers' considerations.

Finally, I am comfortable with the current statement's treatment of financial stability. While I firmly believe the setting of interest rate policy should avoid promoting conditions of undue risk-taking and potential financial imbalances, I would question whether we can credibly elevate financial stability as a primary objective of monetary policy rather than a necessary condition for achieving our longer-run goals. However, to the extent that we rely on macroprudential and supervisory tools as the first line of defense, I do think we should have a

clear understanding and confidence that these mechanisms can effectively perform, even if it is imprudent to assume that they can be consistently relied on.

In terms of other areas for improved communication, I'm open to considering again the value of a consensus forecast, but I think the Committee already made a serious effort in that direction and encountered substantial obstacles. So I'm mindful that, with policy normalization and its attendant communication challenges, we might be ahead to maintain some consistency and defer further adjustments to the SEP or a consideration of a consensus forecast until after we deliver a successful exit and return to more normal policy stances. Thank you.

CHAIR YELLEN. Thank you. President Evans.

MR. EVANS. Thank you, Madam Chair. There doesn't seem to be a lot of disagreement, but I prepared these comments, so let me go ahead.

Turning to the specific questions we were asked to address, on the first, regarding symmetry, I'd always thought our original Committee agreement was that the inflation objective is symmetric. I don't recall anyone disagreeing during our subsequent FOMC deliberations when we have discussed that longer-run inflation expectations are supposed to be 2 percent, according to our monetary policy strategy. Symmetry and "balanced approach" clearly support this expectation for the public. Chairman Bernanke publicly stated that our 2 percent was not a ceiling—it was symmetric. Many of us around the table have said the same.

Any hint that the Committee is unsure about the symmetry of our inflation objective would make its achievement vastly more difficult now. To date, the only sustainable achievement of our 2 percent objective has been in our years-ahead forecasts. So I can see a case for further clarifying our current commitment to symmetry. Although I recognize there's not much taste for this, I think it would be a positive step for expanding transparency. One way to

accomplish this would be to add a new third sentence in paragraph 3: “The inflation goal is symmetric, and the Committee expects inflation to average 2 percent over sufficiently long time periods.” The public can easily understand that success with respect to our inflation objective will lead to 2 percent inflation, on average.

On the second question, I currently see no reasonable path for the Committee to elaborate on the “balanced approach” language in paragraph 5. It was a difficult task to get to this very general language in 2012. This language encompasses the range of views on the Committee in a workable fashion. On the issues of weights on our dual-mandate objectives, I believe our current “balanced approach” language captures well the equal footing of maximum employment and price stability as codified in the Federal Reserve Act. Stating numerical weights would give an illusory precision for our policy strategy, especially as details such as changes in the Okun’s law relationship could modestly alter the numerical mapping between output and employment and unemployment over time.

Now, on financial stability, I do not think we’re intellectually close to a point at which we can go beyond what is currently in the consensus statement . But let me talk about that at greater length for the benefit of the newer FOMC members, who weren’t here for our March 2013 discussions, which I think are pretty informative on the range of policy considerations. Financial instability risk is an important concern for public policymakers, but I’ve not heard a convincing argument for why it should be another separate objective for the FOMC. Yes, I strongly support the use of our supervisory and macroprudential tools. This approach falls under the category of using financial instruments to address financial-stability objectives and reserving monetary instruments to address our dual-mandate monetary policy goals.

Although it sounds important to at least acknowledge the possibility that, at some time, the FOMC might have to make a difficult financial-stability call to tighten monetary conditions at a time of low inflation and low employment, I cannot yet imagine supporting even hinting about this unless we had a much better analysis of the likely effectiveness of such actions. Recent efforts to use modestly higher interest rates in Norway and Sweden were ineffective for addressing the stated financial risks, and, in Sweden, inflation has been well below its target. Chairman Greenspan spoke of this type of action back in 2002, I believe, at the annual Jackson Hole symposium. He essentially concluded that the kind of rate increases needed to rein in excessive financial market risks would require cracking the economy. That's my paraphrasing of what he said. He said it would engender a bad economic outcome. Both of these comments are simply reminders that, if monetary policy tools are called on, being effective at rooting out financial instability risks will almost certainly require substantial increases in short-term policy rates. That means higher unemployment, and lower inflation, than our objectives.

Using the blunt tool of monetary policy to address financial instability risks reminds me of treating a sick patient. After discovering a growing malignancy in a relatively already unhealthy patient, doctors are considering two tools—surgery to remove the malignancy or chemotherapy. Chemotherapy is a blunt tool and will damage the overall health of the already sick patient, but the hope is to rid their body of the malignancy. Surgery is a more direct tool, and you can imagine that that's preferred. But the malignancy may be inoperable, and surgery is not feasible. In situations like this, blunt tools may be the only hope anyone has. If the FOMC faced an analogous extreme situation and contemplated raising short-term policy rates against the best interest of our employment and inflation objectives, I would expect we would also state very loudly that, first, a malignancy on the financial system had made this imperative; and, second,

there was no choice but to remove the root causes of those malignancies as soon as possible. I can't imagine taking this action without stating how dangerous the financial market structure was for the U.S. economy that we had had to take such action.

To sum up, we just aren't anywhere close to the point of being able to describe the conditions for tightening monetary policy to address financial-instability concerns that would result in a better path for unemployment and inflation relative to our mandated goals. Until we are sure of that, we shouldn't change the reference to financial stability in the consensus statement.

Finally, although I'd like to see the subcommittee explore enhancements to the SEP, I'm not optimistic that we'd be able to get to a consensus forecast. But it's a worthy objective, if somebody has the time to try to pursue that. Thank you, Madam Chair.

MR. FISCHER. Can we mobilize him for the subcommittee?

CHAIR YELLEN. He served on the subcommittee that drafted the statement.

MR. EVANS. Oh, and I agreed with President Plosser's comments.

MR. FISCHER. I was just wondering whether we could get you onto the subcommittee as an additional member.

MR. EVANS. I'm happy to do whatever you'd like.

CHAIR YELLEN. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Madam Chair. I want to thank the communications subcommittee as well as the authors of the accompanying memo—Bob, Stacey, and Todd—for their hard work in setting up this discussion. Even though we may end up not making changes—and it seems as though we're heading that way—I think it's important for us to have this conversation to understand where we stand. In thinking about the statement, the

value of the statement is not simply that it is a consensus, but that it actually provides a description of our longer-run goals and strategies. And it's helpful for us to talk about what that means to us on a not infrequent basis.

With all of that said, as many have noted, there's a very high bar for changing the document. It's a quasi-constitutional document. We should treat it with that kind of respect. I will make a couple of recommendations for changes—one that I feel very strongly about and one that I feel less strongly about—but those recommendations are made with the idea that this is a quasi-constitutional document.

Let me turn to the issues raised by the subcommittee. In terms of symmetry, I'm very glad to hear the enthusiastic endorsement of symmetry that I've heard around the table, and I think it would be helpful for the minutes to reflect that strong endorsement. I'm very comfortable with where we stand on that. As Governor Tarullo hinted, sometimes it's hard to see that strong endorsement of symmetry in all of the communications that are coming out of the Committee. But I think that having the minutes reflect that is going to be very helpful.

In terms of “balanced approach,” I'm sympathetic to Governor Tarullo's view that the language in paragraph 5 is vague. But as I've talked about on other occasions, I actually have found this language very helpful in providing valuable structure to my decisionmaking. I think it emphasizes a key point that's often forgotten—that our mandates are typically complementary. It recognizes that tradeoffs can exist in our mandates. It informs the public that we will not favor one exclusively over the other. And, finally, it appropriately emphasizes that monetary policy is based on a forward-looking evaluation of mandate-relevant macroeconomic variables—one based on projections—not on a backward look at the economy. I think all of these are very valuable.

I do have a small word change that would be helpful. In the first sentence of paragraph 5, there are two uses of the word “from.” I would recommend changing the second “from” to the word “below.” I think this would clarify that we are concerned about employment being too low and not too high. As it is, people could read the statement as saying that the FOMC is working toward not having economic activity be too high. So that would be my suggestion. Is it clear what I’m trying to describe?

MR. FISCHER. It’s absolutely clear.

MR. KOCHERLAKOTA. Okay. Paragraph 5 says “In setting monetary policy, the Committee seeks to mitigate deviations of inflation from its longer-run goal and deviations of employment from the Committee’s assessments of its maximum level.” I would say “deviations of employment below the Committee’s assessments of its maximum level.” So that’s my suggestion for a small change. I don’t feel strongly about that, but, certainly, I think it’s more in keeping with what the second mandate, the full employment mandate, really should mean.

The issue I do feel more strongly about is on financial stability. I’ve heard a number of people suggest that it’s too early to talk about this, and that the intellectual foundations of that are not clear. The intellectual foundations of much of what is in the statement also remain unclear, and I think President Lacker spoke to this very well. We’ve crafted a consensus statement that has served us well despite that, and I think we have to do that on financial stability as well.

Over the longer run, I expect that the federal funds rate will converge to about 3¼ percent. That’s low by historical standards. And there’s uncertainty around my longer-run estimate. There’s a distinct risk that the longer-run federal funds rate could be 1 or even 2 percentage points lower than my estimate. If interest rates do remain this low, I am sure that

policymakers will be concerned about risks to financial stability. I would expect that the FOMC will put weight on these financial-stability considerations, at least insofar as it perceives that that incipient instability creates a risk for the achievement of its dual-mandate objectives. Indeed, as I understand their comments, some participants in the FOMC may already be putting weight on those considerations.

The issue, then, is, does the current language accurately capture this role for financial stability? I think paragraph 2 is quite helpful along these lines, and President George and President Rosengren were very helpful in originally getting us to this point about “including risks to the financial system that could impede the attainment of the Committee’s goals.” That’s the way it’s referred to in the second paragraph. The problem is that once we get to what I see as the action paragraph of the statement, paragraph 5, the link between financial stability and our policy decisions is less clear. Actually, this is a more general issue. Paragraph 2 describes how risks to the outlook, including those for financial stability, play a role in our deliberations. But then when we get to paragraph 5, that reference to risks is dropped. So let me suggest adding a sentence to the end of paragraph 5: “The Committee also takes account of the risks to its projections, including risks related to financial instability, as well as the impact of monetary policy on those risks.” I think this is very much in keeping with the dialogue I hear around the table all of the time referring to risk-management issues. It takes into account the possibility that we’re able to affect risks; it’s not just that we’re reacting to them. And it reflects what we have in paragraph 2. As I say, I feel more strongly about this. I understand that the sense of the Committee is, “Boy, we’ve got the perfect statement—or at least perfect enough that we don’t want to change it.” But I think the statement should reflect the factors that are actually going

into our decisionmaking, and financial stability is likely to play an increasing role as we move on.

Let me mention three other issues. And this is going beyond amending the consensus statement. I don't think the consensus statement—what I would call the longer-run goals statement—is playing the role that it could and should play in our decisionmaking. The FOMC statement routinely makes little reference to it, except to the 2 percent target. So I'd really encourage the communications subcommittee to explore ways in which the longer-run goals statement, and especially paragraph 5, could be better used. We should always be able to explain how our current decisions are fitting into the framework described in the longer-run goals statement. We should be able to give that explanation in the FOMC statement itself.

I'm a big fan of the idea of a consensus forecast. I thought President Lockhart's idea was a very interesting one—that maybe we could be ascribing what we all agree is the consensus, even though we don't agree with the consensus. That's a very interesting idea that's worth exploring. Even if we don't get to a quantitative consensus forecast, I'd really encourage us to work toward having a qualitative one.

In the consensus statement, paragraph 5 talks about employment and inflation projections, implying that a forecast of some kind is playing a role in our decisions. I think the Committee should be able to provide a verbal description of that forecast and its attendant risks in justifying our decision. The September FOMC statement has a partial description along those lines. It refers to labor market indicators and inflation moving back toward our dual-mandate objectives. But we could be more detailed. Do we expect that that convergence will take a few years, less, or more?

The final comment I'll make will, I suspect, have very little support in the Committee, but I would hope that we can work toward this over time. Our 2 percent target will be much more meaningful if it has some notion of a benchmark time horizon. President Lacker referred to a preoccupation with low inflation, which I assume was somewhat directed at me. We could also have a preoccupation with high inflation, and the inflation target will be more meaningful on the high side if we're thinking about getting back to target within a benchmark time horizon. Other central banks have that benchmark time horizon. It doesn't mean we have to get back there in that time horizon. But it's a benchmark—say, two years. We talk about that. We explain to the public why we're not able to do that at this current time. I think it would make our description of having a target have much more content. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. President Williams.

MR. WILLIAMS. Thank you, Madam Chair. The consensus statement has served the Committee well over the past three years. It facilitates clear communication by providing a publicly agreed-upon, shared language to describe the overarching principles that guide our decisionmaking. And, importantly, it has helped clarify the terms of our debates and disagreements. When we disagree, it's not about the longer-run goals or strategies but how they apply to a specific situation. As a concrete example, if inflation is 1½ percent, it's not just my personal view that inflation is too low. It's the Committee's clearly articulated view that inflation is too low.

Now, because of this shared language, the consensus statement is a foundational document for all of our communications—including our statements, press conferences, speeches, and interviews—so it's important that we review the consensus statement regularly. I'm echoing comments by President Kocherlakota. We want to make sure that it's well aligned with our

decisionmaking and with our other communications. Even though I am hearing a lot of comments about there being no need for a change, I still think this process is a healthy one, and I've learned a lot from the comments I've already heard so far today.

With those comments in mind, I'll now say a few words about the three questions. First, I personally view the 2 percent goal as symmetric in that inflation should, on average, over time, be close to 2 percent. And then our desire to return to 2 percent inflation does not depend at all on whether inflation is running above or below the target. I think this message is sharp, clean, and clear. When clearly communicated, symmetry provides a consistent anchor for inflation whether we're above or below our objective. In contrast, a lack of a clear statement of symmetry can be confusing, and here I'll give the example of the ECB. It has articulated in the past an inflation target of below, but close to, 2 percent over the medium term. This opaque formulation has led to various interpretations. Is this a ceiling or a target? So we want to avoid that.

Second, the "balanced approach" language respects the principle that both of our mandates are important for our decisionmaking, and that neither is subordinate to the other—that is, they're on equal footing, and, importantly, we don't have a hierarchical mandate. Now, I don't see a great deal of benefit, even if it were possible, in getting more precise about whether the weights in the loss function are literally equal. After all, even with somewhat different weights, we can still reach broad agreement on policy decisions most of the time.

In thinking about both symmetry and "balanced approach," I find it hard to think through concrete examples of this language because, in doing so, you start realizing we are not truly symmetric in our preferences over different outcomes. For example, zero percent inflation carries with it a lot of different costs and potential risks, compared with 4 percent inflation. So the "balanced approach" language actually does serve us well—it's accurate.

Third, concerns about financial stability are best viewed as part of the broader category of longer-term probabilistic risks to achieving our dual mandate. Financial excess is often built slowly, but, when bubbles pop or systemically important banks fail, it can be challenging, if not impossible, to achieve either maximum employment or price stability. For this reason, risks to financial stability need to be part of our ongoing policy discussion. Importantly, though, financial stability is not the only source of longer-term probabilistic risks to our goals that we regularly discuss here and that influence our policy decisions. Other examples we've discussed in recent years include concerns about deflation, the zero lower bound, and the loss of anchored inflation expectations. Each of these, I think, is under the same general rubric of concerns about tail risks or, more generally, probabilistic risks to the outlook.

Issues like these are already part of our ongoing discussions under the broader risk-management rubric. Therefore, it could be useful—and I'm picking up a theme that President Kocheerlakota raised—to include some reference to risk management, broadly defined, in paragraph 5 of the consensus statement describing how we navigate tradeoffs between our goals. This would echo the “balance of risks” reference at the end of paragraph 2, which I actually think is really well worded. Such an approach would be preferable to adding explicit reference only to financial stability in paragraph 5, for a couple of reasons. One is, I do think that suddenly adding a clause about financial stability explicitly to paragraph 5 might be misinterpreted as a statement of a change in our conduct of our policy rather than a clarification of our existing strategy.

Also, just as a matter of factual content, financial-stability concerns are a subset of many of these probabilistic risks that we do think about under risk management. The sentence in paragraph 2 really captures this right: “The Committee’s policy decisions reflect its longer-run goals, its medium-term outlook, and its assessments of the balance of risks, including risks to the

financial system that could impede the attainment of the Committee’s goals.” That sentence nailed it, and I think finding a way, potentially, whether over the next few months or next year, of echoing those comments in paragraph 5 would be useful. But, again, I agree with many people in the room that we don’t really know the answer to how we bring financial stability specifically into monetary policy decisionmaking. But it would be helpful to include some notion of risks to the outlook being an important part of our decisionmaking, because they are. Thank you.

CHAIR YELLEN. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Madam Chair. What I’m hearing around the table is pretty much where I am: The consensus statement we have is pretty good in the sense that it reflects the consensus that we could all subscribe to—the smallest tent we could come up with, as President Lacker said. I’m quite skeptical that we’re going to be able to improve on this to a sufficient degree to justify bringing this forward to the public. So my view would be that the subcommittee could spend its time on other things, and what I’m going to argue for is spending time working on developing a consensus forecast, because I think that would really be something that is achievable. Other central banks have done it. We could do it, too, and I believe it would also solve a lot of the issues with the SEP, frankly.

Before I get into that, though, let me talk a little bit about the three questions. On the symmetry of the inflation target, I think it’s actually a little trickier than what people have been laying out. We’re basically saying we agree on symmetry within small intervals of 2 percent. So between 1.99 and 2.01 percent, we’re completely symmetric, but I don’t think we’ve agreed that we’re completely symmetric in the case of 0 versus 4 or minus 2 versus 6. What we really want to say to people very clearly—and maybe it doesn’t have to be in the consensus statement,

but maybe it could be in the minutes—is that we don't think 2 percent is a ceiling. We basically are targeting 2 percent and would expect to spend roughly half the time slightly above 2 percent and about half the time slightly below 2 percent, and that's really what we're for. But I don't think symmetry is quite right, because I don't feel symmetric as I get further and further away from 2 percent because it depends on the economic circumstances. For instance, if you told me that I was at 1 percent inflation and real GDP was growing 8 percent, I wouldn't be too worried about inflation being 1 percent. But if you told me that real GDP was growing 0 percent, then I'd be quite concerned about it. So I don't think symmetry really holds up on examination.

In terms of the balanced approach, I completely don't believe we should try to do any further elaboration, and I think it really captures the fact that we pay attention to both of these things. I don't believe an equal-weights rule is a good one. How much weight you put on the two objectives depends on how far you are away from the objectives. And it depends on the particular economic circumstances. In my own mind, how much weight I put on 1 percent inflation versus 2 depends on a whole bunch of other things that are going on in the economy that affect the economic outlook. So my weights really change over time dynamically.

In terms of financial stability, I'm not against trying to put financial stability more explicitly into the consensus statement, but I think it's tricky. I don't see financial stability as a third objective of monetary policy, so I don't like seeing monetary policy being set to achieve financial stability. I guess I see it a little differently. I see financial stability as a necessary condition to be able to achieve our dual-mandate goals over time. If you don't have financial stability, then the transmission channels of monetary policy are impaired, which disrupts the effectiveness of monetary policy in achieving the Committee's objectives. That's different from saying we're going to conduct monetary policy with a goal of generating the financial-stability

outcomes we want. I think monetary policy is a really blunt tool and not a very effective tool, quite frankly, in terms of responding to financial-stability concerns. The causality matters: Is it monetary policy driving financial stability, or is financial stability something that's taken into consideration in terms of how you conduct policy?

Let me turn to the consensus forecast. We all recognize that the SEP and the dot plot aren't so great. They're not so great because they don't really represent very well where the mass of the Committee is, and they're not very good, because there are all of these modal dots that people actually think represent some sort of uncertainty when, in fact, all they do is represent disagreement. So I think it would be far better for the Committee to have a consensus forecast. The question is, how do you get to that point?

As President Lockhart referenced—actually, I had a conversation with President Rosengren, and then President Rosengren had a conversation with President Lockhart. Let me tell you about the original conversation I had. I was talking to Ms. Shafik, who's a deputy governor of the Bank of England, and I asked her, "How does the Bank of England manage to come up with this *Inflation Report*, and why aren't there dissents by Monetary Policy Committee members from the *Inflation Report* projection all of the time because, obviously, people probably won't necessarily agree with that consensus view of things?" She said exactly what President Lockhart said: "Well, the reason why there haven't been dissents"—in a decade, she said, and I don't know if that's correct or not, but that's what she told me—"is that you're not agreeing with the forecast. You're just agreeing that the forecast that's in the *Inflation Report* represents the midpoint or the weight of where the committee is."

I think we crashed on the shoals of "Gee, do I agree with this forecast? Do I not agree with that forecast?" If we moved to this different formulation for the consensus forecast, it

would actually be much more possible for the Committee to sign up for something like this. So this is what I'd like to have the subcommittee on communications work on, because if we were to move to a consensus forecast, that would really further the goals of the Committee substantially. There's only so much time in the day. There's only so much energy we all have. I guess I would prefer to put that energy into working on a consensus forecast and see if we can actually get to something.

One last point on the consensus forecast. Remember the other thing we got hung up on regarding the consensus forecast was the fact that we didn't know how to specify the monetary policy assumption because we disagreed about how much asset purchases we're going to do. Well, that probably is not an issue, at least in the near term. So maybe that obstacle we faced before is going to be less of an obstacle in the future, but I'll let the subcommittee on communications work on that.

MR. FISCHER. Well, it'll have a great effect on the public when we say, "Well, we've suspended the consensus forecast for a few months because we can't agree on policy."

VICE CHAIRMAN DUDLEY. But, again, all you have to do is to agree that the Committee agrees that this is the midpoint of where the Committee is on the monetary policy assumption, so I still think it's possible you can get there. Anyway, this would be worthwhile to pursue. I'd be curious about what other people around the table think.

CHAIR YELLEN. Governor Powell.

MR. POWELL. Thank you, Madam Chair. I would join many others around the table in saying the consensus statement has provided real value. It's constitutional in nature, and so, to me, it's natural that there would be differences that need to be papered over—I'm okay with that. I'll also join the Hippocratic brigade of doing no harm.

Turning to the three changes, I do see the 2 percent medium-term inflation objective as symmetrical, and I would view modest deviations from that objective symmetrically. I think the word “modest” is important here. I’m echoing what Vice Chairman Dudley said earlier, in a sense. I just don’t think we should be contemplating more than modest deviations. Once you get outside of that band, it’s not at all clear to me how to think about symmetry. I’d be prepared to say publicly that the objective is symmetrical. Indeed, the former Chairman did that, as Bob mentioned, at the April 2012 press conference. He said that the medium-term objective, 2 percent, is “not a ceiling, it’s a symmetric objective.” And I do think it could undermine the Committee’s credibility if the markets were to conclude that 2 percent is, in effect, a ceiling.

On the balanced approach, I like the existing formulation, and I take the statute to mean that the Committee sees the two sides of the dual mandate as of equal weight. In fact, I don’t really see a plausible way to read the statute as suggesting different weights. It’s an interesting thought to me that we can have models that, for example, might conclude that we should focus on one and ignore the other. I don’t know how that would work in connection with a statute that tells us to address the two of them. It doesn’t say, “All of you make up your mind about which of these is more important than the other.”

I’ll move on to financial stability. Like others, I would leave the language as is here. There really isn’t a consensus about the role of financial stability in monetary policy decisionmaking or about the efficacy of regulation. This sentence at the end of paragraph 2 really captures it very nicely, and I wouldn’t want to see any changes.

To wrap up, there seems to be pretty broad agreement around the table—not unanimous, but pretty broad agreement—to do basically nothing about the statement, and that will leave our subcommittee with, perhaps, some bandwidth, although there are some things to consider,

clearly, in the wake of this. My own view would be that I was very hopeful we were going to get there on the consensus forecast the last time we looked at it, and I was left with a feeling that it would have been really useful to get there. I was disappointed that we didn't and would love to take another shot at that. In addition, there are clearly some things that could be improved with the SEP. So I look forward to that work. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Governor Brainard.

MS. BRAINARD. Thank you very much. I found this conversation very illuminating. I do also view this document as somewhat constitutional. And, as somebody who was not involved in crafting it, it is very helpful to hear about the thinking that went into it on the part of the drafters.

Let me focus a bit on the third question, because I do see the statement as a relatively clear and robust explanation of how the Committee views the two individual parts of the dual mandate and possible tradeoffs between them. However, to my mind, it does not adequately address financial stability, which I consider to be an implicit third leg of our responsibilities in this area. I also would not want to see financial-stability risks called out as a pressing consideration in our current monetary policy deliberations, but it is important that our longer-run goals framework clearly acknowledges the reality that we do take into account, and should take into account, financial-stability risks in the formulation of monetary policy.

I don't think we can be too precise or prescriptive at this juncture. Neither the Committee's practice nor the research is sufficiently settled to clearly state, for instance, the prioritization of macroprudential tools and monetary policy in combating financial-stability risks under different circumstances or to specify the circumstances under which we might be willing to tolerate some deviation from either leg of the dual mandate. But I do think we want to

acknowledge that the Federal Reserve’s mandate encompasses financial stability, and that it is central to our deliberations.

In my view, financial stability has been central to the Federal Reserve’s mission and mandate since its inception, although it has been, for the most part, implicit and not clearly called out in the statutory language until we saw the provisions on the Federal Reserve’s prudential responsibilities in Dodd-Frank. Nonetheless, if you think about the creation of the Federal Reserve and the major changes to it over its history, they’ve, in most cases, been in response to major events of financial instability.

It would also be a mistake to confine the use of monetary policy to being a last resort, for a variety of reasons. First and most obvious is because there have been instances of extreme financial stress in which monetary policy has been the tool of first resort, and we should remember that. Moreover, we may need to rely more heavily on monetary policy relative to macroprudential tools, compared with some other central banks, for several reasons. First of all, we operate in a highly fragmented regulatory environment and in a system in which the capital markets play a bigger role in the financial markets than they do in many other systems. And, second, we have somewhat limited macroprudential tools relative to some other central banks.

We’re making huge strides in building structural resilience. But I think we’re likely to find, as we continue on in this work, that we’re somewhat hampered in our macroprudential toolkit—possibly on constructing time-varying tools that address time-varying sectoral risks and, certainly, on tools that address the borrower side, such as loan-to-value ratios and debt-to-income ratios, which have been proven to be among the most powerful tools in combating the most damaging kinds of financial-stability risks. If you think about what we are capable of commanding—in contrast, for instance, to the Bank of England—we have a much more

fragmented regulatory structure, with a number of regulatory entities that don't view their mandate as pertaining to financial stability. They are instead focused, for instance, on investor protections or consumer protections. And I'd say the FSOC is, so far, a highly imperfect answer to that problem.

In that context, monetary policy really is the only tool that works across the financial system to address periods of very rapid growth in private credit creation, and we may not want to take that off the table. Nonetheless, I think it's absolutely right, as many here have stated, that we want to be very modest at this juncture in terms of what we could say about how we're likely to address and view financial stability relative to the other two legs of the mandate. I don't agree that it's one risk in a list of risks. It is a risk for which we have more primary responsibility, and one that is endogenous, to a larger degree, with respect to the tools we have at our disposal. So, in that sense, I think we should call it out separately. And I like the proposal that President Kocherlakota put on the table. It does have an appropriate degree of modestness but also identifies this as an area in which we are going to intensify our work, which is, I believe, the case.

With regard to the other pieces, I don't think I can really add to the remarks that have been put on the table. The statement, as drafted, is actually quite good—very carefully crafted language on both the balance and the issue of symmetry. I think it would be difficult for anyone who has observed the Committee's actions over the past several years not to conclude that the Committee is prepared to act to counter inflation falling persistently below the 2 percent target.

With regard to the consensus forecast proposal, I wasn't part of the earlier effort. I can see the virtues of having such a forecast. I believe that, in the case of the Bank of England Monetary Policy Committee, that process is made considerably easier by the fact that they use

market expectations of rates, which means that committee doesn't actually have to agree on a monetary policy course in order to get to a consensus forecast. That's something you should take into account in deliberations over whether this is feasible for this Committee. Thank you, Madam Chair.

CHAIR YELLEN. Thank you. Let me return to Governor Fischer for a few comments as well.

MR. FISCHER. Thanks, Madam Chair. I'd like to say a few things about the discussion before you sum up, so I thank you for giving me the time.

There is widespread agreement on the view that the inflation target should be symmetric, leaving aside questions of what happens in extreme circumstances. Incidentally, it doesn't say that the function is "symmetric and linear." It says "symmetric." So you can say that 0 inflation is as bad, not as 4 but as 10, if you want—or 20 or something like that. You can have a function like that.

Let me go to the symmetry. It's nice that Ben Bernanke made statements in press conferences. I didn't know that, and I just read this report. I think a lot of people who didn't follow the press conferences with the attention that maybe they should have don't know that that's what the view of this Committee is. Everybody agrees on symmetry in the sense that the 2 percent is not an upper limit. So I don't see why you don't think we should try, without changing almost anything, to get the word "symmetric" into here. It seems to me it's a worthwhile statement.

On the balanced approach—Charlie, correct me if I'm wrong, but I think I wrote a paper trying to quantify the costs of inflation for the Carnegie-Rochester conference that you were organizing.

MR. PLOSSER. Yes.

MR. FISCHER. It was about 1980. You can try to estimate the costs of inflation, and you can try to estimate the costs of unemployment. You can actually develop, if we really wanted to work at it, attempts to see what those costs are. We're not going to do it, probably, because it's too much work. But there has been a common index in wide use in the profession, which is the misery index that Art Okun introduced—the sum of the unemployment rate and the inflation rate. That's not bad. That's symmetric—not around zero, I guess. Well, it depends on whether it's the absolute value of the index. After listening to the discussion, I'm inclined to think we would spend so much time trying to figure out what we meant by the current balanced approach that I suspect it's not worth working on a whole lot more, other than saying we take both of them into account. But that's my guess.

On financial stability, that's a very tough one indeed. The current constitutional document is based in the legal system, in laws relating to our mandate. I don't think financial stability is equally based. There's a slight problem there. Nonetheless, I liked a lot of what I heard around the table. I think that the key issue here is not how the Fed deals with financial stability but how the FOMC deals with financial stability. And that means we control the interest rate, and do we ever use the interest rate to deal with financial-stability issues? Now, President Evans used the Greenspan line: "Well, if you were just going to use the interest rate when the situation becomes untenable, you'd have to do so much to raise the interest rate that you'd destroy the economy." That prejudged the answer. We can't do it. We wait for the bubble to pop, and then we mop it up. The issue is, do we take financial-stability considerations into account in our interest rate decisions? We sometimes do, and then Lael pointed out that sometimes we do it right at the beginning and not right at the end. I think we ought to work a

little bit more on that, but we cannot develop the statement that implies it's on the same level as inflation and unemployment. It's got to be an instrument, an indicator, or something like that, but I would ask you to let me try to come up with something by December for you to look at.

On the consensus forecast, I can't imagine myself agreeing to a consensus forecast that I think is off significantly. When it comes to words, there are many different ways of describing a situation, and you're occasionally willing to trade this word for that word. But if we're forecasting a growth rate of 3 percent and I think it should be 1 percent, I'd have a hard time saying, "Well, I'm joining the consensus."

Most central banks that I know use the staff forecast as their forecast. They talk around that rather than around the committee forecast, and then the committee members are free to say whatever they want. Now, I've spoken to members of our staff. Their enthusiasm for this venture is limited. [Laughter] So my guess is, we're not going to get there. But it's, in fact, what we do today, and it's, in fact, what underlies the SEP, because the staff gives us the forecast, and you all—at least, I—decide, which side do I want to be on for each variable? And you go from there. We're, in fact, driving the Committee into commenting on the staff forecast. That's the outcome of the way the thing is done, and that's a very useful way of doing it, because we do get people saying what they think. A lot of things were said. I'm not sure we're going to get to a consensus forecast—that is, the Committee's consensus forecast. But we can take a look at what others do and at least provide information on how many purport to have a committee forecast and how many purport to have a staff forecast.

Dan raised a lot of issues, and his concern was that we don't mean what we say on inflation. But I don't think we'd all be talking about 2 percent if we didn't have 2 percent here. Without the 2 percent, you probably wouldn't have a basis for complaining about the way we

behave, because the complaint is, we're diverging from what we say our goal is. That's a valid concern, which this statement allows us to say.

I also think it's a very impressive document. If it's a constitutional document, then I think Jefferson is sitting with us, and we're very lucky. What would we be doing—amendments to the constitution?

MR. POWELL. A bill of rights.

MR. FISCHER. Yes, a bill of rights.

MR. TARULLO. Governor Fischer, I'm not quite seeing the parallel, but that's okay.

[Laughter]

MR. FISCHER. In any case, my guess is that there will be very small changes, if any, but I think you could make a little progress on symmetry. You could make a little progress on financial stability but you couldn't make much because you don't want to say very much. My guess is that, on "balanced approach," we could use some of the language, because you give a lot of alternatives for what "balanced approach" might mean. So if I would make a recommendation, it is that there is enough to work on, but don't expect to get too much that we can agree on by December. Thank you, Madam Chair, and thank you for the discussion.

CHAIR YELLEN. Thank you. Let me conclude briefly by thanking everybody for an interesting discussion. Thanks to the subcommittee for your hard work in organizing this, and thanks to the staff for an excellent background paper.

I'm not going to weigh in on all of the questions. I just want to say that I do think it's helpful for us to exchange views periodically about the statement on our fundamental strategy and about the best way to communicate that strategy. Today's discussion, for me, at least, clarified that, from the time when we adopted this statement to this day, we all have essentially

seen the 2 percent as a symmetric objective, and nobody really had in mind that 2 percent was a ceiling.

We've had some debate about the usefulness of the consensus statement. From my standpoint, I really think it's been an important advance. Like President Kocherlakota and others of you, I consider it an indispensable tool. In my own communications, it's always at the center of the way I talk about monetary policy—our 2 percent objective, the fact that we place equal weight on both dual-mandate objectives, and “balanced approach.” It was good for me to hear that most of you share this view.

I guess I've served on this Committee longer than anyone else around the table, and I can still remember 1996, which is, I believe, when the first discussion occurred—although when I researched this topic, I found out that, in the Volcker years, there actually was a discussion about adopting a numerical inflation objective. But we've been discussing this since 1996. It's taken well more than a decade to formulate a document that was capable of achieving broad support. To my mind, it is constitutional, and its value derives very importantly from the fact that it does command an overwhelming degree of support in the Committee.

I am all in with those who've cited the Hippocratic oath. We should be very careful to do no harm. I would not want to see anything happen here that erodes the support that we have in this room for this statement. But if your subcommittee can review this discussion and come up with some changes, whether it's about “symmetric” or ways to characterize the role of financial stability in our decisionmaking, and if you think there are changes that could receive broad support in the Committee either in December or at a later time, I urge you to bring those back to us. But I really think we have, to my mind, a very good statement, and I've heard a lot of positive things about it around the table.

There are other things to do. I heard, as I listened to your discussions, the potential to either look for revisions to the SEP or return to the idea of some form of a consensus forecast. There was support for that. And it would be helpful for us to have some Committee vehicle other than just the SEP to try to provide a more concrete discussion of what the Committee thinks about the outlook and the likely trajectory for future policy. It would be helpful in achieving what I think many of you have said you want, which is forward guidance that is not calendar based and does evolve with the data but would be a Committee-wide statement. I know this is challenging, but if the Committee, after reviewing what other central banks have done and our own past history with this, can find a way to make some progress, that would be very useful.

MR. FISCHER. Thank you very much, Madam Chair.

CHAIR YELLEN. Okay. Well, thank you very much. We will next meet on December 16 and 17. Thank you.

END OF MEETING