

**Meeting of the Federal Open Market Committee on  
December 17–18, 2013**

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, December 17, 2013, at 1:00 p.m. and continued on Wednesday, December 18, 2013, at 8:30 a.m. Those present were the following:

Ben Bernanke, Chairman  
William C. Dudley, Vice Chairman  
James Bullard  
Charles L. Evans  
Esther L. George  
Jerome H. Powell  
Eric Rosengren  
Jeremy C. Stein  
Daniel K. Tarullo  
Janet L. Yellen

Christine Cumming, Richard W. Fisher, Narayana Kocherlakota, Sandra Pianalto, and Charles I. Plosser, Alternate Members of the Federal Open Market Committee

Jeffrey M. Lacker, Dennis P. Lockhart, and John C. Williams, Presidents of the Federal Reserve Banks of Richmond, Atlanta, and San Francisco, respectively

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

Thomas A. Connors, Troy Davig, Michael P. Leahy, Stephen A. Meyer, and William Wascher, Associate Economists

Simon Potter, Manager, System Open Market Account

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

James A. Clouse and William Nelson, Deputy Directors, Division of Monetary Affairs, Board of Governors

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

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

Trevor A. Reeve, 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, Thomas Laubach, David E. Lebow, and Michael G. Palumbo, Associate Directors, Division of Research and Statistics, Board of Governors; Gretchen C. Weinbach, Associate Director, Division of Monetary Affairs, Board of Governors

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

Stacey Tevlin, Assistant Director, Division of Research and Statistics, Board of Governors

Eric Engstrom, Section Chief, Division of Research and Statistics, Board of Governors

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

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

John F. Moore, First Vice President, Federal Reserve Bank of San Francisco

David Altig, Jeff Fuhrer, Loretta J. Mester, and Mark S. Sniderman, Executive Vice Presidents, Federal Reserve Banks of Atlanta, Boston, Philadelphia, and Cleveland, respectively

Evan F. Koenig, Lorie K. Logan, and Samuel Schulhofer-Wohl, Senior Vice Presidents, Federal Reserve Banks of Dallas, New York, and Minneapolis, respectively

David Andolfatto, James P. Bergin, Jonas D. M. Fisher, Sylvain Leduc, and Paolo A. Pesenti, Vice Presidents, Federal Reserve Banks of St. Louis, New York, Chicago, San Francisco, and New York, respectively

Robert L. Hetzel, Senior Economist, Federal Reserve Bank of Richmond

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**December 17 Session**

CHAIRMAN BERNANKE. Good afternoon. This is Mark Sniderman's last FOMC meeting before he retires from the Federal Reserve Bank of Cleveland in January. Mark started attending FOMC meetings in 1985, and, including today's meeting, he has attended 115 meetings since then, which makes him the current record holder for both staff and policymakers. This seems like it should violate the Constitution's "cruel and unusual" clause. [Laughter]

Mark was appointed Cleveland's director of research in 1995 and executive vice president and chief policy officer in 2007. In his distinguished career, Mark has served five presidents of the Cleveland Fed: Willis Winn, Karen Horn, Lee Hoskins, Jerry Jordan, and, of course, Sandy Pianalto. Mark, we want to thank you especially for your dedicated service and wish you the very best in your retirement. [Applause]

MR. SNIDERMAN. Thank you, Mr. Chairman. It has been my privilege to have a career in the Federal Reserve System and an honor to serve under your leadership. I would like to thank everyone in this room for their fellowship over the years. [Applause]

CHAIRMAN BERNANKE. I have a second, preliminary item that relates to FOMC information security. I sent a September 12, 2013, memo to the Committee, which, among other things, asked President Plosser to work with the Conference of Presidents to develop a plan to identify best practices in FOMC information security at the Reserve Banks. Charlie, I understand you are ready to report briefly on that?

MR. PLOSSER. I would just like to share with the Committee that in October, in response to your request, Mr. Chairman, the Conference of Presidents met and discussed these items at some length. We worked with David Wilcox and the SRAC, which has a subcommittee

working on this, and we have instructed them to complete their analysis and report back to the COP early in the new year. When that is completed, we will fill the Committee in on the results of that.

CHAIRMAN BERNANKE. Okay. Thank you. All right. Unless there are any other questions or comments, we can go to item 1, Financial Developments and Open Market Operations, and I will turn the floor over to Simon Potter.

MR. POTTER.<sup>1</sup> Thank you, Mr. Chairman. Over the intermeeting period, U.S. financial markets were driven by domestic economic data that were, on net, better than market expectations, and by Federal Reserve communications. These factors led market participants to increase the odds they assign to a reduction in the pace of asset purchases being announced at the December or January FOMC meeting and to move out their expectations for the timing of the first increase in the target federal funds rate. Longer-term U.S. interest rates rose, while broader domestic financial conditions improved somewhat. Financial markets abroad responded to these U.S. developments with little of the drama of the spring and were mainly driven by shifts in domestic economic and policy outlooks.

As shown in the top-left panel of your first exhibit, the 10-year nominal Treasury yield increased 36 basis points over the period, returning to levels seen ahead of the September FOMC meeting. In contrast, the implied rate on the December 2016 Eurodollar futures contract increased less and remains significantly below its September levels. Market participants have interpreted these relative yield movements against the backdrop of better-than-expected data as reflecting an improved understanding by investors that Committee decisions regarding asset purchases do not necessarily signal its intentions for the target rate path. An assortment of factors have been highlighted as contributing to this improved understanding, especially the policy action and communications from the September meeting and more recent communications from FOMC participants and research papers from senior Board staff.

The change in rates across the Eurodollar futures curve since the October meeting is shown in the top-right panel. Market participants attribute the decline in shorter-dated rates, despite the surprising drop in the unemployment rate, to prospects for a clarification or strengthening of the forward guidance to be announced at some point soon. Many attribute part of the rise in longer-dated rates to an increase in term premiums driven by an inward shift in expectations for the timing of a reduction in purchases and, correspondingly, somewhat smaller expected cumulative purchase amounts. Another factor that some have highlighted in explaining the rise in longer-dated rates is that, alongside a shift out in expectations for the timing of the first

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

target rate increase, investors may have come to anticipate a steeper and possibly more uncertain subsequent target rate path. Of course, other factors, such as a reduction in safe-haven demand as global financial stresses ease, could also be at play.

Your next two panels employ the dealer survey to explore more directly this idea of a shift in market participants' beliefs about the policy mix. The middle-left panel shows dealers' probability assessments for the timing of the initial reduction in the pace of purchases. Averaging across their assessments, the chances of an earlier initial reduction have increased since the October survey, and dealers now place, on average, roughly equal probabilities of 25 to 30 percent on each of the next three meetings. In addition, just over one-third of dealers shifted in their expectation for the most likely timing of the first reduction. Expectations for the path of SOMA holdings through 2018 were only slightly lower. While there is substantial disagreement and uncertainty about the timing of the initial reduction in the pace of purchases, dealers expressed only moderate disagreement and uncertainty about the level of the portfolio at the end of 2015, both conditional on different paths for the unemployment rate and unconditionally.

Dealers revised their expectations for the target rate, with the median expectation for the most likely timing of liftoff in the fourth quarter of 2015, one quarter later than in the October survey. The expectation for the most likely level of the target rate between 2015 and 2017 declined about 25 basis points, and the median dealer projects a target rate of 1.8 percent at the end of 2016, a bit above the current market-implied path.

Consistent with these downward revisions to the expected policy path, dealers now see a greater likelihood that the unemployment rate will be below 6 percent at the time of liftoff, shown in the middle-right panel. This change likely reflects expectations that the Committee will modify its forward guidance. Indeed, all but one of the dealers think that some change to the guidance is more likely than not, and roughly one-half think a reduction in the unemployment rate threshold is more likely than not. The vast majority of dealers anticipate that any change to the guidance would likely occur at the same time as or before the Committee announces the initial reduction in the pace of purchases.

Despite the notable shifts in policy expectations over recent months, measures of inflation compensation, shown in the bottom-left panel, have remained relatively stable. However, measures of near-term inflation compensation have declined a bit since mid-November, apparently reflecting in part the effects of lower-than-expected realized inflation.

Turning to broader asset price developments over the period, as shown in the bottom-right panel, primary mortgage rates increased about 30 basis points, and option-adjusted spreads on current-coupon agency MBS widened, reportedly because of shifts in Fed purchase expectations and concerns about the effects of increased MBS durations and a steeper Treasury yield curve. Investment-grade and high-yield

corporate credit spreads narrowed some, while equity prices and the DXY dollar index were little changed. Nellie will discuss some of the financial stability implications of these price moves and the flows that underlie them.

Turning to your next exhibit, longer-dated U.K. sovereign yields rose in line with U.S. yields over the period, while longer-dated German yields rose more modestly, as shown in the top-left panel. The yield increases were generally supported by market perceptions of better-than-expected global economic data, with U.S. data surprises passing through meaningfully to both U.K. and German rates markets. The moves in longer-dated yields were also affected by shifting expectations for monetary policy in the United Kingdom and euro area.

These changes in monetary policy expectations can be seen through movements in implied rates on interest rate futures contracts, shown in the top-right panel. As I noted earlier, shorter-dated Eurodollar futures rates declined while longer-dated rates increased. Futures rates in the United Kingdom were little changed at near-dated maturities but increased further out, supported by continued improvement in U.K. economic data and the effects of U.S. data. The improvement in U.K. labor market data prompted the Bank of England to pull forward by one year its projection for when the unemployment threshold in its forward guidance will be reached, which further supported U.K. rates. In contrast, EURIBOR futures rates declined because of an earlier-than-expected cut in the ECB's main refinancing rate and relatively soft economic data.

The ECB's decision to lower the main refinancing rate was influenced by a lower-than-expected October flash CPI inflation reading and increased concerns over the inflation outlook. As shown in the middle-left panel, market-based measures of inflation expectations and the implied path of euro-area policy rates declined following the inflation print. Ongoing concerns over a passive tightening of liquidity conditions because of continued LTRO repayments—which might put upward pressure on money market rates—also likely contributed to the ECB's rate cut. Although expectations for another LTRO, which would add liquidity back to the market, increased over recent months, the ECB recently stated that the funds from any such operation would need to be targeted toward the real economy and not toward the purchases of higher-yielding euro-area government bonds.

Prospects for additional monetary policy easing continued to be discussed in Japan, contributing to yen depreciation and increases in Japanese equity prices, shown in the middle-right panel. Most market participants do not expect the Bank of Japan to achieve its 2 percent inflation target by early 2015 and thus see some likelihood that further accommodative measures will be introduced in early 2014 when the Bank of Japan updates its inflation forecasts. Although there is no clear consensus on the form of that accommodation, some suggest the BOJ could increase its purchases of ETFs or continue Japanese government bond purchases at the current pace for longer. While there may be capacity for the BOJ to increase its purchases of longer-duration JGBs, market participants have expressed some concern over the implications of a significant increase for market functioning.

Elsewhere, asset prices in emerging market countries have remained sensitive to evolving U.S. policy expectations, the level of longer-dated Treasury yields, and changes in the countries' respective economic and policy outlooks. As shown in the bottom-left panel, emerging markets' currencies have tended to depreciate while their bond yields have tended to rise as U.S. and other developed market sovereign yields have increased. Some emerging market countries with large external financing needs, notably Indonesia and Brazil, have experienced persistent asset price weakness. With varying success in stabilizing asset prices, some countries have increased domestic interest rates or intervened to support their currencies. Additionally, over the period, Chinese authorities concluded their Third Plenum, an economic planning meeting held every five years. As Trevor will discuss in more detail, the resulting document was interpreted as signaling a move to a more market-based economy, although market participants are uncertain as to how to assess its near-term implications.

The impact of shifting U.S. policy expectations has not been limited to emerging market economies. As shown in the bottom-right panel, some advanced small open economy currencies have depreciated since the October FOMC and since earlier this year. Currency depreciation has occurred as policymakers in some of these countries have expressed views that their currencies may be overvalued relative to fundamental factors.

Lorie Logan will now brief you on recent Desk operations and a recommendation to modify the terms of the overnight RRP exercise.

MS. LOGAN. Thank you, Simon. I'll turn to your third exhibit. The Desk's Treasury and MBS purchases continued to progress smoothly, though a network disruption did prompt the Desk to extend the close of one Treasury operation by 15 minutes. This garnered some public attention but had no material market impact.

Broad market liquidity tends to decline around year-end, as shown in the top-left panel. Given this, the Desk front-loaded its December purchases to minimize the need to operate amid less liquid conditions.

Separately, as part of a small-value exercise, we conducted our first MBS purchase operations over FedTrade, our proprietary trading platform, completing four purchase operations without issue. Conducting the operations over FedTrade allows us to transact simultaneously with the full set of primary dealers and in a larger per-operation size than we currently do today. We plan to conduct additional purchase and sale operations in January as part of the exercise in order to evaluate FedTrade's use in ongoing MBS operations.

Ahead of the meeting, we circulated several memos on various areas of operational readiness. These included a discussion of the Desk's intended plans for the treatment of Treasury floating-rate notes and an update on the overnight RRP exercise and recommendations to modify its terms.

First, regarding FRNs, the introduction of this product in January 2014 will have modest implications for Federal Reserve operations and the SOMA portfolio. In the second quarter of next year, the Desk plans to be ready to reinvest proceeds from maturing Treasury securities into FRNs, although the dollar volume of such reinvestments will be quite small as a result of the maturity extension program.

We will also be ready to accept or use FRNs as collateral in various operations. Additionally, by the fourth quarter of next year, the Desk will be operationally ready to purchase or sell FRNs in outright transactions. Unless there are objections, we will plan to proceed with a Desk statement on these issues in January, as presented in the appendix of the FRN memo circulated ahead of this meeting.

Second, regarding the overnight RRP exercise, the operations continue to proceed smoothly. The exercise has provided the Desk, clearing banks, and counterparties with valuable experience in the auction and settlement processes. We continue to seek feedback from our counterparties and are considering a variety of ways to potentially increase the effectiveness of the operations, including considerations related to the time of day at which they occur.

Results of the exercise thus far suggest that counterparty demand for overnight RRP investments with the Federal Reserve is somewhat sensitive to the spread between market rates on overnight repo and the fixed rate offered in the exercise. As shown in the top-right panel and excluding the period around the debt ceiling impasse in October, this spread has predominately been several basis points and usage has generally been low, averaging around \$9 billion per operation.

Nonprice factors also appear to affect demand at the operations. In particular, some dealers typically reduce their borrowing in the repo market ahead of financial statement reporting dates, such as quarter-end and, to a lesser extent, month-end. This prompts money funds and other cash lenders in repo markets to increase their take-up in our operations, as indicated by the light blue bars in the middle-left panel. However, market contacts suggest that one factor that may be limiting usage is the limited time period over which the exercise is currently authorized, in conjunction with a desire by repo market investors to maintain their relationships with dealers.

As shown in the middle-right panel, participation in the exercise continues to be driven primarily by the 94 money market fund counterparties. MMFs have contributed 72 percent of the total bid volume, followed by GSEs, which have accounted for 20 percent. Participation by primary dealers and depository institutions has remained relatively limited, with modest increases on month-end dates. Overall, sensitivity to the spread between prevailing market rates and the operation fixed rate appears to vary across counterparty types, with usage by Treasury-only MMFs exhibiting the strongest relationship to the spread.

Some market contacts have commented that, even with the current \$1 billion allotment cap, the operations may be having a marginal impact on the minimum level of rates lenders in money markets are willing to accept. Available data on individual

triparty repo transactions marginally support this view. This is an issue we will continue to examine closely as we gather more data.

One concern that has been raised around the use of an overnight facility, and to a lesser extent around the exercise, is the potential for it to cause further reductions in the volumes of brokered federal funds trades, which are shown in the bottom-left panel. Such a development might adversely impact the reliability and usefulness of the effective federal funds rate produced by the Federal Reserve. To date, however, there has been no noticeable impact on volumes in the brokered federal funds market. In addition, overnight federal funds continue to generally trade several basis points above the operation fixed rate.

The bottom-right panel highlights the staff's recommendations to enhance the assessment of a potential overnight RRP facility. The staff recommends a modest expansion of the counterparty limits for the current exercise, to \$3 billion, while leaving other terms of the resolution unchanged. If the Committee agrees with this, the staff would release a Desk statement on December 19, with operations under the new parameters beginning December 20. The delay in the announcement would allow for separation between monetary policy communications from this meeting and the announcement of updated terms to the technical exercise. In advance of year-end, the Desk will lower the fixed rate to 3 basis points; this change would also be included in the announcement on the increase in the caps or, if the caps are not increased, in the standard Desk statement for announcing changes in the operation rate.

Looking ahead, under the existing resolution, the last operation in the exercise would be conducted on January 29, 2014. Market participants are already seeking guidance regarding the possible future of these operations and, as noted, the staff sees benefits to further expansion of the exercise. Assuming operations continue to go well over the next several weeks, we would likely recommend an extension beyond January; other potential revisions to the terms include further increasing the counterparty limits—with the possibility of going to full allotment—as well as removing the fixed end date of the exercise. These revisions would help us gain additional insight into demand for a potential facility and its ability to put a floor on money market rates.

Thank you, Mr. Chairman. That completes our prepared remarks.

CHAIRMAN BERNANKE. Thank you very much. Are there questions for Simon or Lorie? Anyone? Vice Chairman.

VICE CHAIRMAN DUDLEY. I just have an observation. I think it's very important that we do extend the end date of the reverse RP facility, because it seems to me that we have just begun to dip our toe in the water in terms of exploring and understanding how this works.

And in the longer run, this could be very important in terms of how we actually conduct monetary policy. I would very much want to go on record saying that it is important that we do extend this past the January end date.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Yes. I just want to ask a couple of questions about what we have learned and what we are going to learn from an extension. Do you have a sense of our ability to control market interest rates with this facility? You've got a demand curve. You've got observations with negative spreads. What do you know about that?

MR. POTTER. The Lucas critique is massive for that demand curve. This is a demand curve under market participants being capped at \$1 billion. The full allotment idea would be a quite different environment for them to be in, in terms of the bargaining power that they would have. In addition, it is clear that many of them, as Lorie pointed out, are unprepared to renegotiate with existing counterparties, because even though 5 basis points is relatively high compared with the 1 basis point with which we started, 5 basis points on \$1 billion for a day is not that much money compared with the counterparty relationships.

We view this as showing that it is a minimal test and that there is a demand curve there. It is somewhat surprising to me that we have seen negative rates with this amount, but this has happened toward year-end. There were special factors last week when this first happened.

MR. LACKER. Yes, I understand. So we didn't learn much, and, short of full allotment, what are we going to learn?

MR. POTTER. We have learned a lot about the operational capacity to run—

MR. LACKER. I was asking about the ability to control interest rates.

MR. POTTER. The theory, as you know, is that if there are a sufficient number of counterparties who have access to this, then the bargaining power that that produces should put a floor on short-term rates. There are aspects of what we observe with the Treasury bills, which have been trading quite a bit below the 5 basis points, that suggests there may be some leaks. It is not clear to us right now. What we would like to be able to do is learn more in this sort of practice stage with what this facility offers, whether we have to offer it later in the day to get a firmer floor, whether we might perhaps do a clean-up operation later in the day, which many of the market participants have said they would like us to do.

MR. LACKER. But are we going to learn more by extending the allotment to \$3 billion? Or are we going to get another chart like this and hear you say that we are not going to learn much until we get to full allotment?

MR. POTTER. We will learn some over the year-end, because we will have some of the counterparties, as we discussed in the memo, who are likely to go to the \$3 billion maximum. We will get some evidence from that. And then, through January we will get some feeling for how many people were capped out at \$3 billion versus \$1 billion. The facility will still not have that much usage, but it will make the counterparties quite likely believe that the facility will stay in place for longer, and that would lead them perhaps to assess whether they want to use the facility more relative to some other counterparties.

MR. LACKER. What about quantitative information about portfolio shifts? Do you have a sense of what effect this has had on the banking system and banking deposits? Are you going to learn more about that with the \$3 billion cap?

MR. POTTER. I don't think we will learn materially more on that. Until market participants believe that this facility is in place for some time and potentially moving to full

allotment, it will be hard for us to estimate some of that. The quantities we are talking about now are relatively small compared to the reserves that have been added just over the last month or so.

MR. LACKER. In light of that, you are asking for an extension for another month.

VICE CHAIRMAN DUDLEY. Not right now. Not today.

MR. POTTER. No, we're just asking for an increase in the cap right now.

MR. LACKER. All right. We are going to expand the experiment. Are we going to expand the experiment every meeting by some measure? You are asking for an extension. Is there a longer-run plan for these experiments?

MR. POTTER. The analysis that was contained in the staff memo was trying to think through the consequences of running this exercise without a terminal date; the Committee could decide at any point to stop the exercise. But instead of having this date of January 29 stuck in your head, as we have now, you wouldn't have that. Similar to the operational testing.

MR. LACKER. I'm not sure I understand what you're saying. Are you saying, at the next meeting you'd propose that we make it indefinite?

MR. POTTER. That's one of the possibilities. We don't know yet. It depends what we learn over the next few weeks.

MR. LACKER. Okay, because you just said that we are not going to learn much until people are confident this is going to be around a while. But we are not doing that experiment yet.

MR. POTTER. Well, we are going to learn more about the high level of operational flow that we can complete, and the clearing banks can complete. We should have closer to \$30 billion

to \$40 billion, on average, which would allow us to get that last feeling of completion on the operational aspect.

MR. LACKER. Let's say interest rates are really low until 2019. Do you think you will have done enough experimenting by then? I mean, is there some time when you are going to sort of say, "We know enough and we can put it on the shelf and then we'll have it for when we want to raise rates"?

MR. POTTER. If that's what the FOMC decides to do, yes.

MR. LACKER. I'm asking about your process of inquiry. When are you going to know enough to be able to say, "We don't want to do more experiments, and we don't need to raise the cap by another \$2 billion"?

MR. POTTER. We can learn a limited amount over this intermeeting period. The FOMC will have to decide in January whether it wants to learn quite a lot more, which it could do by moving to taking off the caps, or if it wants to hold off on that. And that will be a decision that the Committee makes in January. My feeling is that the staff recommendation, particularly the Desk one, is that we would like to understand more about how this would affect money markets without the caps in place.

MR. LACKER. I would like to understand more, too. I would feel more comfortable supporting this if there was a long-range plan and I had a more definite sense of what you were learning or what you were about to learn with the next incremental expansion of the experiment.

VICE CHAIRMAN DUDLEY. But if you knew what you were going to learn, you wouldn't be doing the experiment.

MR. LACKER. What you are learning is the answer to a question. You should have a sense of the question before you do it. Of course, you don't know what the answer is going to be, but you ought to know what the question is going to be. Ridiculous.

MR. FISHER. Mr. Chairman—

CHAIRMAN BERNANKE. Yes, President Fisher.

MR. FISHER. Just to make clear, this request and this resolution only goes through January 29. Is that correct?

CHAIRMAN BERNANKE. That is correct.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. Thank you, Mr. Chairman. I have one extension on what President Lacker was saying, which is that at least some of the staff analysis we have seen about lowering the interest rate on excess reserves suggests the overnight RRP facility would buttress it in helping to put a floor on money market rates. So it is not just in terms of raising rates. It might be actually even in the process of lowering rates that we would come to use the facility. That's a possibility, I'm not saying that that's what the Committee would choose to do.

I have a specific question, which is, is it possible to delay the announcement and implementation by a longer time after the monetary policy announcement on December 18? Could we go to December 23? What was the idea behind making the announcement on December 19?

MS. LOGAN. We would like to make the announcement before the following Monday because over the holidays we are going to have a small staffing at our counterparties and, more

importantly, at the clearing banks. We could move it to Friday, but I think that would be the latest we would want to go, given the year-end circumstances.

MR. KOCHERLAKOTA. I guess, Mr. Chairman, I would counsel going as late as we could, given the considerations that Lorie just mentioned.

CHAIRMAN BERNANKE. Is that something you're willing to do?

VICE CHAIRMAN DUDLEY. I think the question is, what's the value of that additional separation of time, in your opinion? That's really the question.

MR. POTTER. Small. But if you want to go later and it doesn't hit a barrier there, I don't think it will make that much difference whether it's on Thursday or Friday.

MS. LOGAN. We've done a series of technical announcements related to small-value tests, and they have been very successful. Market participants seem to understand that these actions and these Desk statements are technical in nature.

CHAIRMAN BERNANKE. Let's ask you to look into that unless there's some important technical barrier. Do it Friday morning then?

MS. LOGAN. Yes, we can do it Friday morning.

CHAIRMAN BERNANKE. President Plosser?

MR. PLOSSER. Yes. I just want to make a broader observation. I find this experiment very interesting, and I think it's potentially very important going forward for the Committee to think about the nature of the operating environment in which we would want to work. I think that's important. But we haven't really talked about that a whole lot. I would think that in parallel with these experiments, this Committee ought to be talking about the consequences of the experiments and the models for operating environments that we would like to see. This would bear on which ones we would choose, but we need to have a discussion here about the

tradeoffs of different strategies, whether it be going back to the funds rate or going back to a repo rate. I think we ought to get that on the table for discussion with the Committee as a whole.

That's really my only point.

CHAIRMAN BERNANKE. Governor Yellen.

MS. YELLEN. I very much agree with that suggestion and think we ought to look at what role a facility like this could play, at least in our medium-term operating environment. After all, we're going to have a very large balance sheet for a very long time regardless of what the end state of our operating regime looks like, and I think there are a whole bunch of questions we need to consider around this.

First of all, I think we absolutely need to assure ourselves that this would work to set a floor if we go to full allotment. And, when you think about it, if we end up beginning to reduce our asset purchases, people are going to begin to ask questions about our exit strategy again and about all of the things we have left unspecified. Are we going to keep our balance sheet at its current size until after we have raised our funds rate target? Well, we can't really comfortably do that unless we know that this facility is going to work.

There are also very important questions about the fed funds rate when we go to full allotment, especially if we narrow the gap between the IOER and this rate. The funds market could begin to dry up or become dysfunctional, which could mean that we're going to need to or want to move to a different rate that's our target rate which is, at a minimum in terms of communications, a big step, I think. And given that market participants use the fed funds rate as a reference rate in a lot of contracts, we need to consider what happens if it starts to become idiosyncratic. I just want to say, I really endorse the notion that we have to look very seriously at these medium- or longer-term issues.

MR. PLOSSER. I agree with all of that. One of the things I wanted to do was to get that discussion started in this group because what I'm worried about is—and you alluded to this, Janet—that if we continue to push on the experiment, we may find ourselves in a spot where the funds market actually has dried up to the point where we may not have a choice of whether we want to restore it or not. And if so, I don't want to back us into a corner before we make some more positive decisions about what it is we'd like to be able to achieve through all this. That's really all I meant.

MS. YELLEN. I agree, and when I say I think we should look at it, I'm thinking about sooner rather than later—namely, within the next couple of meetings, probably, as opposed to, oh, let's wait a year or so.

MR. PLOSSER. Thank you.

CHAIRMAN BERNANKE. Other questions? [No response] Simon, in your liquidity picture there, figure 13, I'd like to ask if that little dip at the end is this week or next week?

MR. POTTER. That's the 52nd week of the year.

VICE CHAIRMAN DUDLEY. Christmas and New Year's.

MR. POTTER. Christmas and New Year's. So it's going to be a bit hard depending on which business week it is. The amount of people staffing desks in the last week of the year will be low. They will be very reluctant to come back in and do more volume. Usually we see trading conditions which are less liquid. Most people have squared up before Christmas.

CHAIRMAN BERNANKE. It seems like they're still on the job for the moment, though.  
[Laughter]

MR. POTTER. They are there right now.

CHAIRMAN BERNANKE. All right. Good to know.

MR. POTTER. Particularly tomorrow, I believe, around two o'clock.

CHAIRMAN BERNANKE. Okay. Any other questions? [No response] All right. We have two motions on the table. The first is to approve the extension of the experiments with the overnight RRP facility, and the second is to ratify open market operations. Are there any further questions on either of those two? [No response] Seeing none, are there any objections from Committee members to extend the RRP facility?

MR. POTTER. Change that one aspect of the terms—

CHAIRMAN BERNANKE. Raise the cap. Sorry. Say precisely, again—we're just raising the cap but leaving the—

MR. POTTER. Leaving all other terms the same, including the January 29 end date of the resolution.

CHAIRMAN BERNANKE. Okay. Thank you.

MR. LUECKE. The resolution has been passed out.<sup>2</sup>

CHAIRMAN BERNANKE. All right. Are there any issues or concerns?

MR. LACKER. I'll just register, for the reasons that President Plosser and Governor Yellen outlined and that I outlined when we first discussed this facility, it strikes me that this would be more appropriate after having done some work to study the effects. That would be my preference.

CHAIRMAN BERNANKE. Okay. Well, there's been some discussion about doing that very soon.

MR. LACKER. Good.

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<sup>2</sup> The resolution is appended to this transcript (appendix 2).

CHAIRMAN BERNANKE. I also need a vote to ratify domestic open market operations. [No response] Without objection, thank you. All right. Let's turn to item 2, Economic and Financial Situation. Let me explain the complicated choreography we have here. We have five presentations: Stacey Tevlin, Trevor Reeve, and Nellie Liang will talk about the economic situation and financial stability; then we'll hear from Marnie DeBoer and Gretchen Weinbach on the SEP submissions and the survey on the cost and efficacy of asset purchases, respectively.

After hearing all of those five submissions, we'd like to take questions on the last two, on the surveys, so that these two folks can exchange places and have Bill English and Simon back at the table. And then we'll take questions on the economic and financial issues, if everyone followed all of that. [Laughter] All right. I'll remind you later. Let me call now on Stacey.

MS. TEVLIN.<sup>3</sup> Thank you. You should be looking at the packet that says "Material for Staff Presentation on the Economic and Financial Situation." The spending data that we have received over the past several weeks have been encouraging. As shown in the inset box in the top-left panel, retail sales rose 0.6 percent in November, much more than we were expecting, following an even larger gain in October. In addition, as shown in the second row, motor vehicle sales jumped up to 16.3 million units last month. Taken together, the latest news points to a fourth-quarter increase in consumer spending of 4 percent (the final blue bar), up noticeably from the October Tealbook, the gray bar. Our strong fourth-quarter projection is consistent with the latest reading on consumer sentiment from the Michigan survey (shown on the right), which jumped early this month, reversing the decline posted in the summer and early fall.

As shown in the middle-left panel, some of the indicators for business equipment spending, which weakened earlier in the year, have also recently improved. Analysts' expectations of one-year-ahead earnings ticked up in November, and the business conditions index for manufacturing from the Institute for Supply Management has continued to move higher. We have taken some signal from the latest indicators and boosted our assessment of spending on equipment and intangibles in the fourth quarter.

In contrast, much of the data from the housing market has been disappointing. For example, permits for single-family homes, the black line in the middle-right

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<sup>3</sup> The materials used by Ms. Tevlin, Mr. Reeve, and Ms. Liang are appended to this transcript (appendix 3).

panel, flattened out after mortgage rates jumped in the spring and have remained flat through October, a more pronounced slowing than we had anticipated. Housing starts, which tend to be noisier, have also flattened, though we only have data in hand through August at this point; tomorrow morning, Census will take their estimates of both starts and permits out through November.

The news from the housing sector has not been all bad. As shown in the bottom-left panel, reflecting the substantial rise in house prices, our estimate of the number of mortgages that are underwater has moved down sharply this year and in September stood at a little below 5 million, which corresponds to a little less than 8 percent of mortgages—a development that may support household spending in the quarters ahead.

Putting all of the pieces together, we now project that real GDP (shown in line 1 of the table to the right) is rising at an annual rate of 2.8 percent in the second half of this year, up about  $\frac{1}{2}$  percentage point from our October projection (line 2). Taking a longer perspective, as can be seen by comparing lines 1 and 3, our forecast for topline GDP over the second half of this year is essentially unrevised since June, the last time we gave a chart show presentation. The bottom three rows of the table focus on private domestic final purchases (PDFP). Here our forecast of growth over the second half is stronger than in October but down 1 percentage point since our June projection.

The next exhibit covers the medium-term outlook. Beyond the near term, revisions to our forecast since the October Tealbook have been pretty small. Therefore, in this exhibit and the two that follow, I will focus primarily on comparisons to the June Tealbook projection. As shown by the black line in the top-left panel, we continue to expect that GDP growth will accelerate over the next year. Compared with what we had expected six months ago (the red dashed line), our projection for GDP growth is just a shade weaker, on average, through 2015. As indicated by the shaded area and as described in a box in last week's Tealbook, revisions of this size are modest compared with the wide range of plausible outcomes, but it may still be informative to discuss the reasons we have downgraded our assessment of the economy over this period. Some of the reasons are noted to the right. Slightly higher interest rates (shown in the middle-left panel) have played only a small role in our downward revisions. This is because much of the backup in rates earlier this year happened prior to the June Tealbook, and also because we interpreted the increase that did occur as a pull-forward of increases we were expecting to come later. The path for the exchange value of the dollar, shown to the right, is also higher than we had anticipated at midyear, and that has led us to mark down our projection for net exports.

The largest single source of the downward revisions this year has been the surprisingly weak incoming data on consumer spending during the summer. As shown in the bottom-left panel, since the June Tealbook, we have trimmed our estimate of PCE growth this year by about  $\frac{3}{4}$  percentage point—even taking into account the recent upward revision to the current quarter. As we noted in a memo to

the FOMC in October, we have several hypotheses for why consumer spending increases were subdued, but the evidence to distinguish among these theories is not conclusive. Nonetheless, as you can see by the 2014 bars in this panel, we are assuming that at least some of that weakness will persist into next year.

Moreover, as is almost always the case, weak consumer spending reverberates through the economy, and businesses have been increasing outlays on equipment and software at a slower pace than we had projected in June, a downward revision we have also carried forward.

Your next exhibit discusses our inflation projection. As you know, this morning we received the November data for the CPI. The headline index (the first row of the table) was flat last month as declining energy prices (line 3) offset price increases elsewhere. The core CPI (line 4) increased 0.2 percent, close to what we had anticipated. This reading, in conjunction with the PPI for November, which was released on Friday, points to little revision to our estimate of PCE prices last month (the memo line in the table) and led to no material changes in our inflation outlook since we published the December Tealbook last week.

Since the October Tealbook, however, the information that we have about core inflation in the fourth quarter has come in a little below our expectations, as shown by the right-most pair of bars in the panel on the right.

Turning to the middle panel, over the 12 months ended in October, core PCE prices (the black line) increased just 1.1 percent. This reading is at the low end of the range of alternative core inflation measures shown here, in part because these other measures place a lower weight on medical services prices, which have been rising slowly. However, putting aside these small differences, the figure shows that all of the measures of core inflation have continued to trend lower since early last year. An important factor in this year's deceleration is declining core import prices. As shown in the bottom-left panel, import prices fell sharply in the second and third quarters as the dollar strengthened and commodity prices decreased. We expect those declines to cease and, over the medium term, reverse.

The panel on the right summarizes our inflation projection. As shown in line 3, we now project that core PCE prices are rising at a 1.3 percent pace in the second half of this year, little different from the June Tealbook (line 4). Beyond this year, we project that core inflation will gradually move up to a pace of 1¾ percent in 2016, spurred by increases in core import prices and diminishing slack.

As shown in line 1, total PCE inflation is projected to step up to nearly 1½ percent in 2014 and then to remain at roughly that pace over the medium term, a little below core inflation because of the declines that both we and futures markets expect for oil prices in the next couple of years. Compared with the June projection (line 2), our topline inflation forecast has been revised down slightly.

Your fourth exhibit covers data from the labor market, the tone of which has been upbeat in the past several weeks. As shown by the black line in the top-left panel, after having slowed some during the summer, total payroll employment rose at a pace of nearly 200,000 per month over the past three months, substantially more than we had anticipated in October. In addition, as shown in the inset box, the unemployment rate has stepped down about  $\frac{1}{4}$  percentage point since the summer and stood at 7 percent in November.

The labor force participation rate, which is shown in the inset box in the top-right panel, has also moved down in recent months. However, we are not inclined to interpret much of this decline as signaling that people are giving up on job hunting: Some evidence for this view is shown by the black line in this panel, which shows the share of people who are not in the labor force but say they do want a job. This series moved up noticeably during the recession—as we would expect if it is capturing discouragement—but after that drifted up only a little further. Perhaps more surprisingly, in the past few months it has turned back down sharply. Apparently, the more prevalent source of the recent increase in nonparticipation is shown by the red line, which is the share of people who are not in the labor force and report they do *not* want a job. This share has risen sharply since 2009, coinciding with the steepening increases in the percent of the population above age 65.

Several other indicators from the labor market have also been moving in the right direction recently, and two of the more positive indicators are shown in the middle-left panel. The job openings rate, the black line, is approaching a level that has sometimes been associated with a healthy labor market, and the NFIB measures of “jobs hard to fill” for small businesses, the red line, though erratic, has also moved higher lately.

Of course, the labor market remains far from healed. Two of the most prominent indicators along these lines are shown in the middle-right panel. In particular, as shown by the black line, the percentage of labor force participants who report being employed part time for economic reasons has remained stubbornly high throughout the recovery. In addition, the share of long-term unemployed, the red line, remains far above its pre-recession level.

The bottom panels compare our current view of the labor market with our June Tealbook projection. Our estimate of the unemployment rate, the black line, has been revised down 0.2 percentage point in the current quarter compared with our June outlook (the red dashed line). Private payroll employment in the second half of this year is coming in very close to what we expected in the June Tealbook. However, the labor force participation rate looks to be coming in 0.4 percentage point lower in the current quarter than we had anticipated. Beyond the next few quarters, our medium-run projection is not materially changed from our June forecast. Trevor will now continue the presentation.

MR. REEVE. As shown in the first panel of your next exhibit, foreign GDP growth slowed from  $4\frac{1}{2}$  percent in 2010 to less than 2 percent earlier this year, but

has since stepped up to an estimated 3 percent pace in the current quarter. We expect foreign growth to rise a bit more over the forecast period, reflecting continued strengthening in the emerging market economies (EMEs, shown by the red portion of the bars) and the advanced foreign economies (AFEs, in blue).

The recovery in the AFEs appears to be gaining traction. As shown to the right, PMIs have picked up smartly across the AFEs. Moving down to line 3 of the table, we estimate that real GDP in the AFEs is currently expanding at a 2 percent pace, up from a rate of just  $\frac{1}{4}$  percent in 2012. Going forward, AFE growth moves up a bit more, to  $2\frac{1}{4}$  percent by 2015.

In Japan (line 5), Abenomics-inspired increases in confidence, fiscal stimulus, and declines in the yen have lifted growth this year to an average pace of more than 3 percent. With growth running well above the economy's trend pace, some substantial slowing is to be expected over the forecast period. But next year's sharp drop in growth to  $1\frac{1}{4}$  percent largely reflects tighter fiscal policy. Consumption tax hikes in April of next year and October 2015 should, as indicated in the bottom-left panel, contribute to a swing in the fiscal impulse in Japan from a positive 1 percent of GDP this year to a negative  $1\frac{1}{2}$  percent over the next two years.

In contrast, substantial fiscal drag in the United Kingdom and the euro area (shown in the last two panels) is projected to diminish further. Partly as a result, moving back up to line 7 of the table, we expect U.K. growth to continue at a solid pace going forward. As shown on line 6, the euro area exited its lengthy recession earlier this year, and we see growth gradually rising to 2 percent by 2016—a sluggish recovery, but still a welcome improvement from the depths of the fiscal crisis.

But the euro area is not out of the woods, as it continues to face daunting challenges that could result in renewed financial turmoil and possibly a triple-dip recession. As shown in the first panel of your next exhibit, government debt in the peripheral economies remains very high. In our baseline outlook, economic growth and ongoing consolidation efforts are sufficient to keep debt-to-GDP ratios in check. A shortfall in growth, however, could undermine support for continued fiscal consolidation, while needed pro-growth structural reforms are not only difficult to implement, but may yield little payoff in the near term. In this context, the region's soaring unemployment rates (shown in the upper right panel) are quite worrisome, especially as, given the weak recovery, they are expected to remain elevated for a long time to come.

The banking sector is another source of concern. As shown in the middle-left panel, net bank lending to firms (the red bars) continues to contract. While this contraction in large part reflects weak demand, banks also continue to tighten lending standards. As shown in the lower-left panel, borrowing rates for firms in France and Germany have declined substantially in recent years, but interest rates in Italy and Spain remain near their crisis-period peaks.

The creation of banking union could help to reduce this financial fragmentation and restore the flow of credit. It is doubtful that all of the goals of banking union will be achieved, but, considering the political obstacles, reasonable progress is being made. As noted in the last panel, the “single rulebook” for banking regulation has been approved. European authorities have also approved the single supervisory mechanism. Before the ECB begins direct supervision of large euro-area banks in late 2014, the authorities must complete a comprehensive assessment of banks’ balance sheets, including an asset quality review and stress tests. These exercises could bolster confidence in European banks, but they could also rattle markets if they expose sizable problems or, conversely, are not seen as credible. Progress toward a single resolution mechanism has been much slower. This is not surprising, considering it would entail pooling and jointly administering fiscal resources. Finally, and for much the same reason, there has been no progress on establishing a common deposit insurance scheme.

Turning to your next exhibit, adding to concerns about the euro area is that inflation, the black line in the first panel, has fallen below 1 percent, prompting fears of deflation. Inflation in other advanced economies, except for Japan, has also fallen. In our view, however, these declines in inflation are well explained by declines in energy prices, the fading effects of previous tax increases, and still-ample economic slack. Thus, we do not see these countries falling into deflation, especially as inflation expectations generally remain well anchored. As the recovery gathers steam and slack diminishes, we expect inflation to edge back up.

Nevertheless, prospects for continued below-target inflation will help keep monetary policy in the AFEs highly accommodative for the next several years. As shown in the top-right panel, market-implied policy rates for all of the major AFEs remain well below normal levels even by the end of 2016. As Simon noted in his presentation, declining inflation prompted the ECB to cut its main policy rate to 25 basis points last month and to reiterate its pledge to keep interest rates low for an “extended period.” Policy rates are expected to rise sooner and faster in the United Kingdom (the blue line). The Bank of England’s forward guidance stipulates that policy will remain on hold at least until the unemployment rate has fallen to a threshold of 7 percent. As shown in the middle-left panel, the latest forecast from the BOE (the black line) has the unemployment rate crossing this threshold sooner than previously expected. But this shift merely brings the BOE forecast closer to that of outside analysts, including Board staff, and we continue to expect BOE policy rates to remain very low for several years.

Looking back at the first panel, inflation in Japan (the red line) has picked up markedly this year. But in order to achieve its 2 percent inflation target, we think that the Bank of Japan will need to provide even more monetary stimulus than it announced back in April. As shown in the middle-right panel, we now project the BOJ balance sheet (the black line) to swell toward 80 percent of GDP over the next couple of years.

Changing perceptions for advanced economy monetary policy continue to buffet emerging markets. As shown by the bars in the lower-left panel, outflows from EME bond and equity funds have picked up again amid renewed expectations for an imminent slowing in the pace of the Fed's asset purchases. As was the case earlier in the year, the more vulnerable EMEs have tended to be the most affected. For example, as shown in the last panel, the currencies of Brazil (the green line) and Indonesia (the blue line) have depreciated further since the October FOMC meeting, while those of Korea and Mexico have remained relatively stable.

As shown in the first panel of your next exhibit, inflation remains elevated in Brazil and Indonesia, in part reflecting the depreciation of their currencies. In response, as shown to the right, their central banks have tightened monetary policy in recent months despite slowing growth. In contrast, Korea and Mexico have either maintained or further reduced rates to support growth.

As we have previously remarked, most EMEs are better positioned to weather turbulence in global financial markets than in the past, in part reflecting better macropolicy frameworks and more flexible exchange rates. In addition, the middle-left panel shows that EMEs' holdings of foreign exchange reserves (the purple area) are much larger than in the 1980s and 1990s. Additionally, EMEs' net foreign liabilities have shifted from traditionally volatile bank and portfolio debt (the blue area) toward more stable FDI and other equity (the red and green areas). That said, a severe EME crisis remains a risk, and the possible implications of such an outcome for the United States were explored in the Tealbook and in the recent QS assessment of financial stability.

Our EME outlook is presented in the lower table. As shown on line 1, following very subdued performance in the first half of the year, EME growth picked up to about 4 percent in the third quarter. We expect some further strengthening in the current quarter, led by China (line 2) and Mexico (line 4). Looking ahead, external demand should provide greater support to EME growth as the advanced economies continue to recover. As shown in the middle-right panel, EME exports slowed considerably after mid-2011 with the intensification of the euro crisis but have strengthened more rapidly in recent months. Over the next few years we see EME GDP rising at a 4½ percent pace, with China remaining an important driver of this expansion.

As described in the first panel of your next exhibit, Chinese authorities recently concluded their Third Plenum, a meeting held every five years to set out the economic reform agenda. Although much of the new agenda was already anticipated, its release reinforces the government's support for a more market-based economy. Among the many reforms included in the document were financial reforms to liberalize interest rates, exchange rates, and the capital account; fiscal reforms to better align revenues and expenditures of the central and local governments; labor reforms to ease internal migration restrictions; and land reforms to strengthen property rights. Although implementation of these reforms will likely be slow and incomplete, they help address worrisome imbalances, including, as shown to the

right, China's very high investment share of GDP (the red line) and the extremely rapid rise in credit (the blue line).

The remainder of the exhibit focuses on the U.S. external sector. As shown in the middle-left panel, EMEs are becoming an increasingly important trading partner for the United States, as our exports to them (the red line) have risen more rapidly than to AFEs. This shift in our trade toward more rapidly expanding economies provides an important boost to U.S. exports, as does the projected decline in the dollar, shown to the right. Accordingly, we project that real exports, the black line in the lower-left panel, will accelerate over the forecast period. As a result, the contribution of exports to U.S. GDP growth, shown by the blue bars to the right, approaches 1 percentage point by 2016. Of course, imports rise too as the U.S. economy accelerates, resulting in a contribution of *net* exports to GDP growth that is close to zero. Nellie will now continue our presentation.

MS. LIANG. Thank you. Turning to exhibit 10, my briefing summarizes our recent QS financial stability report. The report focuses primarily on financial vulnerabilities that could amplify possible shocks—for example, through fire sales and adverse feedback loops—and result in severe financial disruptions that could harm the broader economy. Overall, our current assessment is that financial vulnerabilities are moderate.

The overall assessment is grounded importantly on the much-reduced leverage and maturity transformation in the financial sector since the financial crisis. As shown in the top-left panel, large banking firms continue to increase their capital positions, and the ratio of Tier 1 common equity to risk-weighted assets is now about double its level from the crisis. Currently, all but one of the designated GSIBs have capital above new Basel III requirements, including their estimated capital surcharge for systemic importance. Three of the banks report they currently would fall short of the proposed supplementary leverage ratio, but by only a bit.

In addition, as shown in the top-right panel, net short-term wholesale funding in the financial sector, expressed as a ratio to GDP, has turned up but remains markedly below pre-crisis levels, reflecting a reduction in large short-term time deposits at banks and reduced net secured borrowing by dealers. This indicator is consistent with relatively subdued cyclical pressures for maturity transformation not backed by a government safety net.

Turning to asset markets, investors' reach-for-yield behavior appears to have reemerged somewhat following the resolution of the federal debt limit impasse in October. However, several indicators suggest that the appetite for duration risk has remained below first-quarter levels, and that factors that contributed to the 100 basis points rise in term premiums this spring have moderated. First, as shown in the middle-left panel, estimated nominal term premiums for 10-year Treasuries are now a bit above zero after having moved up substantially from their unusually low levels before May, in line with increases in the volatility of long-term rates. The rise in term premiums suggests that rates have normalized to some extent. Moreover, as shown to

the right, the outflows from intermediate and long-term bond mutual funds have remained substantial in recent months, while flows into short-term funds have remained near zero, consistent with some moderation in duration risk-taking.

In addition, as noted in the lower-left panel, dealer responses to special questions in the December SCOOS indicate that the use of short-term funding by hedge funds to finance longer-duration assets was somewhat below levels in the first quarter of this year. Responses also indicate a further decline in the use of leverage by agency REITs, and that the use of short-term funding was somewhat below first-quarter levels, consistent with the fall in agency REIT assets and the sharp stock price declines since then.

That said, from a longer-term perspective, the large cumulative inflows to the longer-term bond funds since 2009 suggest investors may still be significantly exposed to interest rate risk. Given that these funds effectively offer liquidity upon demand to investors, an acceleration of outflows could lead to an overshooting of a rise in rates, especially for bonds that are less liquid, such as high-yield corporate or emerging market bonds.

Yields on corporate bonds have risen with Treasury yields since early May, though by less. As shown in the right panel, BBB-corporate bond spreads narrowed a bit, while those for high-yield bonds now are at their lowest level since the financial crisis.

As shown in the top-left panel of your next exhibit, the substantial equity price increases this year have pushed up valuation measures. The forward price-to-earnings ratio for the broader market, represented by the S&P 500 (the black line), has risen notably this year, but it is still only a bit above its historical average. An estimated equity premium remains wide, given the relatively low long-term real Treasury yields.

The forward price-to-earnings measure for small capitalization equities, based on a median firm, also has risen and is closer to the high end of its range. Indeed, valuations for some small-cap social media and biotech firms are approaching levels last seen during the tech bubble in the late 1990s, though we do not believe such pressures pose a systemic threat since small-cap stocks are a small part of the overall market. In addition, as shown to the right, while leverage to purchase equities, indicated by Regulation T margin credit and portfolio margining debits, has been rising notably, required margins under these regimes appear hefty. But this area warrants further monitoring because risk appetite could accelerate should equity prices continue to rise.

In the nonfinancial sector in the middle-left panel, debt growth by households shown by the green line appears to have turned around, as some credit conditions have eased. In contrast, debt growth of businesses, the blue line, has been rising rapidly as firms have taken advantage of favorable bond market conditions, in part to lock in low interest rates for extended maturities.

One concern, however, is the continued strong appetite for exposure to noninvestment-grade corporate debt. As shown in the middle right, issuance of speculative-grade bonds and leveraged loans remains strong. Moreover, underwriting standards appear to continue to slip by many measures. For example, as shown by the red portion of the bars in the bottom left, the share of leveraged loans with debt-to-earnings multiples of more than 6 has been rising this year, though they remain below pre-crisis peaks.

Staff examined the potential consequences of a continuation of the recent rapid rate of growth of lower quality corporate bond issuance. In such a scenario, the distribution of expected default rates would be notably higher than typical three to four years from now, even under the modal macroeconomic outlook. Such an increase in losses would likely reduce credit availability and increase the risks to macroeconomic objectives. Further potential consequences for financial stability would depend on the extent to which levered investors bore the losses.

Finally, concerns have escalated recently about the deteriorating fiscal and economic situation in Puerto Rico, as illustrated in the lower-right panel by the jump in the CDS spread for Puerto Rico. Puerto Rico is a large issuer of municipal bonds, with \$70 billion in long-term debt outstanding, and many municipal bond mutual funds hold Puerto Rico's debt because of its high yields and triple tax exemption. Tax-exempt money funds hold about \$1.3 billion in Puerto Rico paper, almost all enhanced by liquidity puts and guarantees. U.S. banks generally do not have much municipal exposure, but Puerto Rico's largest bank has notable exposures to Puerto Rico government risk, totaling about 39 percent of its Tier 1 capital.

Puerto Rico is not eligible to file for municipal bankruptcy and so cannot use bankruptcy to restructure its debts. The risk is that Puerto Rico's situation, in addition to the court rulings for Detroit's bankruptcy that may change claimants' priorities, could trigger broader concerns and disrupt the broader municipal bond market. To date, empirical evidence suggests lack of contagion to municipal bonds of unrelated entities from the recent events in Detroit and Puerto Rico. And while we believe the threat to financial stability is mitigated because most municipal bond debt is held by high-net-worth individuals and municipal bond mutual funds, we cannot rule out the possibility of unexpected spillovers.

As summarized in the panel of your last exhibit, overall vulnerabilities appear moderate, but there are signs of building vulnerabilities in some sectors, which could increase further if investors' risk appetite were to grow amid low interest rates and volatility. In addition, a number of possible adverse shocks remain somewhat proximate, such as a deterioration in fiscal and economic events in both Europe and some emerging market economies, especially if they were to affect globally active financial firms. On the policy front, the staff continue to pursue initiatives related to some of these specific vulnerabilities that we have identified.

On leveraged loans, supervisors recently issued Matters Requiring Attention letters to the top 12 underwriting banks based on the leverage lending guidance that

was issued in March to reiterate concerns about weak underwriting practices and risk management. While the guidance may help to keep excessive risks in check, activities could shift materially to outside of the regulated banking sector. To date, we do not believe there has been a sizable shift out of the banking sector, but it is likely that, over time, more smaller credits will be underwritten and distributed by nonbank firms. Staff will continue supervisory exams and will continue to track public data for evidence of shifts.

The staff also are currently working on CCAR 2014 for the 30 largest bank holding companies to assess their ability to weather a severe recession and, separately, a sharp rise in long-term interest rates. In addition, there is additional work on interest rate risk at banking firms, with special attention to how deposit holders may react to a rise in rates. The staff are further evaluating the risk of ETFs and other funds that offer liquidity on demand when the underlying securities are relatively illiquid.

Finally, on the structural vulnerability front, staff continue to work to improve the resilience of short-term funding markets, including to improve international reporting of securities financing transactions and encouraging progress on money fund reform where we can. Marnie will continue our presentation.

MS. DeBOER.<sup>4</sup> I will be referring to the packet labeled “Material for Briefing on the Summary of Economic Projections.”

Exhibit 1 shows the trajectories of your forecasts for key economic variables. The top panel shows a pickup in real GDP growth over the next couple of years. Subsequently, in 2016, real GDP growth begins to converge back toward your estimates of its longer-run rate. Your projections for the unemployment rate, shown in the second panel, decline gradually over the forecast period, reaching levels by the fourth quarter of 2016 that are generally close to your individual judgments of the longer-run normal rate of unemployment. The bottom two panels show inflation moving back toward your 2 percent longer-run goal over the next few years, with a large majority of you seeing headline inflation running close to 2 percent by 2016.

Exhibit 2 compares your current projections with those in the September Summary of Economic Projections and the December Tealbook. As reflected in the top panel, in general, the revisions to your forecasts for real GDP growth were small, although most of you revised up your projection for the second half of this year (not shown). As suggested by the second panel, nearly all of you made a modest downward revision to your projected path for the unemployment rate. Moving to the bottom two panels, most of you also marked down a bit your inflation forecasts, especially in 2013, but the central tendencies for 2014 and beyond are similar to those in September. The Tealbook forecasts of economic growth are near or slightly above the upper end of your central tendencies over the projection period, and the unemployment rate moves to the low end of your central tendency by 2016. For

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<sup>4</sup> The materials used by Ms. DeBoer are appended to this transcript (appendix 4).

inflation, the Tealbook projections are at the low end or below your central tendencies throughout the projection period.

Exhibit 3 provides an overview of your assessments of the appropriate path for the federal funds rate. As shown in the top panel, while two participants believe that the federal funds rate should be increased next year, the rest of you continue to think that it will not be appropriate to begin raising the funds rate until 2015 or later. The middle panel of the exhibit provides your current assessments of the appropriate level for the target federal funds rate at the end of each year of the forecast period and over the longer run. Although your expectations about the year in which the federal funds rate should lift off from its effective lower bound have not changed much since September, seven of you lowered your view of the appropriate level of the federal funds rate at the end of 2015. As a result, the median federal funds rate projection at the end of 2015 moved down 25 basis points to 75 basis points; the median projection for the end of 2016 remained at 2 percent. Twelve of you judge that the unemployment rate will be at or below 6 percent at the end of the year in which you view the initial increase in the federal funds rate to be appropriate, and all but one of you judge that inflation will be at or below the Committee's longer-run objective of 2 percent. As in September, all of the participants who see the first tightening in 2015 or 2016 judge that the funds rate at the end of 2016 will still be below its longer-run level.

With regard to securities purchases, 11 of you indicated that your assessment of appropriate policy is about in line with the assumption regarding asset purchases in the Tealbook baseline forecast, which assumes that the pace of purchases will be reduced in the first quarter of 2014 and that purchases will end in the second half of next year, with the cumulative amount of purchases under the program reaching about \$1.4 trillion. Five of you think it would be appropriate to end the asset purchase program earlier and buy fewer securities than assumed in the Tealbook; in contrast, one participant favors a more accommodative path for asset purchases.

The final exhibit reviews your assessments of the risks and uncertainty surrounding your economic projections. As shown in the panels in the column on the left, nearly all of you judge the current level of uncertainty about real GDP growth, the unemployment rate, and inflation to be broadly similar to the average level over the past 20 years. As shown in the top two panels on the right, more of you now judge the risks to real GDP growth and the unemployment rate to be broadly balanced, reflecting a shift from your September projections. A range of factors was cited as contributing to this change in view, including a lower likelihood of an impasse over fiscal policy, an improved global economic and financial outlook, and improved prospects for consumption growth. Continuing down the right column, the majority of you continue to see the risks to inflation as broadly balanced.

Gretchen Weinbach will now present the results of the survey on the costs and efficacy of asset purchases that we conducted over the intermeeting period.

MS. WEINBACH.<sup>5</sup> I will be referring to the packet labeled “Material for Briefing on the Survey on the Costs and Efficacy of Asset Purchases.”

As shown in exhibit 1, in November you were asked to assess the magnitude of six marginal costs of asset purchases on a scale ranging from “very low” (1) to “prohibitive” (5). Most of you associated “moderate” costs with the risks of capital losses and financial instability (the middle two panels); at the same time, most of you judged that the costs associated with the other surveyed risks were either “low” or “very low.” None of you judged that any of the costs were “prohibitive.”

The first row of the table in exhibit 2 shows the average of your numerical responses for each cost. By this measure, you were most concerned about the marginal costs of purchases stemming from issues related to financial instability (column D), noting that highly accommodative policies provide an incentive for risk-taking. As shown in column C, you were nearly as concerned about the potential costs of capital losses to the Federal Reserve. You noted that such losses, or the associated lack of remittances to the Treasury, could result in increased political scrutiny of the Federal Reserve’s operations and therefore pose risks to its reputation and independence, and so to its ability to achieve its mandate. You ranked increased difficulty in managing exit third, on average (column E). Several of you highlighted the Federal Reserve’s lack of experience in managing exit from the current unconventional policy stance. Some also noted that financial markets could exhibit unexpected responses to steps taken to remove policy accommodation, citing the Committee’s experience in recent months with its communications about purchases.

The remainder of the table summarizes your most frequent responses to the qualitative questions about each category of costs. As shown in rows 2 and 3, most of you said that costs generally increase with the size of the balance sheet, but you held differing views about how rapidly each cost was increasing and about the time frame over which each cost was expected to manifest itself (row 4), ranging from any time now to a number of years from now. When asked how each cost might be ameliorated other than by ending the purchase program (row 5), some of you offered ideas for how to do so while others said that stopping purchases was the most effective option. For example, to reduce the risks associated with incurring capital losses (column C) or with difficulty in managing exit (column E), some of you suggested more communication about the benefits of the Federal Reserve’s policies and also about its strategy for exit.

Regarding the primary source of the costs (row 6), you generally linked three of the costs—disruption of market functioning, capital losses, and difficulty in managing exit—to asset purchases specifically rather than to highly accommodative policy more generally. With respect to the source of the risks of increased inflation and financial instability, some of you cited purchases while others cited accommodative policy, and, in the case of financial instability, some pointed specifically to the low level of interest rates. As shown in row 7, most of you did not distinguish between

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<sup>5</sup> The materials used by Ms. Weinbach are appended to this transcript (appendix 5).

the social and institutional costs that you associated with each cost category, although in the case of capital losses, most saw the costs as primarily institutional.

In a second set of questions, you were asked to provide your views regarding the marginal efficacy of the current purchase program in easing financial conditions and providing economic stimulus. Overall, most of you noted that the program continues to support accommodative financial conditions. However, some of you indicated that the marginal benefit was currently relatively low, or at least had diminished, while a similar number of you reported that the purchases continued to be about as beneficial as ever on the margin.

Many of you noted that at least a portion of the purchase program's current marginal benefit was coming through a signaling effect, in that ongoing purchases were serving to enhance the credibility of the Committee's forward guidance about the timing of liftoff and so were helping to shape the expected path of short-term interest rates.

A little more than half of you noted that the marginal efficacy of the purchase program in providing economic stimulus—that is, effects of purchases on real GDP, inflation, and employment—was either more difficult to judge or seemed to be small.

A majority of you said that the marginal efficacy of purchases was declining as purchases continue, with some saying that the pace of decline was gradual or moderate. A couple of you said that the marginal efficacy of the program was not declining, noting the recent swings in interest rates in response to news about possible reductions in the pace of purchases. Several others said they were unsure if the marginal efficacy of purchases declined as purchases continued, with a couple saying that the presence of a signaling channel made it hard to judge declining marginal benefits in the usual way. Thank you. That concludes our presentations.

CHAIRMAN BERNANKE. Thank you very much. As I suggested before, we would like to start with questions for Marnie and Gretchen about their survey reports. Are there any questions on the SEP or on the costs and efficacy survey? President Evans.

MR. EVANS. Thank you, Mr. Chairman. I have a quick question on the SEP projections. I think it was back in June when our policy statement relied on the outlook coming out of the SEP, and I think the market reaction was that our SEP was stronger than they were expecting. Is there any risk from these SEP projections that the market is going to be unexpectedly higher or lower or generate any potential increase? I'm trying to guess what type of effect it might have on long-term interest rates by itself.

MS. DeBOER. Sure. I can give you two pieces of information that might help answer that question. The fed funds rate implied by overnight index swaps right now is about 40 basis points lower than the SEP implied rate at the end of 2015 and about 40 basis points below in 2016 as well. These quotes have not been adjusted for any term premium effect, which the staff believes is negative, so the difference from the SEP could be higher than is indicated by the unadjusted market quotes. Another piece of information I could bring to bear is: the median primary dealer thought that the fed funds rate at the end of 2015 and 2016 is 25 basis points below where the SEP puts it. So there is a chance that the market could interpret the SEP as more hawkish than it feels itself to be.

MR. EVANS. Okay. That's helpful. But in terms of the GDP projection and the unemployment rate, are those forecasts pretty much in line with what market participants would expect us to have coming out of the meeting?

MS. DeBOER. For the unemployment rate, we are very close to where the primary dealer survey is. At the end of 2015, we're within 1 basis point. The SEP is a little bit more optimistic in 2016.

MR. EVANS. Okay. Thank you.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. A question for Gretchen about the survey results regarding costs. I want to drill down a little bit on the financial instability part. I'm going to offer a comment and see if I misunderstood some of the responses.

It seemed to be that people perceived the financial instability consequences of our policy as being tied to the steepening of the yield curve, as opposed, necessarily, to the level effects per se. So, for example, reducing the flow of purchases might push upward on longer-term yields,

whereas our fed funds rate policy is keeping yields in the short term low. That would induce financial instability. That seemed to be the main source of financial instability that people were identifying, but maybe I missed something, and I would be interested in your perspectives on it.

MS. WEINBACH. I think that's right. There was a range of views about how it would become manifest and the mechanism by which it would become manifest. People did comment on that configuration, but some also commented on the basket of unusual policies now, including not just rates but purchases as well, and how the Fed's steps to exit from the unusual stance and to manage the unusual policies and communicate about the policies could possibly lead to some swings in rates that are unexpected or could lead to some manifestation in particular markets.

MR. KOCHERLAKOTA. Thanks.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. Wasn't there also a view that the policies could lead to asset overvaluation and those—

MS. WEINBACH. That's right. That's what I mean by some particular markets may get overvalued—yes. There was a wide range of views.

MR. KOCHERLAKOTA. Yes. I was hoping that the survey would be revelatory about costs that apply to our asset purchase tool that don't necessarily apply to the fed funds rate tool, with the idea that that would be helpful in communicating to the public about why we are taking steps with respect to one that we weren't taking with respect to the other. I didn't see that clearly identified in the financial instability part of this survey. In fact, the opposite could be said to be true. If you are worried about steepening the yield curve, that actually is a force that ties the two tools a little closer together as opposed to one that separates them, because you don't want to be

pushing upward on longer-term yields and keeping short-term yields low because that is actually going to be inducing reaching-for-yield behavior.

MR. ENGLISH. I read the comments that people put in the survey as suggesting some were just worried about the low level of rates and reaching for yield, while others were more worried about purchases than just about the low level of rates generally. And there were different stories there, but at least one was we are pushing down term premiums to push down long-term rates. We don't really know a lot about how that will work out over time, just because of a lack of experience with the tool. And it is possible that there will be, as we get to tapering and as we get closer to exit, kind of a snapback in term premiums, an abrupt run-up in long rates that could cause problems that would be difficult to manage. I think that was the extra thought that stuck in my mind for purchases relative to just accommodative policy.

MS. WEINBACH. I think that was evident as well in the responses about the time over which financial instability could manifest itself. Some saw it in terms of calendar time, just this low interest rate environment and the policies in general being in place for a long time, and others framed that realization in terms of a Fed action, taking steps or communicating about exiting or tapering.

CHAIRMAN BERNANKE. Other questions? Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I hesitate to ask this, Marnie, but for internal purposes, did you determine what the distribution of liftoff and interest rates at the end of 2015 and 2016 would be based on voting members of the FOMC?

MS. DeBOER. I do not have that calculation in front of me.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. I have a question on the SEP, too, that is related to Governor Tarullo's question. We lay out the liftoff tied to calendar date, but we are providing guidance to the public tied to the unemployment rate. Do you think it's confusing to have an SEP based on calendar time? And do you think there would be any value to actually having it more tied to the thresholds that we are using in the forward guidance? When I look at, for example, 2014, I don't know if those two individuals thought liftoff would occur because they thought we would be at 6½ percent or lower, or whether they thought the threshold was inappropriate. And similar to what Governor Tarullo was suggesting, I don't know exactly why people are picking that liftoff date—is it tied to how strong the economy is, or is it tied to other factors? It just seems like it is a little bit at variance with our forward guidance to be so focused on calendar dates.

MS. DeBOER. In previous SEP briefings there has been a scatter plot that indicates what participants' views of inflation and the unemployment rate will be at the time of liftoff. It is not included in your briefing this time. That is one of the pieces of information that is presented to the Committee but not presented to the public right now. If you were to show that scatter plot to the public, it would show that more of you in December think that the unemployment rate will be at or below 6 percent at the time of liftoff than you did in September.

CHAIRMAN BERNANKE. Other questions? [No response] Okay. Thank you. Now we can turn to questions about the economic outlook or financial stability. Any questions for our colleagues? President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I have a quick question on the economic outlook. Under the staff's economic outlook, when does headline inflation return to 2 percent? What year?

MS. TEVLIN. I don't know that off the top of my head. I can find that for you. Obviously, it is outside of the regular forecast range. We normally go through 2016. But if you give me a moment, I can put my hands on that, unless somebody here can find it faster than I can.

MR. LAUBACH. It's 2019.

MR. KOCHERLAKOTA. 2019. Thank you. And then I have a question for Nellie. I thought this presentation was very good, because it helped me sort through some of the risks that were identified in the overall briefing, helped me identify some of the risks that would actually spill over to the broader economy, which I think is very helpful in our thinking about monetary policy. If you had to think about three of these vulnerabilities or risks that you would identify as being particularly important for the broader economy, which ones would you be thinking about?

MS. LIANG. I think we identified a number of vulnerabilities here, including in the corporate market, corporate debt, and possible duration risk and liquidity risk problems. Then I guess I'm also going to put up the municipal market right now, just because there are a lot of underfunded pensions and Puerto Rico could just be the trigger that puts more spotlight on others, like Chicago and Illinois.

I think liquidity risk is on that list, only because this is a time of low term premiums and large inflows to long-term funds. Small banks have moved into longer-term assets. Insurance companies have moved into longer-term assets. It could be temporary. It could just be liquidity and it is temporary and goes away, but there is more uncertainty around that, so that's why we put it on the list.

MR. KOCHERLAKOTA. Maybe you can help me with municipals. This probably was in the report, and I just didn't read it carefully enough. How big could such a shock be in the municipal market in terms of magnitudes?

MS. LIANG. Puerto Rico itself is the eighth or ninth largest bond issuer, \$70 billion. It is not huge, but it is not trivial. The municipal bond market is about \$2½ trillion to \$3 trillion. There is Chicago and Illinois, and there is New York, and there are some underfunded pensions, some of which have been helped a lot recently by the stock market and the low rates. So the underfunding has really closed over the last couple of years—there is that offset. Some probably have structural problems that you can't quite address easily without restructuring your debt and changing your pension liabilities, even with the benefits of the rising markets.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. On the municipal market, is it the risk to creditor losses, is it the leveraged losses somehow embedded in this, or is it the fact that the municipalities themselves will be so challenged that that could have some effect on their economies? What are their larger vulnerabilities?

MS. LIANG. President Kocherlakota asked about economic risks. And so this is more about raising costs for municipalities to raise funds, because we think the investors are not levered particularly. Banks do not have big exposures. There are a couple, of course. It is mostly high-net-worth individuals, but I do think it would raise the cost of funds for municipalities.

MR. KOCHERLAKOTA. And that would force them to cut back on employment.

MS. LIANG. Yes. We have not worked through that whole analysis.

MR. KOCHERLAKOTA. Thank you.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. I want to suggest, Nellie, that you might want to go back and look at New York City from the 1970s, and also the Washington Public Power Supply System. And even though the markets have advanced and the use of municipals for collateral purposes is much further advanced than it was before, you might look at case studies to get your arms wrapped around this.

MS. LIANG. That's right. At the time of New York City, banks held a lot of municipal bonds. But they no longer do. They don't get the tax benefit of it, so they have reduced their holdings. I think that has removed some of the issues related to financial stability per se.

MR. FISHER. And you might look at the WPPSS as well, because that was 5 percent.

CHAIRMAN BERNANKE. Okay. Other questions? President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I want to refer to exhibit 11, the forward price-to-earnings ratio, which is the upper left-hand panel. This shows the S&P 500 forward price-to-earnings ratio, and the black line tells a story that I think is one many of us have told, which is, it doesn't look too out of line compared with historical valuations. But the red line here doesn't look as good. How should I interpret this line, and how should I think about this?

MS. LIANG. That's right. The red line, which is the small-cap, is based on the median firm in the Russell 2000. As you can see, those have risen, and they are a little bit closer to the top end of the range. We don't use aggregate earnings, because many firms have projected very negative earnings, so the small-caps are a little hard to capture. That's why we pick a median, so we miss some of the variation because of the way those things break down. We were highlighting the rise, and along with that, that there are some stocks now that seem to have pretty high valuation ratios. Prices have been rising 80 percent, and we've got some P/Es—where you

can measure them—at 100. But these are pockets. We were putting this here just as a marker that there are signs, but we don't think it's prevalent yet. And this area is still a very small part of overall capitalization.

MR. BULLARD. I guess by definition it's small cap.

MS. LIANG: Yes, but in 2000 you could see that the valuation pressures were starting to show up in the bigger stocks as well, through that forward P/E there.

MR. BULLARD. I didn't get the comparison to the late 1990s because it looks like this was relatively low in the late 1990s.

MS. LIANG. That's right. I think the late 1990s is also a tech story but not a small firm story, necessarily. I think ideally, if we could, we would capture a small tech somewhere, but those valuation measures are difficult because often even projected earnings are negative. Forward P/Es are just a difficult concept to do well over time.

MR. BULLARD. Are we trying to get at froth in the tech sector? Is that kind of what we're trying to get at?

MS. LIANG. Yes. Smaller tech. Social media—Twitter and Snapchat, some of those.

MR. BULLARD. The other thing is they go to the IPO and they become big cap.

MS. LIANG. Not quite yet, but they will. They're not quite there yet.

MR. BULLARD. Thank you.

CHAIRMAN BERNANKE. Other questions? President Fisher.

MR. FISHER. I just wanted to make an observation for Trevor and then ask a couple questions of Nellie.

Trevor, in your exhibit 7, you made the differentiation between Brazil and Indonesia, on the one hand, and Mexico and Korea, on the other. It may be that some countries have taken

advantage of this long period of low interest rates and relatively inexpensive capital to achieve structural change. We've certainly seen that in Mexico, and I would argue we've seen some of that in Korea, even though it's further advanced than most other EMs. Whereas Brazil and Indonesia, and I would add India, have not made structural changes, but rather financed consumption. Eike Batista in Brazil is a model of wasted effort and excessive leverage. So I would just suggest that you might consider that. That's one of the reasons you've seen this disparity.

MR. REEVE. I agree with that, and the recent structural reforms in Mexico have been quite impressive.

MR. FISHER. And then Nellie, I'm glad you included the equity margin in exhibit 11. That bottom blue line is pretty daunting. I'm not sure exactly what it means, but by my numbers, New York Stock Exchange margin debt is up 25 percent year over year. If you look at the green line in your chart, it's not quite where the dot-com bust came. It is sending to me something of a signal, and I want to thank you for including that.

I have questions about high-yield loans. We didn't quite go into that a great deal, but I want to make sure I have this right. In terms of loan bond funds, we'd seen net inflows for 77 months now, and from what I'm hearing in the marketplace, they're increasingly backed by second liens. The quality of a lot of these leveraged loans and the quality of these overall investments have been deteriorating. Is that a correct perception or not?

MS. LIANG. I think the chart on the bottom left speaks to that. It shows the larger loans, meaning \$50 million or more, and the distribution of those loans by their debt multiples. The red portion of the bars shows that the multiples greater than 6 have been increasing this year. That would be consistent. And then, of course, we've been hearing about looser terms, other

kinds of terms, changes in covenants and that kind of thing that could make the loans weaker. I think that is consistent. The supervisors, based on the guidance that was issued, have been going out and doing the SNC exams and the MRAs. Some of what we see here in the third quarter are deals that were already in the pipeline, and there is some expectation that the riskier part of the business will contract.

MR. FISHER. And then last, to President Bullard's point, Mr. Chairman, we also have to look at what's driving earnings, and a lot of what's driving earnings is the restructuring through borrowing money, buying back shares, and paying out dividends. The buybacks of shares, of course, affect earnings directly. It's not being driven by top line, in other words; it is driven more by financial engineering. I think we need to keep that in mind. The only reason I raise this question is that these are consequences of accommodative monetary policy that I think we just need to be aware of. I'm not criticizing. I'm just saying it's an end result of some of what we do, that's the point I wish to make.

CHAIRMAN BERNANKE. You said buying shares back affects earnings?

MR. FISHER. Of course. It will reduce the number of shares outstanding.

CHAIRMAN BERNANKE. Oh, per share. I see, yes.

MS. LIANG. I would agree with you, but looking at current top-down S&P 500 analysts' earnings estimates, current estimates for forward growth are only in the 6 to 6½ percent range. So they are not what we would think of as overly optimistic. At times they've been more so, but—

MR. FISHER. I think the greatest concern is the lack of top-line growth.

CHAIRMAN BERNANKE. I had a two-hander from the Vice Chairman.

VICE CHAIRMAN DUDLEY. Yes. I had a question about covenants. There is a perception that as covenants get loosened, that that's a bad thing. But I've talked to a number of people who have suggested another explanation: that the investors, if they don't value covenants, would prefer to have a higher yield and looser covenants, recognizing that the covenant doesn't really have value to them. What's the staff assessment on that?

MS. LIANG. I would say it is mixed. The institutional part of the loans is going to the pension funds and insurance companies, who don't value the covenants. Many of these are maintenance covenants. I think banks, though, do still value some of these covenants, and to the extent they're losing them on the revolver piece, that's potentially a problem. I think it's a mixed bag.

VICE CHAIRMAN DUDLEY. I think it's a more nuanced story than how it's normally told. That's the only point I wanted to make.

MS. LIANG. That's right.

CHAIRMAN BERNANKE. President Evans, I'm sorry to keep you waiting.

MR. EVANS. I wanted to ask President Fisher about the earnings viewpoint. You talk to a lot of CEOs, and when I talk to CEOs we don't talk about earnings, of course, but I think you're exactly right that the top line hasn't been growing, but they've been doing very well on the strength of all of the restructuring and right-sizing their businesses. I get lots and lots of commentary about that, and that's what's driving it. I'd be surprised if they put much weight on the buyback as driving anything like that.

MR. FISHER. I think it's a combination of both. They're driving down their SG&A expenses dramatically, but they're also engineering their earnings, and this is a standard practice, by the way. I'll walk through some numbers during my presentation. They're pretty large

numbers. Basically, the summary is a combination of share buybacks and dividend increases that is getting almost to the level we saw at the peak of 2006. We're very close. It helps, and that's the way they engineer their earnings.

VICE CHAIRMAN DUDLEY. Are they funding it by issuing debt or are they funding it out of earnings?

MR. FISHER. You issue debt. If you have 1 percent inflation, you get a tax write-off, and the cost of your short-term debt is negative. You and I would do that all day long.

VICE CHAIRMAN DUDLEY. But do you see it in leverage? Do you see them giving the company more leverage? I guess that's the question.

MR. FISHER. It's also becoming cheaper. It's a better cost structure in terms of the balance sheet. I'm not sure I'm worried about the amount of leverage as I am that they have reengineered their balance sheets, which means they're more fit, ready to proceed. I would like them to spend that money on job creation and cap-ex. I'm just trying to point out that it's not being utilized to the full extent one would hope, but instead it's being used—I'll give you an example, if I may, Mr. Chairman. Let's take a big company like AT&T. Their budget for 2013 and 2014 is for \$36 billion in cap-ex. Their budget for dividend extensions and also for share buybacks is \$40 billion over that two-year planning period. This is inside information. It's off the record, or it's on our record but not for outside use. That is a very abnormal ratio. By the way, most of that cap-ex will not be in the United States. What we would prefer is for them to spend money on job creation, but they're managing their earnings to the greatest extent possible, and therefore the price of their stock, by planning over two years in their budget to buy back stock and increase their dividends. It's simply an observation. I would much prefer to see job

creation come from these numbers than simply to see a reengineering of the balance sheet. Their balance sheet is long. It gives them more purchasing capacity further down the road.

VICE CHAIRMAN DUDLEY. I think I could stipulate that everyone around the table would feel the same way.

MR. FISHER. I'm just pointing that out.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I have a couple of questions about inflation. On exhibit 3, you have the Tealbook projections for core PCE now versus the June Tealbook. The December forecast is about two-tenths lower than it was in June, and I'm reminded, I think, that in our June FOMC statement we took note of the fact that inflation was a little bit low, and we said that we think there are transitory reasons why that's the case. Now, is the lower path of inflation in part due to more persistence of those transitory influences, or is there something else going on?

MS. TEVLIN. It's not because of more persistence of the transitory influences that we were looking at at the time. One of the big things we reported at that time was how medical costs were being held down by the sequestration, and we don't think that really has any persistence. That's not going to repeat. The most important reason we revised down the medium-term forecast two-tenths has to do with news that we learned at the time of the comprehensive revision during the summer. At that time, we learned that the BEA had revised down the prices of imputed banking services—banking services that aren't provided at the regular price—basically all through history, and the procedure suggested that BEA will continue to measure inflation in that way going forward. And we marked down our forecast a tenth

because of that. It's really just like BEA changed the yardstick, and we used that same yardstick going forward.

MR. EVANS. So it's not just a one-time markdown, and then you go back—

MS. TEVLIN. That's right. We think they are going to continue to measure those services' prices in the same way.

MR. EVANS. How does that factor into your thinking about calibrating the overall inflation rate associated with core PCE? I mean, they've got a component now that is always going to be a little bit lower relative to what it would have been. How are we supposed to think about it overall?

MS. TEVLIN. I assume that if your target is still that you want total PCE inflation to be 2 percent, that you will support the economy until it reaches 2 percent even by this new measurement.

MR. EVANS. Right. I guess we don't really have great theories about how individual components catch up to the changes in inflation. I was kind of driving toward—it is transitory now, and then when it goes away, something else takes its place. And then maybe it just takes some time to figure out how all of this is going to make its way into inflation adjustments and if there is some downward headwind for inflation that we should be worried about. But it is hard to assess that.

MS. TEVLIN. Right. I think in general we do want to be careful when we revise down inflation not to pull out the things that went down and say, well, if you exclude the things that went down, then it didn't really go down. [Laughter] So I totally agree with you on that. But this particular one I think has a little bit of a different feel to it. It is not just pulling something out. It is actually looking at the long history. And then the other reason we revised down is that

this past year we have been surprised a couple of times on, as I said, the medical price series. One of those was completely transitory, but it did cause us to take a good look at that medical price trend, including the news that we have received more recently, and we decided that we thought there was probably going to be a more persistent downtrend in medical prices. These are the administratively set prices, and we think that the government will continue to squeeze the prices for Medicare and Medicaid. So we took another little bit out of our inflation rate in the medium term for that reason.

MR. EVANS. Okay. Thanks.

MR. WILCOX. And that is worth about half a tenth. We are talking about small numbers.

MR. EVANS. All right. My other question is about the other advanced foreign economies and inflation. In exhibit 7, it's the case that most of these countries have lower inflation, and now we see the projections for inflation coming back up to the target. And this also seemed to be an environment where their policy rates are going to be moving up. Maybe you could add a little more color to the few sentences that you mentioned on this. Is it the pull of longer-term inflation expectations that is bringing inflation back up to target? Is it something more tangible than that? If they are going to experience a recovery, that would be one side of it. But you also mentioned a triple-dip risk for the euro. How do you square all of this?

MR. REEVE. Sure. On the latter point, I would categorize that triple dip as pretty much just a risk and not part of the baseline projection. As I mentioned, a big part of the deceleration in inflation across these economies has been declines in energy prices. And the deceleration has continued even to a greater extent than the declines in prices, say, of crude oil, because there has also been a compression of refining margins globally throughout this period. And that in our

view is something that is not going to continue, and so, mechanically, as that effect passes out, you get some move back up in inflation.

Another big part of this deceleration is the eventual ending of tax increases that many of these countries put in as part of fiscal consolidation efforts. And in Europe or the United Kingdom, those were actually quite large. For the euro area as a whole, the passing through of those tax changes, by the rough constant tax metrics, which have their own caveats, is worth a good  $\frac{1}{2}$  percentage point on inflation from 2011 and 2012, to the present.

In thinking about inflation going forward, the pull of inflation expectations is a factor in our models. That is a piece of it, as is the economic recovery itself. It is true that slack persists throughout the forecast period, but it is projected to diminish going forward. And those are sort of the main influences operating here.

MR. EVANS. Okay.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Yes. Relevant to the imputed banking services discussion, as a purely methodological change, I would just point out that we ought to reduce our target by two-tenths.

MR. WILCOX. One-tenth.

MR. LACKER. I stand corrected.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Yes. I just want to follow up on this inflation discussion a little bit, and see if I can add to President Evans's question in a slightly different way just to get a little more insight into what is really happening. The answer was about inflation returning to 2 percent in the forecast but not until 2019 or 2020 or something. Was that the answer we got a little earlier?

PARTICIPANTS. 2019.

MR. PLOSSER. Something like that. In the forecast, we also have unemployment returning to full employment, at least by our long-term standards, in 2016, or something like that, and we've got inflation expectations relatively stable. Asking the question a slightly different way, why isn't the full employment and the stable inflationary expectations driving inflation back toward target faster in the way you have modeled inflation rather than so slowly? Can you just give me some insight as to what the dynamics are here that sort of—

MR. EVANS. Oh, you mean like the Phillips curve?

MR. PLOSSER. Yes. Like that. [Laughter] I thought that is what we based our models on, the Phillips curve, right? But where it is in the model is what I'm asking. I thought we were relying very heavily on that, at least some of us were.

MR. EVANS. Fair enough.

MR. WILCOX. Glad to have you aboard, President. [Laughter]

MR. PLOSSER. Well, where did it go?

MS. TEVLIN. We do have the Phillips curve operable in this forecast, but we think the Phillips curve is very flat right now, and so even with the unemployment rate gap closing over this period, the effect on inflation is very gradual. And then on top of that, for at least the next few years, we have energy prices declining. And with energy prices declining, they are kind of offsetting the upward tilt we would see from slack. That at least gets us through the next few years, and—

MR. PLOSSER. That's probably far enough.

MS. TEVLIN. And beyond that, I think it just continues to be a very gradual process. Obviously, you're asking about the mechanism that we are using, and that is important.

MR. PLOSSER. In DSGE models, you've got a mark-up variable that would be driving this, right? It would be a different mechanism in different types of models. And I am just trying to figure out what is driving it in this model, or is it just the belief that inflation is, like Atkeson and Ohanian tell us, a random walk and that is what you are forecasting.

MR. WILCOX. As Stacey emphasized, these are really small numbers, and these are very drawn-out processes.

VICE CHAIRMAN DUDLEY. What does the cone look like?

MR. WILCOX. Way bigger than the numbers that we're talking about.

MR. PLOSSER. So why are we worried about this? Should we be worried about this at all?

MR. WILCOX. Given that we are talking about tenths of percentage points, I would also note that the unemployment rate actually slightly descends below the model's effective NAIRU by a couple of tenths, and that is what's required to give the upward lift to inflation to get the job done and get it back up to 2 percent. But, to Vice Chairman Dudley's point, the confidence intervals around our central narrative are really very wide.

MR. EVANS. Could I ask a question?

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. We use the term "uncertainty" a lot, and the cone is like that. The cone is symmetric around your forecast, isn't it? I mean, it doesn't allow us to just say, "The cone is big, so I'm going to draw my preferred path like this." The probability of that path isn't necessarily as high as you would think, just because it fits within the cone, right? I mean, there is a difference between bias and—

VICE CHAIRMAN DUDLEY. Why is it symmetric, though? I mean, presumably, there is price rigidity.

MS. TEVLIN. Actually, it is not quite symmetric in the near term. We are at the zero lower bound, so the cone that I showed around GDP, for instance, is not perfectly symmetric.

MR. EVANS. Oh. It is even worse on the downside? So, our tendency to say, “Well, it could be up,” is even less probable.

CHAIRMAN BERNANKE. It is 3:00 p.m. I wonder if anyone would like to join me in a cup of coffee. [Laughter]

MR. ENGLISH. Mr. Chairman, I wanted to answer President Rosengren’s question from the SEP. You asked whether the people who are early in raising the funds rate were raising it before the threshold was reached. The answer is “no.” Those two folks have the unemployment rate at the end of 2014 at 6.2 percent. They are interesting, though, because they are both more optimistic than the rest of you. Those are the lowest projections of the unemployment rate at the end of 2014 across all 17 projections. They are also pulling the trigger a little earlier. That 6.2 percent is at the high end of the range of unemployment rates for the end of the year in which liftoff occurs, again, across the 17 projections.

VICE CHAIRMAN DUDLEY. Bill, what is the range on the unemployment rate when liftoff occurs?

MR. ENGLISH. It ranges from 6.2 percent all the way down to 5 percent. There is only one person down at 5 percent. There are a couple of people at 5.5 percent. No pointing fingers.

CHAIRMAN BERNANKE. All right. Coffee is available. Let’s start again at 3:20 p.m.

[Coffee break]

CHAIRMAN BERNANKE. Why don't we recommence? We have an opportunity at this point, before we go into the general go-round, for anyone who would like to comment on financial stability issues to do so. Is there anybody who would like to make observations on that? President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I want to thank the staff for having done their usual excellent job of providing FOMC participants with a thorough and thoughtful overview of the shocks and vulnerabilities of the financial system. Given their assessment and given the projected slow rate of progress toward our dual mandate goals, my conclusion is that financial stability considerations should not influence the current stance of monetary policy. But I do agree with the suggestion in the box on pages 32 and 33 of Tealbook, Book B. We should anticipate that financial stability will loom larger in FOMC deliberations as the economy continues to improve. This conclusion means that the Committee will need to do even more to integrate financial stability risks into our monetary policy deliberations in a systematic fashion.

Of course, other central banks are struggling with the same issue, and I think there is much that we can learn from one another. I recently had the chance to read the July 2013 monetary policy report from the Riksbank, and that report contains a concrete implementation of a two-step approach to integrating financial stability more fully into monetary policy deliberations. I think that my conversation with Nellie Liang earlier was an example of how the first step would work.

That first step is to focus our attention on financial system risks that could plausibly have material dual mandate consequences. Go through the whole QS report. I think it's a useful report in its entirety, but many of the risks simply don't seem large enough to have a significant

impact on our dual mandate variables: prices and employment. Thinking about the three or four that are probably the most material from that point of view could well be useful. An important issue, which I think is challenging, is that these financial system risks might well manifest themselves beyond the usual medium-term horizon of monetary policy—more like five years out, rather than two years out. In other words, as noted by some around the table, the Committee has to allow for the possibility that current financial market conditions could be associated with longer-term risks to dual mandate outcomes. So that's the first step: to try to focus our attention on risks and vulnerabilities that actually translate materially to our dual mandate.

The second step is to gauge the elasticities of these possibly longer-term dual mandate risks with respect to current monetary policy. For example, Tealbook, Book A, has a very nice alternative simulation about a credit boom. We could ask ourselves, suppose the Committee were to raise the fed funds rate by 100 basis points over the next two meetings—how much would that monetary policy action today produce of the sharp fall in 2017 employment that occurs in that alternative simulation? That kind of elasticity analysis would allow policymakers to formulate a tradeoff between medium-term dual mandate outcomes of our benchmark outlook and longer-term dual mandate tail risks. Policymakers could then adjust monetary accommodation in light of this tradeoff.

Now, to be clear, both of these steps—figuring out the risks to the dual mandate outcomes and the effects of monetary policy on those risks—are likely to take the form of rough assessments rather than precise estimates. Nonetheless, these rough assessments will provide a better basis for our deliberations. I don't think these kinds of future tail risks are likely sufficiently large at this time to affect the current stance of monetary policy, but I think we have to be ready for the possibility that this situation may well change as the economy improves. For

this reason, Mr. Chairman, I think that this financial stability go-round and the surrounding staff analysis are likely to prove to be one of your most important legacies to this Committee.

The approach to financial stability that I've talked through is based on a very particular perspective toward financial stability, and it's grounded in our current longer-run goals and policy strategy statement. That statement emphasizes that we're making monetary policy to influence the progress of the economy toward goals regarding prices and employment. Financial stability is only relevant to that conversation insofar as it's a factor that affects that progress in the way that I've tried to talk through. Now, many observers have suggested that financial stability should be an entirely separate goal of monetary policy from prices and employment. If this Committee wants to adopt such a framework, where financial stability is an additional objective of monetary policy, I think we will need to go about amending our framework of longer-run goals and policy strategy accordingly.

As you emphasized yesterday in your remarks at the centennial celebration, Mr. Chairman, I think that transparency is a very important part of effective policymaking, and I don't think we can be making policy effectively if we're being guided by some kind of goal that we haven't shared with the public. So if we want to think about financial stability as a separate goal, we actually have to be articulating that to the public, and, given the likelihood that financial stability is going to start to become more and more a part of the conversation, I think that's something that we should start sharing with the public relatively soon. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Just for accuracy, was that your go-round comment as well, or was that just your financial stability comment? [Laughter] I have you here

first under the go-round, too. Is there anyone else who wants to speak on financial stability?

[No response] Seeing none, I'll call on President Kocherlakota.

MR. KOCHERLAKOTA. This would actually make decisionmaking considerably easier at the meeting. But I suspect this streak is not likely to last. Mr. Chairman, I will be brief in this go-round.

In November 2013, the employment-to-population ratio was 58.6 percent. This is basically the same as it was two years ago and well below its level in early 2007. Admittedly, the stability of this ratio is due in part to downward demographic pressures, but even if we look at those aged 25 to 54, we see little improvement in EPOP over the past two years, especially relative to the decline since early 2007. And these numbers ignore the fact that was just highlighted in the staff briefing—that an unusually large fraction of those who are employed would actually like to work more hours.

Many Americans would say that the state of the labor market that I've described is a cause for significant concern. Given that concern, it's natural for much of the public dialogue about monetary policy to focus on whether additional monetary stimulus can increase employment. In my public remarks I've argued that it can, and my perspective on this issue has been shaped by a wide range of empirical evidence, including much work that has been done by people in this room.

More recently, researchers at the Minneapolis Fed have added to this body of evidence in an important way. Usually, Phillips curve estimation relies on aggregate data and is contaminated by the endogenous response of monetary policy to aggregate shocks. The new Minneapolis Fed research by Fitzgerald, Holtemeyer, and Nicolini uses cross-SMSA evidence to eliminate this contaminant because monetary policy does not respond to a particular SMSA's

inflationary pressures and demand pressures. Using this cross-SMSA evidence, the authors document the existence of a stable and plausible Phillips curve relationship between inflation and unemployment. According to their estimates, monetary policy stimulus that increases the medium-term outlook for inflation by 10 basis points will decrease the unemployment rate by about 25 basis points. I encourage you all to take a look at this very nice work.

But notwithstanding this very compelling work, I have to admit that this issue—to what extent, if at all, monetary stimulus can boost employment—is likely to remain a subject of controversy in monetary economics, as it has been over the past two centuries. The good news is that the data on inflation suggest that the answer to this thorny question is largely irrelevant for our current policy deliberations. Over the past two years, core and headline inflation have fallen to around 1 percent, and the outlook is that inflation will remain muted. The DSGE models all project that inflation will be below 1.8 percent through 2016. The Tealbook predicts that inflation will remain below 2 percent through the end of 2018. In other words, the Tealbook forecasts that inflation will be below target for seven consecutive years, and my own forecast is about the same. Disturbingly, that forecast has slipped since the last meeting. In terms of other people's outlooks around the table, if you look at the Summary of Economic Projections, about half of those submitted projections actually have inflation below 2 percent as of 2016. That's under appropriate monetary policy.

Given these inflation outlooks, this issue of whether monetary policy can influence employment is really off to the side. The main question for us is, can monetary policy influence the price level over the medium term? I believe that virtually all macroeconomists would say that the answer to this question is “yes,” but if we accept the view that we can influence the price level over the medium term, and we agree that our 2 percent target is to be, in fact, a target,

should we not be doing whatever we can to foster higher inflation over the next few years?

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. There has been some positive economic news since the previous FOMC meeting. The November employment report indicated that we are again creating roughly 200,000 jobs per month and that the unemployment rate continues to decline, now standing at 7 percent. Incoming data on the real economy also highlight the fact that the fiscal issues in October have not had a significant longer-lasting impact on households and businesses, and it appears that fiscal discussions are unlikely to be disruptive to the economy, at least in the near term.

Despite this positive news, incoming data have only confirmed our forecast of a slowly improving economy. The Tealbook forecast for real GDP in 2014 is virtually identical to that of the previous Tealbook, as is the forecast for final sales. Thus, the data have not improved the Tealbook forecast for the real economy, and my forecast, like that of the Tealbook, has not changed much from the last meeting.

My forecast, again like the Tealbook, projects real GDP growth next year to be close to 3 percent, which is significantly faster than the 2.3 percent average during the recovery to date. This forecast is based on reduced fiscal restraint and increased household spending that is bolstered by improving payroll employment growth and higher stock and housing prices. It also receives continued support from low interest rates, with the strongest growth occurring in the interest-sensitive housing and consumer durables sectors.

We need to be humble about our forecast for real GDP, however. Over this recovery, the Tealbook has been overly optimistic about growth in the out quarters, as has my own forecast.

Some, but not all, of the forecast errors for real GDP can be explained by the staff's assumption of less fiscal restraint than actually occurred. While we may now have less uncertainty concerning fiscal policy over the next two years, I am concerned that monetary policy could become the newest potential source of risk that the economy will not achieve at least 3 percent growth.

My forecast is based on the assumption that the Committee will wait to reduce purchases until March 2014, when we hope to have more compelling evidence in the data that real GDP is growing at 3 percent. In addition, my forecast assumes that our tapering will be gradual and that we will not raise the federal funds rate from its lower bound until the unemployment rate is below 6 percent. This enables residential investment to grow a bit faster than 15 percent and producer durable goods to grow just under 10 percent. However, if our tightening is more aggressive than I have assumed, or if the market reacts more to a reduction in purchases than is assumed in the Tealbook, we risk getting another year of growth only modestly above potential, a pattern that has been an unfortunate hallmark of this recovery.

Even with my monetary policy assumption, I forecast that we will remain below our inflation target throughout the forecast horizon. In part, that reflects how low the inflation rate is now. With PCE inflation at 0.7 percent, we are now further from our publicly stated inflation target of 2 percent than the Bank of Japan is from its publicly stated target of 2 percent for the CPI less fresh food, which is currently at 0.9 percent. Furthermore, although our SEP forecasts have been predicting that PCE inflation would be rising, this has yet to appear in the data.

There are several reasons to be concerned with this low inflation rate. First, we have drawn significant attention to adopting an explicit 2 percent PCE inflation target and reaffirmed that target at the beginning of this year. One wonders how long we can keep missing such an

explicit target before the credibility of our commitment to inflation targeting becomes questioned. Particularly notable is that other central banks with inflation rates below target, but higher than our rate, are much more aggressively affirming their commitment to raise inflation to the 2 percent target and are expressing their willingness to undertake additional easing to attain their target. Meanwhile, we've been talking about reducing our purchase program. Second, at such low inflation rates, we risk slipping into deflation if we are hit by a large negative shock. You may recall that a premature tightening of policy was associated with the onset of Japan's deflationary problems. Third, low inflation rates at the zero lower bound have important implications for real short-term interest rates. If large negative real interest rates are what is necessary to return the economy to full employment and our target of 2 percent inflation, low inflation rates are a major impediment to achieving sufficiently low real interest rates.

Overall, the very low inflation rate simply adds to the rationale for very accommodative monetary policy. Of course, the primary reason for retaining accommodative policy is the elevated unemployment rate, which, at 7 percent, remains above the peak unemployment rate of the previous recession. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. Economic and labor market conditions have improved since our October meeting. We hope that we are seeing the early signs of the sustained pickup in growth that we have been looking for in 2014 and beyond. Unfortunately, there is a pretty big caveat to this more upbeat assessment—namely, as both President Kocherlakota and President Rosengren mentioned, inflation is very low and showing little sign of moving away from its current unwelcome territory.

I want to spend most of my time on inflation developments, so I will only briefly talk about the real economy. On that score, it certainly has been refreshing to see some better reports. A step-up in payroll employment gains toward the 200,000 mark and the decline in the unemployment rate to 7 percent are good news. The recent increases in retail sales, motor vehicle demand, and sentiment point to a healthy pickup in consumer spending in the current quarter. And my business reports are clearly moving into the cautiously optimistic camp. Now that, too, is a positive development, although it sounds lukewarm.

In terms of my outlook, however, there are still good reasons to remain cautious. Even relative to trend, the drop in the labor force between September and November played a big role in getting the unemployment rate down to 7 percent. Some of the increase in consumer spending growth could reflect a one-off adjustment from levels that had been depressed by the payroll tax increase. And my business contacts do not report any major plans to expand workforces or cap-ex, even though they are cautiously optimistic about a stronger 2014. So while I am quite happy and relieved to hear the better news, I want to be careful not to overstate the overall improvement. Frankly, I can't say I know that growth has stepped up to a higher level yet. There continues to be uncertainty on this front. For me, the next few months of data will be highly informative on judging the underlying strength and sustainability of these improvements.

Now let me turn to what should be a very important issue for this Committee today: our very low rate of inflation. Total PCE inflation moved down to 0.7 percent in October, year over year, and core PCE inflation remains at 1.1 percent. Our inflation objective is 2 percent. I would say that we are well below this level, at 0.7 percent on PCE. And, frankly, I think our FOMC statement should reflect this objective characterization in paragraph 1. I'm referring to the point where paragraphs 1 and 2 talk about the economy. It makes sense to relate any commentary to

that. Alternative B only says that “inflation has been running below the Committee’s longer-run objective.”

Persistent below-target inflation is a problem. Debt burdens and other nominal commitments are more onerous in real terms than originally bargained for. Wage increases and income gains are less likely to keep up with what households were expecting, and households’ interest payments and their budget plans were premised on these expected nominal increases in wages.

It is worth noting that lower-than-target inflation rates are a global phenomenon—at least, certainly, in the advanced foreign economies. Inflation in the euro zone has moved down below 1 percent, well below their objective of close to 2 percent. Inflation in Canada is just 0.7 percent. Recently, the U.K. inflation rate fell quickly from 2.7 percent to 2.2 percent in a single report, and today it moved down to 2.1 percent. And they have a lot of monetary policy accommodation while inflation is falling. In Japan, inflation has finally increased into positive territory at nearly 1 percent, but that is also well below their target. If these inflation experiences reflect global headwinds that are not adequately offset by accommodative policies, then low global inflation and its influence on reducing U.S. inflation could prove to be more persistent than we currently expect.

Whatever our opinions regarding the efficacy of monetary policy for the real side of the economy, excessively low inflation relative to target is a classic nominal issue for central banks to deal with. It’s our job. We own the price level. Suppose, hypothetically, that we had a single mandate for price stability. One might then wonder why we were contemplating providing less accommodation at this meeting immediately after inflation has fallen even further below our price objective.

When we were looking at low inflation in June and July, our FOMC statements referred to it as transitory; in totality, it hasn't proved to be as transitory as we thought. Since then, inflation has moved lower. I think that is troubling. At a minimum, it is quite noteworthy and should be strongly acknowledged by the Committee in paragraphs 1 and 2 of tomorrow's policy statement.

The current alternative B's offering for paragraph 2 is an improvement from our October language, but, if anything, I think it can be strengthened. I actually think that the last sentence in paragraph 2 of alternative A better captures what we ought to be expecting. At the end it says, "The Committee . . . will monitor inflation developments carefully for evidence that inflation is moving back toward its objective over the medium term." That seems like what we certainly ought to be striving for and expecting through our policies.

Now, having considered the risk that inflation will remain too low for too long, what about the case that most envision—that inflation turns around and moves more assuredly toward our target? Since this is consistent with my own projections under appropriate monetary policy, I can actually imagine this happening at some point. As the economy improves further with increasing growth and diminishing resource slack, I expect the pull of anchored inflation expectations to show through more definitively in boosting actual inflation.

Some participants are worried that our large balance sheet risks inflation substantially overshooting our 2 percent target. Several participants in the financial stability survey who were worried about higher inflationary risk focused on the idea that increased lending, supported by banks' excess reserves, could fuel large increases in broad money and, hence, inflation. To me, this more traditional and monetarist channel doesn't seem distinguishable from our normal concerns about growth, resource slack, and inflation. After all, it is hard for me to imagine that

such aggressive and inflationary lending by banks would be occurring without an environment of stronger economic growth.

The good news here is that I think we are already monitoring for these influences, and we should be able to identify them if they appear more suddenly than most expect. So I don't see these special inflationary risks as flying under the radar. We are watching for developments like these. And even in the event that there are some hidden risks, we still have the protection of the 2½ percent inflation safeguard in our forward guidance for the funds rate. For me, the largest risk today is not some unforeseen outburst in inflation, but that we fail to provide enough accommodation to support continued improvement in the economy and to get inflation moving more assuredly toward our long-run objective of 2 percent. If we find ourselves failing on these mandates, then we are going to have a lot of regret over these actions. Thank you, Mr.

Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I will start with anecdotal inputs from our District contacts. The downbeat mood reported by our contacts before the October meeting has abated, and their expectations for growth in the near term have returned to September levels, which is to say, they expect growth to be in the range of flat to slow. Most contacts expressed skepticism that growth will accelerate in any meaningful way in the near term.

Reports about holiday season sales were mixed, but now that it has begun, the season appears more upbeat than the previous cycle would suggest. Reports from auto dealers, auto retailers, outlet stores, and retailers with significant online capabilities were strong. Likewise, contacts connected to the industrial sector reflected the strength we have seen in the manufacturing data. A number mentioned the benefit of renewed export demand. Although the

pace of housing sales has slowed, most builder contacts and mortgage bankers expect continued growth in 2014.

In this cycle, I heard of more instances of labor shortages, notably in the construction and energy sectors. We also heard reports of shortages in nursing and some manufacturing trades. That said, I did not detect a widespread pickup in hiring intentions or wages. Employers continue to be cautious about growing their staffs. We heard a repetition of concerns about the Affordable Care Act. These concerns seem to be driving the use of labor-substituting technology, contract and temporary labor, and increased overtime. Our contacts continue to report that cost pressures, including labor costs, are well contained. Low energy and industrial commodity prices are said to be contributing to subdued price pressures in the manufacturing sector.

Considering the prominent role played by the inventory buildup in the third quarter and the expectation of an output-constraining drawdown in the fourth quarter, we asked a number of contacts about recent inventory patterns in their supply chains. We did not hear reports that would indicate a significant inventory overhang with consequences for 2014 growth. However, a very large national auto retailer, the nation's largest, suggested there is the potential for an inventory-driven drop in auto production in 2014. I noted that in the "Material for Staff Presentation on the Economic and Financial Situation," the upper-left panel in exhibit 1 might give the impression of output momentum coming from auto-related consumer spending. This contact suggested quite the opposite—a slowdown of output because of an inventory overhang in autos.

Regarding the outlook, I did not make substantial changes from my September SEP submission. My growth forecast is basically the same as the Tealbook's in 2014. I lowered my

unemployment rate projection a little over the forecast horizon, but the distinction between my unemployment outlook and that of the Tealbook is not significant. I did, however, adjust my assessment of the balance of risks. I adjusted my view of the risk to my GDP growth projection from “weighted to the downside” to “balanced.” Regarding inflation risk, the disinflation trend in the consumer price data definitely has my attention, and my staff interpreted today’s CPI report as still being on the soft side. I lowered my inflation projection significantly in my SEP projection, but I still have the rate of inflation moving higher over the forecast horizon. I submitted a balance-of-inflation-risk assessment of “balanced” to be consistent with my growth assessment, but I have an asterisk indicating weak conviction beside my view on inflation because of the recent downward slope of readings and the lack of clear indications of any firming in the inflation data. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, if I can, before I get into my presentation, I’d just like to thank President Lacker for having done a superb job yesterday in organizing the centennial celebration. So, hawk to hawk, thank you.

I want to comment briefly on the Eleventh District. We continue to have surprisingly good job growth. We project 2½ percent for the year. At the same time, it’s creating some problems. President Lockhart mentioned the shortage of skilled labor, and we see that in certain areas, but it has developed into what I call the “beer and the 7-Eleven” paradox. We’re able to take the top three beer distributors in the nation for Budweiser, which are in Houston, Dallas, and the Rio Grande valley, and to track beer consumption by Zip code. Mexicans drink beer. Mexicans build homes in the United States. They’re not drinking as much beer as before, but because we’ve had house prices climb 7.8 percent from August to October and we’re seeing a

surge in the last few months in construction—mainly for multi-unit housing, not so much for single-family housing and permits—it appears that the Mexican construction workers have moved into wine, out of 7-Eleven, and out of beer and cigarettes. They have moved to Taco Bell and to other, more prominent retail stores. That’s just a humorous observation, but it gives a sense of the health of our economy in the Eleventh District.

The one concern I have is that with all the excess balance sheet capacity we have in the banks across the nation, we are seeing loan tenor, structure, and pricing pressures in our high-growth area, and it’s putting a lot of pressure on the banking structure within our District. We’re monitoring that very carefully. We very clearly see banks rushing in to provide credit, which we hadn’t seen before—from the very largest banks all the way down to the corporation with \$50 million in sales.

I want to summarize very quickly what I have heard from my corporate interlocutors and my contacts, as follows: Sustained low interest rates, abundant credit, improved household and strong corporate finances, and pent-up demand for durable goods are providing the basis for a slight acceleration of the pace of recovery expected in 2014. From the standpoint of our contacts, the euro area appears to have stabilized, although it’s not devoid of risk. As was pointed out in the presentation earlier, the United Kingdom and Japan are expanding. The drag on U.S. growth from restrictive fiscal policy seems to have diminished somewhat and our contacts expect it will diminish with the budget agreement that appears to have been struck.

Ongoing new oil and gas extraction technologies have reduced the danger of high oil and gasoline prices. Food prices are contained by the substantial expansion in supply that has ensued in response to the very high prices that have prevailed for quite some time. There was a surplus of production relative to demand globally. Rail shipments are approaching the 2006 peaks and

are likely to surpass them in 2014. Air passenger and freight volumes are up, year over year. The express shipment companies expect a very strong December, including the one headquartered in your District, Dennis, which expects December to come in at plus 8 percent, year over year, making up for the weak October and November and providing momentum moving into the new year.

With regard to inflation, it is the view of our staff, but also of my interlocutors, that inflation has stabilized. The trimmed mean PCE has been stable for seven months now at 1.3 percent, and I noticed from Stacey's presentation that the trimmed mean CPI and that other measure of the core CPI—it's hard to tell on that scale, but they've been stable for the last seven months or so. So the view among those I speak to is that inflation will likely return to near target levels, though maybe not quickly, and the risk of deflation has been mitigated.

All that is to the good. However, as President Evans pointed out in his presentation, corporations still remain focused on squeezing out inefficiencies. As I mentioned earlier, they're driving their SG&A costs as aggressively as possible and continuing to extract productivity gains, according to the ones that I speak to—large, medium, small, public, and private. They continue to focus on managing their bottom lines, as we discussed earlier, through share buybacks and their stock prices through dividend repayments, very much at the expense of cap-ex and payroll expansion.

I mentioned AT&T earlier, so I won't dwell on that single company. I'll give you another example, though, which I find interesting. For 2014, Texas Instruments will spend two times the amount on share buybacks and dividend payouts compared with what it will spend on R&D and cap-ex. That's the first time in that corporation's history that it's done so. Overall, the total buybacks for the year are at a run rate of \$482 billion, and that is near the level of 2007.

Very importantly—and this is something that I mentioned to Nellie earlier—what you have to look at are the authorized or board-approved buybacks, which this year will be \$754 billion, surpassing the 2007 level. This will combine with S&P dividends, which will hit a new record this year of \$310 billion versus \$282 billion in the year 2012. Basically, this is an ongoing phenomenon. It may explain, Stacey, the June Tealbook overestimate of equipment and software purchases that you showed in your chart. Even though businesses are still driving productivity, it appears to me that publicly held companies are less interested in that than in somehow massaging and managing their bottom lines.

I want to relate just a couple of factoids with regard to my corporate contacts. The retail sales picture is very mixed. Just three companies—Samsung, Apple, and Amazon—account for about 30 percent of retail sales. And let me add parenthetically, Amazon doesn't make a penny in profit; its stock price is driven largely by zero interest rates and the discount factors that are applied. I'll be happy to explain how three companies account for 30 percent of sales—I can tell by the expression on your face, Governor Yellen, that I should explain it. I'll give you a lecture on that if you wish. [Laughter]

Here's the point. We will hear, as we talk to our corporate contacts, a “lower-lift approach,” as I like to call it, with regard to the retail sales of those that operate in malls. That's 6 percent of retail sales. We have a very minor number of companies, mostly high-tech oriented, that are driving the retail sales figures. And one of the figures that absolutely astonishes me is this: According to the CEO of Apple, 75 percent of the revenue they have achieved in November and to date in December came from products that did not exist in September. What that means for consumption patterns and for productivity enhancement I don't know, but it just shows you the kind of rapidly changing world we're living in.

And one last data point, going back again to one of the companies I speak to in your District, President Lockhart, and another express shipment company. They believe that 60 percent of their customers, at least, will do their final shopping in the last two weeks of this year. Everybody is hunting for bargains. They're all value driven. And like corporations, they're driven to the highest achievement for the lowest possible cost.

I mentioned the drive to productivity earlier. Governor Stein and I have been discussing this in a side conversation. There seems to be some selection bias on my part in terms of who I speak to, but somehow I'm hearing every single business operator, big and small, talking about driving their productivity and driving down their SG&A costs and this makes me think there's something amiss with regard to the very weak GDP growth we've been seeing.

I know some work has been done on GDI growth. I wish we could do more and have more discussion of GDI growth. It's less subject to after-the-fact revision than GDP growth, and GDP growth tends to be revised toward GDI growth, according to my staff. In recent years, GDI growth has run 0.3 percent above GDP growth. I think this was in the staff presentation for the Board, but in the last four quarters, the growth rates of GDI and GDP have been 2.97 percent and 1.83 percent, respectively. So I'm wondering if we can have more focus on GDI. It may explain some of the disparity between what I'm hearing from companies and what we're seeing in terms of overall growth.

With regard to projections, the economy has performed much as I expected. My forecast revisions are minor. Unlike the Tealbook, I'm within the central tendency of every variable for every year. It means you all may wish to adjust your calculations. [Laughter] I have the fourth-highest funds rate at the end of 2015. I am among the five who would prefer a faster taper than

the Tealbook. I notice Board staff again has headline inflation below the central tendency in both 2015 and 2016 and core inflation below the central tendency in 2016.

As the last point, if I were to draw attention to one variable we at the Dallas Fed find encouraging on the employment front, it would be the trend line for initial claims for unemployment insurance. It has been trending down continually since early 2009. The unemployment rate, which peaked in October 2009, has pretty much tracked initial claims since then. The claims for unemployment insurance blipped up in 2012, but they are still trending downward, and we guesstimate from this and other indicators that we might possibly reach 6.5 percent unemployment in the second quarter of 2014. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. The recent economic data indicate that the recovery is gaining traction. Indeed, based on the latest data, I have raised my forecast for Q4-over-Q4 GDP growth this year to 2.4 percent. Household spending and confidence are on the rise, and I have also heard from directors and other business contacts that the decline in gas prices and energy prices has had a positive effect on consumer spending, especially for people who are more strapped for income, whether because of low income or because of unemployment. So I think that, on the flip side, the low inflation is obviously a concern from an inflation point of view, but it is a positive from a consumer spending point of view.

The other thing is that the Congress is showing signs of kicking its addiction to the fiscal brinkmanship that has kept policy uncertainty so elevated over the past few years. My business contacts expressed cautious optimism. I think that is also what President Evans reported. They are especially relieved that the damage done by the fiscal confrontations, federal spending cuts, and higher taxes earlier this year is unlikely to be repeated. Absent the debilitating drag from

fiscal policy, I expect growth to pick up to about a 3 percent pace next year and to remain there for the following two years. And I view the risks to the outlook as balanced.

In the labor market, the momentum indicators I have discussed in previous meetings now point more emphatically toward an improving jobs picture. I would characterize the marked decline in the unemployment rate since we started our latest asset purchase program as representing substantial progress toward our maximum employment goal. Looking ahead, I expect the unemployment rate to fall further, reaching 6½ percent by the end of next year and 5¾ percent by the end of 2015, and to reach full employment levels in the latter part of 2016.

As I previously argued, I consider the unemployment rate to be a generally reliable measure of slack. Its current level, as well as the decline over the past year, is entirely consistent with a number of other labor market indicators. These include the share of households reporting that jobs are plentiful, the share of small businesses reporting difficulties filling positions, and quits.

To be sure, there are two labor market indicators that are giving notably different signals. The first is the employment-to-population ratio, which has been nearly flat since 2008, as has already been mentioned. At first blush, this statistic suggests that there may be far more slack than implied by the unemployment rate or other standard measures of slack. However, this assessment hinges critically on how much of the participation drop is cyclical and how much is structural. My staff estimates that roughly 60 percent of the decline in labor force participation since the start of the recession reflects persistent structural factors such as the aging of the workforce and the permanent movement of prime-age workers onto disability benefit rolls. This finding of a significant role for structural factors in driving down participation is consistent with the analysis by the Board staff reported in the Tealbook. After accounting for such structural

shifts, the signal from the employment-to-population ratio turns out to be much more in line with the unemployment rate. Moreover, the household employment series, which is used to calculate the employment-to-population ratio, can diverge significantly from the more reliable payroll employment series. Indeed, since the end of last year, household employment has grown much less rapidly than payroll employment. As a result, the employment-to-population ratio may be understating the degree of improvement in the labor market over the past year.

The second signal at odds with the broadly improved labor market data relates to job vacancies. Reported job vacancies increased more rapidly than hiring in recent years, resulting in a persistent outward shift in the Beveridge curve. As we have discussed many times here, this could mean that structural factors such as skill mismatch have pushed up the natural rate of unemployment. However, it is likely that cyclical factors are primarily responsible for the Beveridge curve shift. Earlier this year, I noted that a reduction in business recruiting intensity may be one of those cyclical factors. By lowering the intensity of their job searches, businesses are less likely to fill their vacancies, and this manifests itself as an outward shift in the Beveridge curve. Recent empirical research by Steve Davis, Jason Faberman, and John Haltiwanger suggests that recruiting intensity fell sharply in the recent downturn, and that explains an important part of this observed outward shift in the Beveridge curve.

My own staff has extended the standard search model and found that this fall in recruiting intensity is inconsistent with an increase in skill mismatch or the other structural factors that might lower labor market efficiency. In their model, recruiting effort varies over the business cycle because new positions are costly to create. Their analysis indicates that a rise in mismatch leads the Beveridge curve to shift out, as you would expect, but the resulting higher unemployment induces businesses actually to recruit more intensively, because with a larger

pool of job candidates the probability of finding a suitable worker actually increases. This finding that an increase in mismatch boosts recruiting intensity as unemployment rises is clearly at odds with the data, and this provides additional evidence that cyclical factors rather than structural factors are the main explanation for the Beveridge curve shift.

Back at our March meeting, I highlighted a rise in policy uncertainty as one potential cyclical factor holding down recruiting intensity and contributing to the outward shift in the Beveridge curve. As uncertainty and other cyclical factors return to more normal levels, I expect the Beveridge curve to shift back inward gradually to its pre-recession position, with no lasting effect on the natural rate. Therefore, like the employment-to-population numbers, the Beveridge curve shift and vacancy data do not convincingly call into question the unemployment rate as a good measure of labor market slack.

Finally, I am encouraged that core inflation seems to have bottomed out. We have already heard some discussion around different indicators that show that. Still, like the Tealbook, I expect PCE prices to increase only about 1½ percent next year and to gradually approach the 2 percent goal in subsequent years. Thus, I do remain concerned that inflation continues to run below our long-run goal. I will add, though, that inflation expectations remain well anchored, and we have seen inflation—actually, only two years ago—run significantly above our 2 percent goal. It came back down, and it is well below our 2 percent goal now, obviously. But I think that the analysis shows that some of the factors that Stacey went through explain part of the reason why inflation is low right now. Inflation expectations still remain well anchored, so I expect inflation to gradually move up over the next few years. Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I have become accustomed to saying that the economic data since our last meeting have been mixed, but today I can finally say that the economic data since our last meeting have been a little better than mixed. I have been particularly encouraged by the strength of auto sales, the continued recovery of the labor market, and the negotiation of a budget deal that should reduce some of the uncertainty surrounding fiscal policy. My District contacts have also become more upbeat about the economy. Even the recent slowing of housing construction does not greatly concern them. They believe that the fundamentals, such as household formation, will drive a decent pace of recovery in residential investment.

Based on the better economic data, I have edged up my growth forecast to a pace of a little more than 3 percent in 2014. I have also nudged down my unemployment forecast to reach 6.2 percent in the last quarter of 2015. With recent inflation readings remaining subdued, I have slightly lowered my forecast of inflation over the next few years to a little less than 1½ percent next year and about 1¾ percent in 2015. I continue to expect GDP growth to pick up over time, which will bring the unemployment rate down toward its natural rate, which I estimate to be 6 percent, sometime in 2016. These forces, coupled with stable inflation expectations, will slowly pull inflation up toward our 2 percent objective.

When we launched our current asset purchase program in September 2012, we indicated in the statement a desire for sustained improvement in labor market conditions and a substantial improvement in the outlook for the labor market. As I described in recent meetings, I believe the progress in the labor market since that time represents a sustained improvement in conditions and a substantial improvement in the outlook. The October and November labor market reports have reinforced my belief.

When we launched the current asset purchase program, we also said that we were looking to achieve our labor market objectives in the context of price stability. At that time, inflation was higher than it is today, and for much of this year inflation has been slowing, according to a range of measures that include the median and trimmed mean CPI inflation rates. To assess the unexpected decline in inflation since 2012 and its implications for the period ahead, my staff conducted a study using one of their forecasting models. While I could make it more complicated, the bottom line of their analysis is that most of the falloff in inflation can be explained as a result of the pace of economic recovery falling short of expectations.

At this point, as several have already pointed out, inflation is running well below our long-run inflation objective, and there is a risk that it could either fall further or simply remain very low for an extended period. However, as long as our projections of the pickup in the pace of recovery are borne out, inflation should gradually rise from its current low levels. The stability of inflation expectations helps give me some confidence in such a forecast. Also, forward measures of inflation expectations from the Cleveland Fed model have actually risen a little, indicating that financial markets expect CPI inflation a few years from now to rise from the current low levels. Forward measures of inflation compensation from TIPS remain within the fairly narrow bands that have prevailed in recent years. And, finally, the Michigan survey measures of consumer expectations for inflation appear to be stable.

The risks around my economic growth and unemployment projections are broadly balanced. While I have been encouraged by the recent progress on a budget deal, the real economy does still face a number of downside risks, including fiscal challenges beyond the near-term budget, cautious business spending, and tepid wage gains for households. But the economy has also shown some resilience in the face of considerable fiscal drag in 2013. As fiscal drag

eases, the housing recovery progresses, and labor markets gain momentum, upside surprises are certainly plausible.

The risks to my inflation outlook are broadly balanced. On the one hand, a continuation of the recent low readings could keep inflation at lower levels for longer than I am projecting. On the other hand, faster economic growth or an unanchoring of inflation expectations could pose some upside risk to my inflation outlook. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. Anecdotal reports collected during the intermeeting period continue to suggest that the Eighth District economy is growing at a moderate pace. Most contacts in the District believe that their businesses are performing similarly to or better than one year ago. The District's agricultural sector continues to do well, with record yields reported for corn and soybeans. Land prices continue to be high, but we received some reports of softening in some portions of the District. Retailers seem hopeful for holiday season sales, and nearly all expect increases compared with last year. Unemployment ticked down in the District according to the most recent estimates.

The nation's largest retailer is optimistic about a record holiday season but continues to worry about three factors holding back consumer spending: (1) uncertainty around health-care costs, (2) lingering effects of the payroll tax increase introduced during 2013, and (3) recent reductions in the Supplemental Nutrition Assistance Program. However, I would note that, like President Williams, the largest retailer would say that low gas prices are extremely helpful for this group of consumers.

A large tech company I talked to reports an excellent holiday sales season. A large logistics firm reported again this time that it was relatively difficult to hire about 50,000

temporary workers for the holiday season, despite unemployment rates that remain relatively high. The firm had to hand out bonuses and special payments to induce enough workers to sign on. I take this as a sign that labor markets may be somewhat more robust than commonly supposed.

Recent data have led me to become somewhat more optimistic concerning the outlook for the U.S. economy. I continue to think that the best projection for economic growth in 2014 is somewhat better than 3 percent, despite the fact that similar prognostications in recent years have been too optimistic. I think that the drag factors on U.S. growth are, in fact, waning, even if perhaps not as quickly as we imagined in December 2011 or December 2012. According to our staff's recent tracking estimates, real GDP growth will have averaged about 2.8 percent over the final three quarters of 2013, with perhaps some possibility of making 3 percent, depending on the outcome of the current quarter. I see one bullish factor as the likely more definitive end of the recession in Europe as the continent returns to modest growth in coming quarters. In addition, to the extent that U.S. fiscal brinkmanship is on the decline, that is also a bullish factor for U.S. growth prospects.

The two labor market reports received during the intermeeting period surprised to the upside, especially in the face of the temporary U.S. government shutdown. I see the attainment of a U.S. unemployment rate of 7 percent as a significant milestone for the economy and for this Committee. I see that pace of improvement continuing through 2014. I have the unemployment rate in the low 6 percent range for the end of 2014.

Job growth of better than 200,000 per month over the last four months is also impressive. Average monthly job creation since September 2012 has significantly outpaced the rate of 140,000 or so jobs per month during the six months before the QE3 decision. My assessment is

that labor markets have shown substantial improvement, meeting the key criterion that was laid out at the September 2012 meeting.

Some may argue that labor force participation has declined over this period in a worrisome way. However, my reading of the literature concerning relatively sophisticated demographic models of labor force participation has started to convince me that nearly all of the decline in labor force participation can be accounted for by demographic factors and should not be regarded as cyclical in nature. These demographic factors have been driving labor force participation lower since 2000. For this reason, I take the recent observed declines in the U.S. unemployment rate at face value as evidence of a considerably improved U.S. labor market, and in this respect I agree with President Williams.

Inflation continues to run below target, and this remains a key concern of mine going forward. I share this concern with Presidents Evans, Rosengren, Kocherlakota, and others. I do not think we have a clear explanation for the continued downward draft in inflation since January 2012. My own forecast continues to be that we will see a rebound in inflation outcomes in the quarters ahead and, in fact, that inflation will overshoot our target in the medium term, but I admit that at this point we have little evidence in hand that such a turnaround is occurring.

Perhaps the best that can be said is that monthly core PCE inflation measured year over year has fluctuated between 1.1 and 1.2 percent since spring 2013, and that this could possibly be viewed as a bottom for inflation before it begins to turn up again in the face of continued extraordinary monetary stimulus on the part of this Committee. On this aspect I also agree with Presidents Fisher and Williams, who touched on this point. However, I think this is a delicate argument to make, and it could easily turn out to be wrong.

I think that the combination of very clear evidence on the substantial improvement in labor markets since September 2012 and the low inflation numbers leaves the Committee with something of a conundrum. We would like to acknowledge the labor market improvement and the low inflation outcomes at the same time. I will argue tomorrow that one way to do this is to taper slightly at this meeting, but to simultaneously keep our options open during the first half of 2014, possibly pausing in any wind-down of asset purchases if inflation does not show signs of returning toward target. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. The Third District economy continues to grow at a moderate pace. The growth in output and employment is somewhat lower than for the nation, but that's typical for our region. A number of indicators suggest that the region's economy is continuing to grow at about its trend pace: Housing activity continues to improve. Auto sales continue to be a bright spot. Area retailers tell us that Internet sales combined with a late Thanksgiving are making it hard for them to get a good read on holiday sales, but they generally report modest growth consistent with national trends. Overall, prices are holding steady or are up modestly, with holiday discount pricing occurring, according to retailers, no more than usual this year compared with previous years.

Unemployment rates have fallen in all three states over the past three months, although the three-state unemployment rate continues to be about  $\frac{1}{2}$  percentage point higher than the national rate. Employment has risen at about a 1 percent pace over the last year—about half the national pace, which is typical; government hiring is now contributing to growth.

Manufacturing activity continues to expand, but at a somewhat slower pace than earlier in the autumn. The general activity index for our December business outlook survey, which

remains confidential until Thursday, rose to 7.0 from 6.5 in November. In addition, shipments, orders, employment, and hours worked all improved in December. The six-month-ahead indicators in the survey also remain at high levels, suggesting that manufacturers are optimistic about future activity. This accords with the views of many of our business contacts, and we expect continued moderate growth in the region. The Philadelphia staff's leading indicators for our states as well as for the nation continue to signal continued growth.

My view for the national economy is similar. The economy is growing at about trend, and the recent data on labor market conditions indicate that there has been substantial improvement since last fall. Other data, such as retail sales and capital goods orders, have been positive, and the agreement on a budget deal, while certainly not a long-term fix, appears to have reduced some of the near-term policy uncertainty.

The economy continues to add jobs and the unemployment rate continues to fall. As I discussed at the previous meeting, when the Philadelphia staff looked at the details of the decline in labor force participation, the numbers gave less cause for concern than there might be a backup in participation rates than previously thought. I pointed out last time that research indicates that virtually all of the decline in the participation rate in the past year is accounted for by workers moving into retirement. A more detailed study of this confirms some of the findings that President Williams's staff reached. Since the beginning of the recession in the fourth quarter of 2007, about two-thirds of the entire decline in the participation rate is accounted for by an increase in retirements, which make up about 38 percent, and movements into disability, which account for about 28 percent. Now, both of those categories are absorbing states—that is, few of those former workers, once they move into disability or into retirement, are likely to move back into the labor force. Thus, the idea that the labor force participation rate is likely to be restored

or even go back up to previous levels seems to me an unlikely proposition. Indeed, this research seems to suggest that labor force participation rates are likely to continue to drift downward.

I think it is also interesting to note that of the decline in labor force participation, another large category represents former workers who are in school, and that's a non-labor force group that's continuing to rise. These people account for about another 17 or 18 percent of the decline in the labor force, and we should be less worried about their potential for skill depreciation. One hopes they've gone back to school to acquire some new skills, but again, even if they come back into the labor force, one hopes they will not have suffered as much from skill depreciation.

So, yes, there are some discouraged workers who may reenter the labor force as the recovery picks up, and they may find it hard to find a job, but I think this analysis of participation rates tends to suggest, as President Williams indicated, that, in fact, unemployment rates continue to be a very good summary statistic of the state of the labor market. And, indeed, I think we need to be cautious about over-interpretation of the decline in participation as something monetary policy should or can necessarily address.

There's no denying then that we've seen a substantial drop in the unemployment rate. It's down about 0.8 percentage point since September 2012 when we started the current program, which is similar to the pace of decline we have seen in each of the last three years. I believe that these facts also suggest that we should be cautious in using the decline in labor force participation as a signal that somehow our unemployment threshold of 6½ percent should be disregarded. That seems to be a recurring theme in some of the communications and some of the talk out there.

So I believe we've met the criteria that we've laid out over the past several months to begin to wind down the purchase program. Since September I've made only very minor

adjustments to my near-term forecast and no change in my outlook over the medium term. I project that growth this year will be 2.4 percent, pick up to about 3 percent in 2014 and 2015, and then go back to steady state—close to 2½ percent—in 2016. Thus, my forecast looks very similar to President Bullard’s. I project that the unemployment rate will continue to decline. I’m one of those who put unemployment at 6.2 percent by the end of 2014 and 5.8 percent by the end of 2015. Although inflation remains low, I project it will increase back toward our target of 2 percent in 2015.

I do find the low inflation rates a bit of a puzzle. The prices of services have been stable, while goods prices have been falling. I wonder to what extent some of this decline could be due to measurement error or perhaps quality adjustment. Note, though, that to the extent that service prices are stickier than goods prices, it’s the service-price-sector inflation that monetary policy should consider more relevant—and as I said, it’s been stable. The sticky price index for the CPI computed by the Federal Reserve Bank of Atlanta has been relatively stable and currently exceeds 2 percent on a year-over-year basis. In addition, as has been mentioned already several times today, inflation expectations remain relatively stable. That is a good sign. The Livingston survey released Friday showed a slight decline in the 10-year CPI rate from 2½ to 2.35 percent. While this bears watching, other indicators, like our manufacturing survey and the Michigan survey, indicate price stability.

I expect us to reduce the pace of purchases at this meeting and to end them before midyear. While I expect us to need to begin raising the federal funds rate sooner than the Tealbook does, my appropriate policy path also calls for only a gradual increase over the next three years, less steep than what is implied by traditional simple robust rules, with the funds rate returning to neutral, which I see as about 4 percent, by the end of 2016. I believe we should

begin to think about how we can best change our forward guidance to capture the idea of a post-threshold reaction function. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser, I have to acknowledge that you talked about sticky wages and the Phillips curve in the same meeting.

MR. PLOSSER. I don't want to become totally predictable. [Laughter]

CHAIRMAN BERNANKE. We'll keep your secret for you. President George.

MS. GEORGE. Thank you, Mr. Chairman. The Tenth District economy has expanded modestly overall since the last meeting and continues to grow at a rate a bit slower than the nation. Two regions of the District, the Denver and Oklahoma City metro regions, however, continue to grow quite a bit faster. These areas, which account for about one-third of District employment, have accounted for almost two-thirds of job growth this year. More broadly, unemployment rates remain below the national average in nearly the entire District, and wage pressures are higher than earlier in the year.

District energy activity remains strong, with rapid productivity growth arising from technological improvements, but another bottleneck has emerged at Cushing that is damping regional prices. The gap between Brent and WTI prices, which had narrowed considerably this summer, has widened again in recent months. District manufacturing continues to grow and factory expectations are solid, even though recent growth has not been as strong as in the nation. Finally, District farm incomes are softer because of low crop prices this fall, as corn prices have fallen nearly 50 percent from a year ago and production costs have remained relatively high. Farmland values continued to grow through the third quarter, though I am beginning to hear anecdotal comments that suggest that some of the intense demand for farmland may start to wane.

My outlook for the national economy is little changed from October. I now expect GDP growth to slow in the fourth quarter as inventory accumulation moderates, but I expect growth in final sales to accelerate. In the next two years, I continue to see growth rising gradually toward 3 percent as the fiscal headwinds fade and private demand strengthens. A reduction in fiscal drag should contribute significantly to a pickup in growth in 2014. My staff estimates that the fiscal headwinds are subtracting 1½ percentage points from growth this year, but the drag will decline to less than 0.5 percentage point in 2014. In addition, the recent budget deal should provide some further impetus to growth through both higher federal spending and reduced policy uncertainty.

Several factors also appear to support a strengthening in consumer spending over the forecast horizon. In terms of income and wages, real disposable income growth has picked up notably since August, and average hourly earnings in the private sector have begun to firm this year. Overall payroll growth this year increased at a similar pace to that in 2012 despite this year's fiscal tightening. This steady progress has led to an improved labor market outlook. For example, the December Blue Chip consensus predicts average monthly payroll gains in 2014 of 194,000, compared with the January survey earlier this year that reported 159,000 as the expectation for 2013. Rising household wealth, less debt, and some rebuilding of savings have also better positioned households to increase spending in the year ahead.

Labor force participation remains a key issue. As others have noted, the recent decline in participation appears to be driven primarily by longer-term trends such as the aging of the population. My staff, too, has estimated that about two-thirds of the decline in participation this year has been structural, a share that has steadily increased since the recession. Consistently, the number of people not in the labor force who report they want a job has also declined this year,

which is a notable reversal from 2012, and my staff's comprehensive index of labor market conditions, which includes the participation rate and other variables, signals continued improvement in activity with momentum in the labor market remaining at historically high levels.

I see other indicators of strength coming from manufacturing, the housing market, and car sales. The ISM manufacturing index in November reached its highest level in 2½ years, and the increase in manufacturing employment was the highest in a year and a half. Available measures of housing market activity and house prices have continue to trend up, while car sales jumped in November to their level right before the recession. With ample pent-up demand remaining, I expect growth in these sectors to continue.

Turning to inflation, the current softness in core PCE inflation is reminiscent of 2010, but one reassuring difference between the two episodes is that the TIPS five-year, five-year-forward inflation rate has remained more stable than it was in 2010. With measures of inflation expectations holding steady and the labor market continuing to gradually normalize, I expect inflation to firm next year and move toward 2 percent over the next few years. Thank you.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. Between our Fifth District boards and roundtables, we have received a relatively large batch of anecdotal reports over the last few weeks. Broadly speaking, they indicate that economic activity in our District is improving, but still mixed, and they are very similar in tone to what President Lockhart reported.

Some of the improvement reflects the waning of the effects, albeit limited, of the government shutdown in the northern part of the District. The southern part of the District, the Carolinas, is now doing better, too, particularly in manufacturing. Much but not all of the

improvement appears to be auto related. More generally, our manufacturing index is now solidly in positive territory after some weakness in previous months, and readings on expected future conditions have improved. Consistent with recent observations at the national level, our retail survey index showed dramatic improvement in November, although preliminary readings for December—which are going to be released next Tuesday—show a sharp fallback into negative territory. So that has me a little apprehensive about consumer spending, which I'll talk about more in a minute.

For the national economy, reports since the last meeting have also, on balance, indicated improvement. Employment growth for November was above 200,000, and employment growth for previous months was revised up. So we have now averaged about 200,000 new jobs per month for the last four months. Friday morning's report on retail sales was so strong that the staff felt compelled to revise an already weather-delayed Tealbook. Nevertheless, it's worth noting that business investment and new capital goods orders have been relatively weak of late, and housing has been relatively weak as well.

Overall, the U.S. economy seems to be showing modest fluctuations around a modest average growth rate. It remains to be seen whether the recent pickup in PCE growth is the leading edge of the Tealbook scenario of a consumption-driven pickup in GDP growth or just the typical fluctuation around a modest trend that we've been seeing for the last few years. I'm still a bit skeptical of the Tealbook's consumer spending scenario. It is hard to find any direct evidence that it's happening yet or about to happen. Moreover, even with the acceleration in income that the Tealbook projects, consumption is projected to grow so fast that the personal saving rate falls to around 3½ percent, a range last seen in the years 2005 to 2007. It seems to me that it's more likely that the personal saving rate remains in the high 4s, in which case

consumer spending is unlikely to accelerate much at all in the near term. As a result, my SEP submission hasn't changed much and has GDP growing just a little above 2 percent for next year and beyond, but I'd like to make use, Mr. Chairman, of the "Lockhart asterisk," reflecting weak conviction.

CHAIRMAN BERNANKE. I'm sorry. The Lockhart asterisk? Is that like Roger Maris?

[Laughter]

MR. LACKER. President Lockhart noted that he wanted to attach an asterisk to his inflation forecast—reflecting weak conviction. I'd like to apply the Lockhart asterisk to my forecast.

CHAIRMAN BERNANKE. I see. Can we put an asterisk on the policy decision?

[Laughter]

MR. LACKER. Unless you've got conviction.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. I'm going to put an asterisk on everything I say here. My assessment is very similar to many others, that the economy's growth momentum has improved somewhat over the past few months, and I am becoming more confident that this will continue in 2014. For me this reflects three elements: (1) somewhat better economic data; (2) the passage of time, which means that the degree of fiscal drag is abating; and (3) the modest sequestration bill by the Congress—not because it reduces fiscal drag so much for 2014, but to me it signals much less risk of future Sturm und Drang by the Congress on the fiscal side, which I think reduces risk and uncertainty.

Turning first to the data, there are three developments that I would take note of. The first is the improvement in the labor market that many other people have cited. The most obvious

sign is the acceleration of monthly payroll employment growth back to above 200,000 per month over the last few months. But I also put considerable stock in some of the other elements of the most recent payroll employment report, such as the index of aggregate hours worked, which rose by ½ percent last month, and the overall diffusion index, which rose to 63.5. To me, those indicators signal both strength and breadth. Moreover, they imply a sturdy real income trend, which leads to my second point: Consumer spending appears to be on a firmer trajectory than before. I think this can be seen in the November retail sales data, which were not only strong for November but also included upward revisions to the prior months; for the retail sales data, revisions oftentimes are what really matter. The third factor on the data side is that the manufacturing sector has shown strength recently. That's evident in the recent ISM manufacturing survey, which climbed to its highest level since April 2011, with both the orders and production components now in the low 60s. It's also evident in the strength we saw in the industrial production report yesterday, with a 1.1 percent increase in November.

The second thing I'd note is that the passage of time is also in our favor because the degree of fiscal drag, which I think was the primary factor holding the U.S. economy back this year, diminishes considerably in 2014. So the Tealbook, for example, estimates that the drag at all levels of government, before multipliers, falls by half in 2014 compared with 2013, and other private estimates tend to show an even larger decline in the amount of fiscal drag next year. The passage of time is also in our favor with respect to other factors, such as household deleveraging, home foreclosures, and credit availability. For example, as the staff briefing indicated, as home prices continue to rise in most regions, the percentage of homeowners with mortgages that are underwater has fallen considerably, and this trend is likely to continue over the next year.

The third positive development for me is that the risks on the fiscal side appear to have diminished. While the sequestration adjustment is very modest in terms of its impact on the fiscal stance—apparently about 0.1 percentage point of GDP for 2014—I take considerable signal from it in terms of the risk of another government shutdown or debt-ceiling stalemate. I also take some comfort from the House Speaker’s willingness to challenge the far-right elements of the House recently with respect to allowing some increase in fees to finance the reduced sequestration.

That said, there are several reasons not to become overconfident. First, we have had temporary pickups in payroll growth before, and they have petered out. And we have not, in my view at least, definitively broken out of the 2 percent annualized growth trajectory we’ve been on for several years.

Second, there are some less positive elements of the environment that I think deserve note. In particular, in the third quarter, the pace of inventory accumulation climbed very sharply, and my question is, was this voluntary or involuntary? I assume it was mostly voluntary, given that we’ve seen this persistent ongoing strength in the manufacturing sector, but I still have some uncertainty about this. One aspect here that’s interesting is that if you look at motor vehicle inventories, they’re on the heavy side right now.

Third, the housing sector appears to have been more affected by the backup in mortgage rates than I would have anticipated. In this regard, the Tealbook’s forecast that housing starts will rise to an annual rate of 1.2 million units in 2014 from 0.9 million units in 2013—that’s a 33 percent increase—seems a bit optimistic to me.

The fourth issue is the one that I’ve been most perplexed about. Business fixed investment still seems inexplicably weak relative to the fundamentals. We have a rising stock

market, high cash flow, relatively clean balance sheets, and the level of investment is not high enough to really grow capacity at any meaningful pace. Yet we see capital outlays being quite weak. If I started to see some resolution on the capital spending side, I think that would make me a lot more optimistic about the outlook.

Now, where I disagree with some of the other people around the table is about inflation. I certainly agree that inflation is too low and we should try to push inflation back to target, but I'm not that worried about it because the real risk of inflation being too low is that you get into the dynamics of debt deflation, and I feel like the risks of debt deflation at the current time are pretty low.

There are five factors that make me feel not so worried about the risk of inflation being a little bit low right now. First of all, the amount of slack in the economy is gradually diminishing. Second, inflation expectations remain well anchored. If you put these factors together and you think of inflation as being driven by the amount of slack and expectations, it does seem pretty reasonable to expect that inflation will rise gently in the future. The third aspect is that nominal GDP growth is rising at more than a 4 percent annual rate in the second half of the year, according to the Tealbook forecast. That's considerably faster than the 3 percent rate of the first half, and a further rise in the growth rate of nominal GDP is anticipated for 2014. This is really important when you think about the risk of debt deflation. If incomes are rising more quickly, then the risk that we're actually going to have a problem because of this low inflation diminishes quite sharply. The fourth reason is that home prices and equity prices have been rising. So you have a rise in nominal GDP growth and a rise in asset prices. That seems to argue pretty strongly against the risk of a debt-deflation type of scenario. And, fifth, if you look at the sources of the softness in consumer prices, they're mainly import prices, medical care, and the prices of

imputed banking services. That doesn't really seem to fit in with the story of excess slack that's driving down inflation. It seems to me more of a story that we've got some special factors going on that are temporarily pushing inflation down, and inflation is likely to go back upward. And the reality is that these positive developments in terms of pushing prices down are actually boosting real income and making economic recovery, in my mind, more likely.

So relative to other people around the table, I'm less worried about inflation being too low at the current time. Tomorrow I'm going to talk about how I'll put all of this together for monetary policy. Putting it all together, balancing everything very carefully, the bottom line is that I do think it's time to start the taper.

CHAIRMAN BERNANKE. Okay. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. The modal outlook I penned in this round's SEP is little changed from my September submission, but my assessment of the risks has changed. I now see appreciably diminished downside risks to the outlook for the labor market and more balanced risks to growth than in September. But I continue to see the risks to inflation as tilted to the downside.

Beginning with the labor market, my assessment now, as in September, is that we have made meaningful progress toward our maximum employment objective since the inception of our asset purchase program. That said, there is still a long way to go. But most labor market indicators, including the pace of payroll gains, the fraction of the labor force working part time for economic reasons, the incidence of long-term unemployment, the level of UI claims, and the pace of hiring and quits, show continued, albeit gradual, improvement.

The decline in the unemployment rate since the inception of the program signals, to my mind, more dramatic progress, but a portion reflects a continuing decline in labor force

participation that in my assessment may well be partly cyclical. What worried me most all summer and into the early fall was that the labor market gains we have been seeing could prove unsustainable. Recall that at the time of our September meeting, payroll employment had been growing at an average pace of 184,000 per month over the previous 12 months. But the staff had been warning that job gains of this magnitude could only persist if growth were to pick up above the 2 percent trendlike pace we have been experiencing. In September, such a pickup in growth was a hope but not a reality. And as I feared, the pace of payroll gains had apparently been ebbing all summer and into the early fall.

But incoming data have changed that picture significantly. That worrisome summer swoon in payroll growth has evaporated amid data revisions and the stronger incoming data we have seen in the last two employment reports. For example, it appeared in October that the three-month moving average for total payrolls was running at just 143,000 per month. In contrast, the latest data suggest that it is running at 196,000 per month, and the 12-month gain is near the upper end of the 175,000 to 200,000 range in which it has been fluctuating over the past two years. So there is no sign at all that payroll gains have been petering out, even though output growth has not yet moved noticeably above the 2 percent range. This suggests to me that further progress in the labor market may well be achievable, even absent a pickup in growth, although a worrisome implication is that this pattern may reflect a more persistent decline in structural productivity growth.

Turning to output growth, recent news pertaining to spending has been mostly positive, and that's an important additional factor that has increased my confidence in the sustainability of labor market gains. Fiscal policy has been exerting a significant drag on growth, and that drag now appears poised to diminish. In addition, incoming data suggest that the long-expected

acceleration in PCE may finally be materializing. I have been encouraged by the recent noticeable pickup in consumer spending, auto sales, and confidence. Capital spending has been weak, but recent readings on orders and shipments of capital goods, as well as survey measures of business confidence, suggest that business investment in equipment and intangibles may be picking up, too. That said, indicators from the housing sector have been decidedly soft of late, and I worry that the increase in mortgage rates since the spring is exerting a larger drag than I had expected.

Turning to inflation, I have projected a rate of 1½ percent for next year in my SEP, and gradual increases toward 2 percent thereafter, but I assess the risks to lie on the downside. Recent news has been somewhat concerning. Both the 3-month and the 12-month rates of core PCE inflation have now drifted down to just 1.1 percent. Since April, the 12-month rate has been running below 1¼ percent, and the same is true for market-based core inflation. Medical prices are clearly part of the story. For example, the 12-month change in the core CPI, which is much less affected by the behavior of medical prices, has held steady at 1¾ percent since the spring. But medical service prices and import prices are not the entire story, and it's not really clear what else is holding core inflation down. Wage gains have been steady, and long-run inflation expectations do appear to be well anchored. So for now I remain optimistic that the most recent decline in inflation will prove transitory and that we will avoid the scary "Low Inflation" alternative scenario presented in the Tealbook. Nonetheless, special vigilance on this count is in order.

Let me conclude by summarizing my shifting views on risks to the outlook. At our last meeting, I highlighted several possible scenarios for the economy going forward. In my modal scenario, which is similar to the Tealbook baseline, growth picks up gradually as the various

headwinds restraining demand abate. In light of recent data, I place higher odds on such an outcome than I did at the time of our previous two meetings. But I am still far from certain, and in thinking about not only our policy decision today but also what and how we communicate about our likely decisions going forward, I find it important to contemplate several alternatives.

One plausible alternative scenario involves greater structural damage to the economy from the recession and the financial crisis than in the baseline. The 0.8 percentage point decline in the unemployment rate this year, coupled with monthly job gains in the range of 175,000 to 200,000 and real GDP projected to expand just 2¼ percent, may well indicate a more lasting decline in structural productivity growth. The relentless decline in labor force participation may also be a harbinger of greater supply-side damage. But, as I noted at our October meeting, to me the most worrisome scenario is the one in which we become stuck in the mud. Structural productivity has not declined, but private spending picks up over time by less than the staff projects. In this scenario, labor market improvement stalls out. Recent indicators of economic activity reduce the likelihood of this scenario, but it's still far too early to rule it out. Given that we face continued uncertainty about the pace of economic expansion, of labor market improvement, and of the return of inflation toward 2 percent, I think it is critical that our policy remain data-dependent and that we communicate that approach clearly to the public.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. There are two things I was struck by in listening to people so far today. One is people's emphasis on the pretty good stream of data we've had since the October meeting, and the other is the fact that there has been strikingly little change in people's projections for growth over the next couple of years. I assume what I should infer from that is that, as a whole, the Committee is exactly where Janet is, which is to say that

the most significant development in individual projections has been the decline in downside risks rather than some sense that greater growth is in the offing.

I have to say that, to me, at least, there was surprisingly little impact from the government shutdown and the fiscal cliff standoff. We had all factored in already the actual fiscal contraction associated with the sequestration, and there just didn't seem to be very much spillover effect from the other drama. Also, of course, as several people have already commented, the durability of decent monthly job creation over not just the past four months, but really about a year now, suggests that we are on that plateau that I hypothesized earlier in the year to be a standard for thinking about what constituted substantial improvement in the outlook for the labor market.

All of this does suggest that household deleveraging has indeed proceeded far enough along to create the conditions for self-sustaining growth, although at a continued modest level. Forward-looking indicators are also generally good, although as Bill commented, the apparent impact on the housing market from the fiscal tightening of the last couple of quarters is an exception and one of some concern.

Like Janet, I have the impression, although it's anecdotally based, that business fixed investment may in fact pick up next year, although from what I hear it will be mostly replacement investment rather than creation of new capacity. From what everybody says, new capacity is still something that people are not willing to invest in until they see increases in aggregate demand. But apparently we're in a situation not dissimilar to that of consumers with automobiles a couple of years ago, where there is just enough depreciation in a lot of fixed plant and equipment that it is just going to have to be replaced.

And, again, as several people have noted, the fact that the Congress has reached a budget deal—whatever one thinks of the substance of that deal—has removed the prospect of another shutdown and suggests less risk that the ill feelings around the changes in confirmation rules in the Senate could spread to other areas. There's still some agitation around the debt-limit extensions, but from what the leadership says, it appears they have concluded that fiscal-cliff drama is not a winning strategy.

The second point I would make, though, is that reduction in risks is not the same as their elimination, and some risks do remain, so I will note two. The first is that the support for consumer spending that has been mentioned by a number of people today appears to rest more on wealth effects than it does on increasing income. The wealth effect of the appreciation of equity and housing assets has in turn been significantly supported by relatively accommodative financial conditions. Any further tightening of those conditions could lead or contribute to either a leveling-off of the appreciation of those assets or perhaps even declines in prices in those markets—particularly equity markets. More generally, some of the brighter growth spots, such as auto sales, do seem to be particularly interest sensitive and, thus, particularly susceptible to a reversal.

Second, as many of you have mentioned, is the disinflation of the last two years to the point where there would be concerns if it slipped further. As of now, I, like Bill, find the implicit narrative behind the baseline projection of a modest-to-moderate uptick more plausible than the implicit narrative behind a further decline in inflation. Specifically, I'm not sure why inflation expectations would come unmoored on the downside now when they didn't during the depths of the recession. The baseline, of course, is a view that is apparently shared by both the staff and,

according to the SEP, everyone on the FOMC. But I'd join with others in observing that if we are even a little wrong on the downside, disinflation could become a greater concern.

Finally, I do want to make a couple of comments on structural damage, particularly in the labor market. I don't want to impute any particular views to anybody, but I hear more certainty around an analysis of what has happened in the labor market than I think is the case, based upon a fair amount of examination and consultation with labor economists around the country. The labor market is clearly not operating as it did before the recession. The most obvious indication of that is that currently employed people are substantially more reluctant to leave jobs than they were even during the first decade of the 2000s, and that, in turn, actually reflected significantly less willingness to leave jobs than in the 1990s.

Even before the recession, the labor market was considerably less dynamic than in the 1990s. And I don't think we really know the reasons for that long-term trend, at least not as of yet. There is plenty of room for intuition and predisposition around explanations of higher-than-expected declines in participation rates, for example. I actually think that, from what I've seen, there are explanations with at least some data to support them on all sides, and nothing particularly clear has emerged. It is hard to sort out all that's going on. For one thing, I would note, President Plosser, that we have different data than you appear to have. I was looking back at the Board staff's data, and according to it, about one-third of the decline in the labor force participation rate since 2007 is attributable to people going back for additional schooling. I thought you said 17 percent or so, so that would be a significant difference. But even so, I think the trends in long-term unemployment, the fact that unemployment is so high, and the fact that labor market conditions are so different from what they were during the preceding 30 years make it very difficult to extrapolate any previously observed trends.

First, for example, people saying that they have retired is self-reported. We all know that you have to apply heavy discount factors to any data gathered based on self-reporting. Second, though, even people who have indicated they have “retired” may be indicating that differently under current conditions than they would have at full employment because the decision is being driven by one set of factors rather than another. This doesn’t mean that people’s hypotheses about retirements are wrong or that these people are coming back to the labor force. I think we just need to be a little more conditional in drawing conclusions about what exactly is happening.

What that leads me to, in conclusion, is that we are going to need to be a little more tentative and pragmatic in decisionmaking over the course of the next several years, probably, and certainly the next several quarters. For example, I continue to pay more attention to what’s happening with wages in particular areas, which seems, at least in the first instance, to be about as good a surrogate as any we can have for how much tightness or slack there actually is. And although over the past several meetings there has been some pickup in at least one index of employment costs, number 1, it is still pretty modest, and, number 2, if you take productivity increases into account, you are not really seeing any general inflationary effects. There is also no particular reason thus far to suggest that skills mismatches are having a more acute effect on labor markets or, certainly, on wages than the chronic skills mismatch problem that we have experienced for about the last 15 or 20 years.

So I end, Mr. Chairman, with a suggestion that we are going to need to be, as I said, a little provisional in making our assessments, particularly when it comes to questions like how much structural damage there actually is in labor markets. But other than that, I join what seems to be as close to a rough consensus as we come in this room about developments in the intermeeting period. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. I also share the view that many others have expressed, which is that the outlook seems a bit brighter than it did at the time of our September and October meetings. The growth estimates for the second half of this year have been marked up considerably, to the point where my forecast of 3 percent growth for next year doesn't seem to be so much a triumph of hope over experience.

Consumer spending has been a little bit better than expected. Sentiment has been rising. It looks like we may even be getting a little bit of help from foreign GDP growth. Outside of a somewhat worrisome loss of momentum in housing, the picture is generally on the upbeat side. And with the benefit of revisions, which actually end up playing a big role in this story, payroll growth looks to have been, in retrospect, consistently solid over the last several months, as others have mentioned.

All in all, it feels modestly encouraging. It is interesting that, although I felt quite cheerful when I filled out my SEP, it had the property that Dan alluded to—I hadn't really changed it that much. But I felt better with the same numbers. [Laughter] That's actually some Bayesian kind of thing.

Rather than saying anything more about the baseline forecast, which I think everybody has covered very well, I thought I would focus the rest of my comments on uncertainty around the evolution of one particular variable—namely, the unemployment rate. And I'm doing so in anticipation of the thought that we may talk about thresholds at the next meeting, and I wanted to put out some data and a framework that I thought might be helpful if we get there.

Let me mention two sets of numbers. The first is the distribution of first-passage times until we hit 6.0 percent. That is to say, how long might it take, and what is the uncertainty about

how long it might take? So, obviously, it is model-dependent. The numbers I am going to quote you come from some of the stochastic simulations that the staff already did for the October 2013 memo on inflation floors. Bora Durdu and Bob Tetlow were kind enough to go out and actually look at the individual simulations and give me some tabs about the distributions, and here is basically what you get out of this. If you look across the thousands of simulations, the median time it takes to hit 6.0 percent starting from the fourth quarter of 2013 is seven quarters—just under two years—which is roughly consistent with the Tealbook. That would put us in the second half of 2015. But there is a pretty long right tail to this. If you ask, “What’s the 90th percentile draw from among all of these simulations?” it’s 15 quarters, or almost four years. That would put the time of crossing 6 percent in the second half of 2017, and the 95th percentile is 19 quarters, or the second half of 2018. So that’s fact number 1—the distribution of passage times.

The second number I was curious about is our uncertainty about our distribution around the natural rate. The staff estimate of the long-run value of the natural rate is about 5.2 percent. John Roberts was kind enough to provide me with an estimate of the confidence interval. He and Charles Fleischman have done some very nice work. It is essentially a filtering thing where they use a Kalman filter to extract an estimate of the natural rate. In their model—again, it’s model-dependent, and I use this only as an indication—the standard error is plus or minus 0.66, I think. So, roughly, a 90 percent confidence band would be 5.2 percent plus or minus 1 percent.

So those are two pieces of uncertainty I want to fix in your mind. What does that do? In what way does that inform your thinking, if at all, about thresholds? Obviously, it depends on the theory you have in mind.

Take the first number. Suppose I say there is a reasonable risk that if we have a 6.0 percent threshold, we may not hit it until 2017. And I say, “Well, that’s kind of a scary proposition.” A reasonable response would be, “What’s scary about that?” What is interesting is that in their results, if you look at what drives the crossing times to be very late, those bad draws are primarily driven by weak aggregate demand. The reason you get to 2017 is that the economy falters, there is fiscal drag, what have you. So if that’s the issue, why should you care? If you’re making slow progress because of weak aggregate demand, inflation is, therefore, very likely to be in check—what’s the problem with that?

If I want to have a rebuttal to that, I need to add something to my story. I need to add two ingredients. One would have to be an important contingency that is not well captured by inflation or unemployment. A natural one would obviously be a financial stability concern of some sort—the idea that if rates are at zero through 2017 or 2018, reaching-for-yield pressures may continue to build to the point where the potential fallout is greater than it is today. Now, to be clear, the concern doesn’t have to involve a forecast that it will definitely get worse, just some uncertainty. So if your summary of Nellie’s presentation is that, on a scale from 1 to 10, financial stability concern is now a 4, suppose I say, “By 2017 or 2018, there is a reasonable probability that we may drift up to 7 or 8.” Maybe that’s one piece of the argument.

The second piece is, what do you do with the number 7? We’ve got all of this other stuff. What do you make of a financial stability concern of 7 relative to other stuff? How do you balance it against other things? Here is where the distribution of the natural rate is important. If you have the standard quadratic loss function, how much you care about financial stability versus providing accommodation and lowering the unemployment rate has to depend on the unemployment rate relative to something like the natural rate. That is to say, you are going to

care more about providing accommodation when you are far from your target, and you are going to put less weight on it when you are close to the target.

Putting it all together, I'm not saying it's decisive, but if you want to make an argument about being too forward leaning with a threshold, here is the scenario you want to have in mind. It's a scenario where it is taking you a very long time to get to the 6 percent threshold—you are out there in 2017. While inflation pressures are likely to be muted in this scenario because it is likely to be caused at least in part by weak aggregate demand, financial stability considerations are more driven by the passage of calendar time in a low interest rate environment. So those concerns could, at least potentially, be building. Moreover, in the state of the world where we stall out at, say, 6.2 percent unemployment, it's reasonably likely that part of the reason that we are stalling out at 6.2 percent is that the natural rate is on the high side. Say it's 6. So even if you take the view—and this is where I'm quite close to Narayana—that, in the current environment, if we have a gap of 1½ percent between where we are and the natural rate, that weighs a lot with a quadratic loss function and may even eclipse a 7 on the financial stability worry index; but if that gap is 0.2, it's a different story. In the end, at some level the envelope condition is going to say, as we get pretty close, that you need to start weighing the two together.

That's all. I'm just trying to think about the fact that, as we get closer, and as time passes, it is exactly as Narayana said: These things are going to come to the forefront, and we have to in some sense anticipate that as we go. I assume we will come back to some of this stuff tomorrow. I was just trying to sneak in a little bit of prep. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I appreciated Governor Stein's asking the staff to perform those experiments, although I was surprised by his use of 6 percent

where 5½ percent seems much more natural. [Laughter] But I have a question for you: Was your line of argument that we should be thinking about some kind of Bank of England–like knockout clause? I wasn't sure where you were ending up.

MR. STEIN. You can go different places with it. I think at first blush, it's either an argument against doing it unconditionally or an argument for putting in a knockout clause. I don't want to front run the discussion tomorrow.

MR. KOCHERLAKOTA. Okay, thanks.

CHAIRMAN BERNANKE. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. The narrative supporting a reasonable pickup in growth has strengthened since the last meeting. Consumer spending and sentiment are stronger; industrial output and the ISMs are stronger. As for the ongoing fiscal negotiations, given the political realities, there was no possibility of reaching a grand bargain. So the upside case was that the Congress would do nothing. It was a low bar. And they got over it. The deal is close to neutral in its effects on near-term GDP as an accounting matter, but if you think that uncertainty about fiscal policy may have been a significant restraint on animal spirits and, thus, on activity, as I think, then it is potentially much better than neutral. And the big vote margin in the House suggests that there won't be a shutdown or a debt-ceiling crisis early next year, although, as Dan pointed out, there are more recent reports that do suggest that that unhappy possibility remains alive. So we may be looking at a period of fiscal calm. And combined with a reduction in fiscal drag for next year, that's potentially a big improvement.

On the other hand, I get no sense of a meaningful pickup in activity from the bankers and industry people that I talk to, and I am inclined to give some weight to that. Therefore, I am

forecasting 2.8 percent growth in GDP for next year, which is the low end of the central tendency and less than the Tealbook baseline scenario.

On unemployment, I want to add a couple of things. The first is that while monthly and quarterly payroll measures move up and down, the trailing 12-month payroll average has been remarkably stable around 190,000 per month, plus or minus 10,000 or so. And I can't really think of a good reason not to expect something like that to continue. Another implication of that is probably that policy ought to be much less affected by the first estimate of monthly payrolls, particularly when there are so many broader indicators of labor market conditions that are much more stable and show continued improvement.

I was also struck by the discussion in the Tealbook of recent forecasting history. What has been consistent since 2009 has been a faster decline in unemployment for a given amount of GDP growth, which has led the staff to substantially downgrade its assessment of the supply side of the economy. We discussed this puzzle at the September meeting at some length, and numerous factors may be at play. But the longer it goes on, the stronger the case is for still more supply-side adjustments. In that connection, I was struck both by the recent Board analysis and by a paper by Shigeru Fujita of the Philadelphia Fed that shows that the surprising and unwelcome declines in the labor force participation rate since 2011 are entirely due to retirements and not to an increase in discouraged workers. Empirically, retirees have been very unlikely to return to the labor force. Let me add that Dan's caveats around those data are both welcome and appropriate to consider. I have learned that you can never look at any one paper, any one argument, or any one set of data, until you hear all of the sides. But it is, to me, very interesting and troubling information.

All of that leads me to expect payrolls to gradually increase above a couple hundred thousand per month as the economy improves, but with good months and bad months around that trend, accompanied by fairly rapid declines in the unemployment rate. I project that it will go down to 6.3 percent at the end of this year and to 5.7 percent at the end of 2015.

I do see a substantial improvement in the labor market since September 2012, and so it does seem to me that labor market conditions are supportive of a decision to gradually reduce purchases beginning tomorrow. It also seems to me that the incoming data and, particularly, the supply-side damage story do weaken the argument that the U3 unemployment rate is sending a misleading signal about labor market slack.

Turning to inflation, the fourth-quarter deceleration in core inflation is troubling, particularly at a time when growth is picking up and slack is decreasing. The baseline view is that the reasons for this decline are things that don't give us much of a signal about the future direction of inflation—medical prices, import prices, and the like. So the baseline forecast for PCE and core inflation continues to be a gradual return to 2 percent. I am inclined to agree, and I draw support from the fact that hourly earnings are growing at 2 percent and also that inflation expectations remain grounded. But this will clearly bear close watching.

Finally, based in part on an expectation of inflation moving only very slowly back to our longer-run objective, on rate policy I find myself predicting a somewhat slower return to normal levels of the federal funds rate. So I've got the federal funds rate at 75 basis points at the end of 2015 and 1.75 percent at the end of 2016. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much, and thank you, everyone. Let me start with a summary. People noted that the incoming data have generally been positive, with stronger job growth and lower unemployment. Forecasts were either for no change or were

somewhat better than the forecasts in September. So, on average, there was a general pickup in the outlook for next year. It was mentioned that GDI growth even gives a slightly better outlook. I think an important change was that people saw the risks to growth as being more nearly balanced than they have been until now. Inflation, of course, continues below target, which has costs, such as raising real interest rates and debt burdens. The risks here are also mostly balanced, although some were concerned about inflation softness. The reasons for very low inflation were discussed, but I don't think we came to a conclusion about exactly why it's happening.

In the household sector, consumption spending has strengthened with the support of higher wealth. House prices, equity prices, higher income, better confidence, and better household finances are supporting durables purchases. However, many consumers are value driven. Lower gas prices help this group of consumers.

Labor markets look somewhat better. UI claims are down. Hiring and quits are up, and data revisions eliminated the summer swoon in payrolls. There was a lot of discussion about unemployment as an indicator of the labor market, and in general, I think, a majority concluded that it was a pretty good measure of the labor market, albeit perhaps not a sufficient statistic.

The employment-to-population ratio has not improved, even among prime-age workers. There was an interesting discussion of this point. Part of the issue, of course, is structural and due to demographics. But exactly how much is an open question. Retirement does seem to account for part of the decline in participation, although one participant noted that retirement is a self-reported descriptor and, therefore, may not always be reliable.

Although there are spot shortages of skilled workers, wages generally are not accelerating. Research on recruiting intensity suggests that much of the increase in

unemployment is cyclical. Housing activity continues to expand. Prices are rising, which reduces the number of underwater borrowers, but on the other side, higher mortgage rates have had some slowing effect.

In the business sector, businesses are cautiously optimistic. I have a little stamp, “cautiously optimistic.” They do feel better because of reduced fiscal uncertainty. They continue to focus on extracting productivity gains. Capital spending is relatively weak despite reasonably good fundamentals. There are some signs of pickup at least in replacement demand. A number of industries and sectors were noted as doing relatively well. Auto dealers and online retailers, for example, report strong results, although there may be an inventory overhang in autos and some other industries. We got different reports from retailers. They are hopeful about the holiday season. I remember once seeing a cartoon in the *Wall Street Journal* in which the head of the CEA was telling the President, “We need to have an emergency Christmas.”

[Laughter]

Anyway, manufacturing surveys and employment are positive. Manufacturing is benefiting from stronger export demand, and it was noted that a number of advanced economies—Europe, the United Kingdom, and Japan—have shown somewhat stronger growth, which is helpful to us, of course. It was also noted that a number of other advanced foreign economies are also experiencing very low inflation.

There was a lot of discussion of fiscal issues. Fiscal drag may be waning, and the fiscal debates seem less likely to be disruptive. It’s encouraging that the economy has continued to grow despite fiscal restraint, and less fiscal drag may help promote faster growth in 2014.

In the financial sector, it was noted that firms are engaging in share buybacks rather than investment. There was more discussion of farmland values as still rising, but weaker commodity prices and lower farm incomes may restrain those prices.

There was an interesting discussion on financial stability and its role in monetary policy. Clearly, more clarity is needed about how financial stability relates to the Fed's mandate. It certainly is relevant if it affects prices and employment, but it was pointed out that both financial stability and the natural rate of unemployment, along with the unemployment gap, are very hard to measure, making these judgments difficult.

Finally, there was discussion of inflation. As noted, inflation is running below target, which was a concern to a number of people around the table. Most saw inflation rising gradually over time, given that inflation expectations are well anchored and the economy seems to be picking up, but some were agnostic and wondered why inflation had not risen to this point.

There was some discussion of the composition of inflation, noting, for example, that much of the decline is taking place in commodities, while prices of services are growing more stably at around 2 percent. Other sources, such as medical care, gas prices, and banking services, are playing a role in keeping inflation low but seem somewhat special or idiosyncratic. Wage gains have been steady at around 2 percent, and there was a reference to MSA data and a study that suggested that across metropolitan areas there is a more or less stable Phillips curve.

So overall, I think, it's a somewhat more upbeat picture. There was an interesting discussion of the labor market, as we've seen in a number of our meetings. There is some greater optimism about business and about fiscal policy. Inflation, though, remains a concern, particularly given that one would expect it to be picking up in a world of strengthening output

growth. Those are just some summary comments. Any reactions? Did I misquote anybody?

[No response]

Let me talk now about the economy and our policy choices for tomorrow. To put things in context, I will talk about the two specific actions that we will be debating tomorrow. The first is whether to begin to slow asset purchases, and the second is whether to clarify or strengthen our forward guidance with respect to unemployment. I'll just talk about some of the considerations. Obviously we'll leave this open until we can have a fuller debate tomorrow.

On slowing purchases, I think we have to acknowledge that we did set a criterion—namely, a substantial improvement in the outlook for the labor market in a context of price stability. The reason that we set that criterion at the time was, I think, that people were uncomfortable with the idea that asset purchases would continue indefinitely until we achieved our objectives.

I thought we had a very useful survey on the perceived costs of balance sheet expansion. What I put in my survey was that the most convincing cost was financial stability, as a number of people have suggested. At least to my mind, one area where asset purchases may be different from low interest rates is the fact that they work through term premiums, and we have so little understanding of term premiums. What we saw over the last year or two was term premiums falling to a very negative level, no doubt for a number of reasons, but certainly partly because of asset purchases, and then we had a lot of market instability with impacts on financial conditions and confidence over the summer. So I do think that is a downside of asset purchases, and the one that I take most seriously, particularly given that we were so involved in the developments over the summer.

That being said, again, we have to recognize that we have competing objectives, and we have to think about that. But for the moment, taking the criterion of improvement in the labor market in a context of price stability as defining the conditions for asset purchases—I won't spend a lot of time on it, but I think there's been a pretty good case made that we are at least approaching a situation where we can claim substantial improvement in the outlook for the labor market. As was noted by Governor Powell, we've been adding about 190,000 jobs per month over the past three months, over the past year, and over the past five quarters, back to the beginning of the program. This is not as strong as we would like, but it is also causing significant reductions in unemployment. The unemployment rate has dropped six-tenths of one percentage point since I spoke at my June press conference about what we were looking for. Global growth is also somewhat stronger. This is a factor that not as many people mentioned, but along with household spending and fiscal policy, I think that is something that should promote growth going forward. So I think that the substantial improvement criterion—again, we certainly have made a lot of progress in that direction, even if we're not there yet. And I would note that in June we were talking about 7 percent unemployment as being a stopping point for the program, and, of course, we're now at 7 percent unemployment. We do have to pay some attention to our communication issues here.

Now, the main argument against taking action, I think, and the best one, is low inflation, which we don't fully understand. I think the "in a context of price stability" was really more of a fail-safe than it was a condition about wanting to achieve a certain inflation rate. Nevertheless, I think there is a reasonable case that it will be harder to explain why we're taking this action—if we are—in the face of very low inflation.

So what I would like to raise now, and we can put it on the table tomorrow for full discussion, is strengthening the statement a bit in that direction. There are a couple of things that I think we could do—and again, this is just putting things on the table. One thing would be to accept President Evans’s suggestion about strengthening the language about monitoring inflation to make sure that we think it’s moving toward 2 percent. I don’t think that adds anything that anyone can really object to. The other thing, which is more substantive—and again, maybe we’ll provide some bracketed language on this to talk about tomorrow—is adding a sentence in the place where we talk about the conditionality of slowing purchases that explicitly says that if inflation continues to remain low—or something—we would consider pausing the process. We can discuss that further tomorrow. But what I’m suggesting here is that one way to accommodate this concern is to strengthen the statement in ways that reveal the concern and perhaps even make more explicit the relationship between asset purchases and inflation.

The second thing we want to talk about is the idea of strengthening or clarifying the forward guidance, whether that would involve qualitative guidance like we have in alternative B or a 6 percent threshold, whatever it is. Let me try to explain why I think that’s not an unreasonable thing to consider, however we decide to do it, and why I think it’s economically sensible.

I think a useful way to look at it is through the lens of the staff’s optimal control exercises. As you know, every Tealbook, Book B, presents optimal control monetary policy, which takes into account the zero lower bound and assumes that we’re able to commit to future rate changes. Now, I thought it was quite interesting to compare the optimal control exercise for this meeting with the one from December 2012, which was the meeting where we put in the 6½ percent state-contingent guidance. Let me just say that I’m not asking you to take the

optimal control exercise as anything more than an illustration of some of the economic arguments I want to make. In any case, what's happened since December 2012? Obviously, unemployment has fallen a lot more quickly than expected, and indeed, the unemployment forecast for this quarter made as of 2012:Q4 was 7.8 percent. It's 7.1 percent for this quarter. So what would you expect to happen to the liftoff date in the optimal control exercise? Well, the answer is that a year ago the liftoff date was the first quarter of 2016, and today it's the third quarter of 2016. Unemployment has come down a lot more than expected, and yet the optimal control liftoff date has been pushed out by two quarters.

Why? There are two reasons, basically. The first one, tying back to my previous discussion, is the behavior of inflation. Inflation has also been a lot lower than the Tealbook expected. In optimal control simulations in December 2012, when rates lifted off in the first quarter of 2016, it was assumed that inflation would be 1.9 percent. Now, with liftoff in the third quarter of 2016, the optimal control exercise has inflation at 1.6 percent. So even though liftoff is two quarters later, inflation is lower. The other change, which is interesting, is the fact that the staff have lowered their estimate of the natural rate by six- to seven-tenths of a percentage point for the whole period through the end of 2015. In the very long run, there's much less difference, but just for the next two years, they've lowered it fairly considerably.

Now, I immediately acknowledge Governor Stein's point about the high standard error. I think he probably understated the standard error around the natural rate, but what's the economic reason for thinking that the natural rate might be lower? Well, there are a couple of reasons. One is that participation is falling, and if it is the fact that those people who are most likely to retire or to otherwise leave the labor force are those who are either unemployed or have a high propensity to be unemployed, that's going to tend to lower the natural rate—not for good

reasons, but, nevertheless, it does lower the average unemployment rate of people still looking for work. The other reason—which is more positive, and which was explained in the staff’s June 2013 memo on why they lowered their estimate of the natural rate—is that their concerns about structural damage to the labor market and increased skill mismatch have been reduced, basically simply for the reason that what we’ve seen is unemployment coming down much more quickly than expected, with no signs of inflation in either prices or wages. That suggests that, in some sense, we’ve got more room to go.

So, again, despite the fact that unemployment is a good indicator of the labor market, and despite the fact that it has come down a lot more than expected, the optimal control simulation pushes out the date for raising rates because inflation is lower and because there appears to be more scope to push unemployment down, given the fact that it has come down so quickly without inflation. Let me just add to that that the unemployment rate at the takeoff point likewise has been reduced considerably, again reflecting the lower NAIRU estimates.

Our initial decision a year ago to put in the 6.5 percent as a threshold for the unemployment rate was itself somewhat conservative relative to the optimal control exercises, and relative to the fact that we did have this fail-safe on inflation. I think the reason it was conservative was that we were concerned that the natural rate might be higher than we thought and we would end up getting ourselves into an inflation problem. Well, here we are a year later. Inflation is not evidently a problem. Unemployment has come down quite a bit. So it seems to me that there’s a reasonable case that, relative to a year ago, we have more scope to push on that particular indicator.

Now, exactly how we do it—whether it’s by lowering the threshold, about which Governor Stein raised some relevant issues, or whether it’s qualitative—that’s for tomorrow’s

discussion, but I think there's an economic case for it. And it's also consistent with the discussion we had in October, in which a number of people around the table suggested that if we were going to strengthen, modify, or clarify the guidance, it would be good to do that in conjunction with some change in asset purchases. So this is just meant to lay out some of the basis for the discussion that we'll have tomorrow.

The one action item, if no one objects, is that I'd like to get together with Bill and come up with a bracketed sentence, if anyone has a suggestion that we might consider as a possible addition to the paragraph about the conditionality of asset purchases. This is your suggestion in a way, President Bullard. If you have a suggestion, I'd be happy to take it. In any case, let me turn to Bill to introduce the policy go-round and then we can wrap up.

MR. KOCHERLAKOTA. Mr. Chairman.

CHAIRMAN BERNANKE. Yes, President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I thought, as usual, your summary and lead-in to our discussion tomorrow was excellent. The one comment I would make, to build on what you said, is that I think the observations you described about how the situation has changed since December 2012 are exactly why the 6.5 percent was a threshold and not a trigger. And I think we should be thinking of ourselves as taking advantage of the optionality that the threshold offers us. We're taking advantage of the fact that we allowed ourselves the optionality to face exactly these kinds of considerations, and now we're trying to figure out language to allow ourselves to build on that. That was the only gloss I would offer.

CHAIRMAN BERNANKE. Thank you. I'm sorry, I should have allowed any other questions or comments. [No response] Okay. Bill.

MR. ENGLISH.<sup>6</sup> Thank you, Mr. Chairman. I will be referring to the handout labeled “Material for FOMC Briefing on Monetary Policy Alternatives.”

The top-left panel of page 1 shows the median dealer projection for the path of SOMA holdings from the most recent primary dealer survey (the black solid line) as well as projections that the staff sees as consistent with the three policy alternatives shown in the Tealbook. As Simon noted earlier, the median dealer forecast for total SOMA holdings has moved down a bit since the October survey, but it remains above the staff’s projection under alternative B.

As summarized in the panel directly below, market views about the timing of the first reduction in the pace of asset purchases have shifted in somewhat since the October survey. While March remains the most likely time for the first cut in pace, the Desk survey and other recent surveys suggest that investors put nearly equal odds on the first reduction coming in December, January, or March. As a result, any decision on the pace of purchases at this meeting will likely come as something of a surprise and also could influence investors’ expectations for the path of the federal funds rate.

As shown in the bottom-left panel, the median dealer expects Treasury and MBS purchases to decline nearly in lockstep through September of next year.

The three panels on the right side of your exhibit focus on market expectations for the federal funds rate. As shown in the top panel, the distribution of dealer expectations for the time of liftoff has shifted out a bit, and the median expectation is now the final quarter of 2015. This change likely reflects Federal Reserve communications clarifying the difference between asset purchases and forward guidance regarding the federal funds rate. Indeed, as shown in the middle panel, the dealers put significant probability on a number of possible enhancements to the forward guidance, including post-threshold guidance, post-liftoff guidance, a lower unemployment rate threshold, or the addition of an inflation floor. Market participants appear to believe that a change in the forward guidance will most likely be combined with the first reduction in the pace of asset purchases.

As shown in the bottom-right panel, dealers place about even odds on the unemployment rate at liftoff being below 6 percent or between 6 and 6.5 percent.

Turning to the alternatives for this meeting, alternative B, on page 6, announces a modest reduction in the pace of asset purchases and also provides qualitative post-threshold guidance in order to help limit any rise in the expected path of the funds rate that a reduction in purchases might spark. This combination may appeal to policymakers who believe that the economy is gaining traction, that the downside risks to the outlook have abated significantly, and that financial conditions are reasonably well aligned with the Committee’s expectations for policy.

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

The first paragraph of alternative B characterizes the current pace of economic activity as moderate, notes that labor market conditions have improved further, and mentions that the extent of fiscal restraint may be diminishing. The second paragraph offers two options for indicating that the risks to the outlook are more balanced and, in light of continued low inflation, mentions the need to monitor inflation carefully.

The third paragraph announces a \$5 billion reduction each in the monthly pace of Treasury and MBS purchases beginning in January. The fourth paragraph indicates that if incoming information broadly supports the Committee's expectation that both employment and inflation will move toward their longer-run objectives, "the Committee will likely reduce the pace of asset purchases in further measured steps at future meetings," which would probably be read as indicating that purchases were likely to taper steadily to zero over roughly a year. However, the statement notes that purchases are not on a preset course and remain contingent on the economic outlook.

The fifth paragraph reiterates the Committee's threshold-based forward guidance for the federal funds rate. It then goes on to add that the Committee now anticipates, based on its assessment of a range of factors, that "it likely will be appropriate to maintain the current target range for the federal funds rate well past the time that the unemployment rate declines below 6½ percent, especially if projected inflation continues to run below" 2 percent.

As I noted earlier, market expectations for the timing of a first cut in the pace of purchases appear to be spread fairly evenly across this meeting and the next two, and market participants generally expect some enhancement to the forward guidance to accompany this change in purchases. Thus, the broad contours of alternative B are unlikely to be a significant surprise. That said, the timing of the reduction would come at the early end of expectations, presumably putting some upward pressure on longer-term interest rates. Moreover, the indication in the statement that the Committee intends to continue taking measured steps as long as the data are broadly consistent with its outlook, while suggesting that tapering will be gradual, and so will take some time, also suggests it is fairly certain, which might put some further upward pressure on long-term rates. Shorter-term rates could also move up, depending on how investors interpret the new forward guidance and the extent to which a change in the policy outlook leads investors to liquidate positions taken to benefit from a prolonged period of very low short-term rates. More broadly, your SEP contributions may be seen as suggesting a somewhat higher path for the federal funds rate than market participants currently expect, particularly in 2016. Taken together, these factors suggest that alternative B would lead to a noticeable rise in longer-term interest rates, a decline in equity prices, and an appreciation of the dollar.

Alternative C, on page 8, could appeal to policymakers who judge that the underlying pace of economic growth and the substantial progress in labor markets since last fall call for a more rapid wind-down of the purchase program. Moreover, these policymakers may judge that it likely would be inappropriate for the FOMC to keep short-term rates near zero after the unemployment rate reaches 6.5 percent, and so prefer to leave the forward guidance unchanged.

The first paragraph of alternative C is somewhat more upbeat about the labor market and expresses less concern about inflation running below the Committee's objective. The second paragraph points to evidence of growing underlying strength in the broader economy. There are two options for the asset purchase program. The first, presented in paragraphs 3 and 4, reduces purchases of Treasuries and MBS to \$30 billion each per month and signals that further reductions are likely. The second option, in paragraphs 3' and 4', converts the flow-based program to a "fixed-size" program totaling \$360 billion in 2014 and ending next June. This option notes, however, that if labor market conditions and inflation evolve in an unexpected way, the Committee would "use its policy tools, including additional asset purchases, as appropriate to promote its longer-run goals." Paragraph 5 leaves the forward rate guidance unchanged from October.

The adoption of either version of alternative C would surprise market participants, who expect a later and smaller initial reduction in asset purchases and an accompanying enhancement of the forward guidance. Longer-term interest rates would rise, equity prices would decline, and the dollar would likely appreciate.

Finally, turning to alternative A, on page 4, some Committee participants may believe that the current degree of policy accommodation is insufficient to move the economy back toward the Committee's objectives over an appropriate time frame, and so wish to leave the pace of asset purchases unchanged while strengthening the forward guidance in order to provide additional stimulus. Other participants may want to hold off on a reduction in purchases at this meeting in order to obtain additional information about the economic outlook before taking such a step.

The first paragraph of alternative A is less upbeat than its counterpart in alternative B, while the second paragraph points to continued modest downside risks to the economy and the labor market and expresses greater uncertainty about whether inflation will return to its 2 percent objective over the medium term. The third paragraph maintains the pace of asset purchases and, together with the fourth paragraph, suggests that the Committee is in no hurry to reduce that pace. The fifth paragraph lowers the unemployment threshold and adds guidance stating that the Committee expects it can be patient in deciding when to lift the funds rate after the unemployment threshold is crossed. The final paragraph provides post-liftoff guidance indicating that the funds rate likely will be increased gradually after the eventual liftoff.

A decision to leave the pace of purchases unchanged at today's meeting would not be a great surprise; however, investors would be surprised by the signal that the Committee no longer foresaw such an action in the near term. The enhancement of the forward guidance, including the reduction in the unemployment threshold, with no accompanying change in the pace of purchases would also be unexpected. Interest rates would likely decline and the foreign exchange value of the dollar fall, while equity prices might rise.

Draft directives for each of the alternatives are presented on pages 12 through 14 of your handout. Thank you, Mr. Chairman. That completes my prepared remarks.

CHAIRMAN BERNANKE. I enjoyed them very much. [Laughter] Vice Chairman.

VICE CHAIRMAN DUDLEY. First of all, they were excellent. So, this is a question for both Simon and Bill: Relative to market expectations, we're going a little sooner, but we're also implying that we're going slower. What's the net-net of that?

MR. ENGLISH. It is not a whole lot slower. If you look at the first page of the handout, in the dealer survey, they are expecting the decline in purchases not to begin until the middle of the first quarter, but then it winds down by September. I think the staff was assuming a month or two later. And you get a little bit more purchases, but not a huge amount—if you're talking about the quantity.

VICE CHAIRMAN DUDLEY. No, I'm talking about the time frame, because you finish later, right, under—

MR. ENGLISH. Under alternative B.

VICE CHAIRMAN DUDLEY. Under B, right.

MR. POTTER. No, I'm not sure that's true under B.

VICE CHAIRMAN DUDLEY. It's about the same?

MR. ENGLISH. It's about the same. I think what we wrote down was one meeting later.

VICE CHAIRMAN DUDLEY. I just feel like there are two signals that we're sending. One signal is "earlier," but then we're also sending the signal "slow," so I'm trying to understand what you think the net-net of those two things is.

MR. POTTER. I think the dealers with the higher probability of a reduction at this meeting have a very small reduction in purchases. There are four dealers, I think, at 50 percent

or above. There is one with a 65 percent chance you would take an action at this meeting, but it's a very small reduction that they are thinking about.

VICE CHAIRMAN DUDLEY. So the net-net is a risk that they would take it as a more hawkish signal.

CHAIRMAN BERNANKE. What's the definition of "very small"?

MR. POTTER. \$5 to \$10 billion.

MR. EVANS. Which direction, Bill?

VICE CHAIRMAN DUDLEY. They would take it as indicating that we are being more aggressive in reducing the pace. We are not tightening, but we are reducing the pace.

MR. POTTER. I think what Bill emphasized about the SEP is also important.

CHAIRMAN BERNANKE. I saw President Rosengren first.

MR. ROSENGREN. If your goal was to minimize the chance of tightening financial conditions, how much of an effect do you think there would be from having a quantitative rather than a qualitative forward guidance—moving to a 6 percent threshold—relative to what we currently have in option B? I know it is a highly speculative question, but I'm just asking for your own sense of whether that would make a big difference.

MR. ENGLISH. My sense is that market participants see a quantitative change in the forward guidance to a lower threshold as a little bit firmer—as something that would give a little bit more confidence that rates would stay low for a long time, relative to the qualitative guidance that we have written down. I'm not sure that's a big difference, but I expect that's the direction it goes in.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. If you look at alternative B as crafted—in terms of the asset purchases, what is the cumulative size of purchases in 2013 and 2014?

MR. POTTER. Do you mean what the staff assumed or what the market would assume?

MR. PLOSSER. Well, either. Give me both if they're different.

MR. POTTER. It's about \$1.4 trillion total, I think. It's similar to the number that you floated in the memo you sent around.

MR. ENGLISH. The total from January 2013.

MR. POTTER. Yes. So, actually, \$1.375 trillion plus \$143 billion.

MR. PLOSSER. Alternative C, paragraph 3'—the paragraph that converts purchases to a stock—actually gives more total purchases than paragraph 3 of alternative C because you have a higher pace through midyear. You'd essentially get the same amount of purchases as you'd get in alternative B. That's what I was getting at.

MR. ENGLISH. That is probably pretty close to right. If you look at the chart that we have on page 1 of my handout, cumulative purchases under alternative C is a little below alternative B.

MR. PLOSSER. Yes. But the slower tapering in alternative C, paragraph 3' gives you basically the same quantity added to the balance sheet as under alternative B.

VICE CHAIRMAN DUDLEY. But one has conditionality, and the other doesn't, so they're not really the same. You're comparing apples to oranges.

MR. PLOSSER. I'm just saying they give you the same size balance sheet.

VICE CHAIRMAN DUDLEY. Assuming in alternative B that you don't pause, because of data.

MR. LACKER. It's the same in expectation.

VICE CHAIRMAN DUDLEY. It's not the same thing as an expectation of looking at all of the possible distributions. It's only in a modal sense.

MR. PLOSSER. My second question was about the effect of the SEPs. I think we made the point earlier that in the SEPs, the median forecast for the funds rate in 2016 was the same now as it was in September. So we haven't really changed. You said something about the market may be a little bit surprised by the fact that our funds rate path is higher than theirs. But ours is the same as it was in September, so—

MR. ENGLISH. But market participants have come down. One other thing about the difference between the fixed program in C and in B is that I think there is some effect of having the last purchase, in people's minds, being at midyear or being out in the fourth quarter, because that pushes back how quickly they think you could switch to raising the funds rate. It does move back the sense of, when is this thing going to end? When is normalization going to begin? By having the purchases continue further into the second half of the year, it probably helps prevent a rise in the expected path of the funds rate.

MR. POTTER. One other point on the SEP, which is a controversial point, is that some people trend. They will take the four highest dots and not include those in the calculation. And I think if you take those out, there might be a slight drop in the SEP number.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. I'm encouraged that the odds are equal for December, January, and March, particularly when you look at the next slide regarding the expectations of forward guidance. So this is a question for the Desk, although, again, I have never believed that our course should be determined by dealers. In terms of the way that alternative B is currently phrased, by strengthening the sentence on forward guidance—obviously, term premiums we

don't fully understand—we are still encouraging people to think that it is worthwhile to go out further on the yield curve. Is that a sufficient offset in your opinion, Simon, for this small reduction in the rate of purchases?

MR. POTTER. The market moves we've seen since September suggest that this should work really well. That was the thought in the briefings, so I would give it maybe a two-thirds chance because we had the experience in June when we were surprised. And one of the things I was trying to indicate is that the distribution of beliefs is quite wide. We don't know how people are positioned relative to that distribution of beliefs. So we could get surprising moves, depending on who the marginal investor is right now.

MR. FISHER. And beyond the dealers, in terms of our assessment of the overall investment community—the same?

MR. POTTER. We've looked at some different surveys. The questions are not as precise, particularly when it comes to forward guidance, so it's hard to assess those surveys. We can't see a material difference that would be useful for you, other than additional confusion about where the market is. So there's nothing where we can say a different type of market participant has a different viewpoint. It's varied across the buy-side surveys. The CNBC survey came out today. The only encouraging thing there is that they asked a pricing question, and they think that the tapering is more priced in than the previous time.

MR. FISHER. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. I read somewhere that someone was speculating that we would be reluctant to move because markets are thin. We talked about that chart earlier that showed trading volume falling off. Is that widespread, or is that an idiosyncratic view?

MR. POTTER. I spoke to two former heads of the New York Desk who thought that was a big issue. And I think it's in some people's minds in the market.

VICE CHAIRMAN DUDLEY. Not me. [Laughter]

MR. POTTER. I was sort of surprised, given the history of the FOMC, which has usually moved when it's appropriate to move and has not taken into account these issues. There's this folklore out there that the FOMC is very worried about the liquidity of markets at certain times. Just as around presidential elections, I believe this analysis doesn't support a move by the FOMC at the current time.

MR. LACKER. I can't recall our ever factoring that in.

MR. POTTER. Yes. But there is a perception out there.

CHAIRMAN BERNANKE. But what you said before about a particular difference in trading volumes doesn't even seem to be factual.

MR. POTTER. Well, definitely, because we don't usually have a meeting between Christmas and New Year's. If it was a telegraph move, we would just be unpopular with the people who wouldn't be on vacation, I guess.

CHAIRMAN BERNANKE. I will keep that in mind. Any other questions? [No response] Okay. We begin tomorrow at 8:30. Please submit any revisions to the SEP as soon as possible. Let me mention to you that if you are in fact enamored of any particular kind of guidance, you might want to check to see if your rate projections are in fact consistent with that guidance. I only raise that point. In any case, we will start tomorrow at 8:30. There is a reception upstairs and dinner. No business will be conducted. And I will see you tomorrow.

[Meeting recessed]

**December 18 Session**

CHAIRMAN BERNANKE. Good morning, everybody. Let me start by calling on David Wilcox to update us on some data. David.

MR. WILCOX. Thank you, Mr. Chairman. One of the more obscure and peculiar consequences of the government shutdown was that the Census Bureau was in the unusual situation this morning of publishing not only housing permits for November, but also starts for three months—September, October, and November. The permits numbers, which we pay much more attention to, were right in line with our expectations. Single-family permits edged up about 10,000 to 634,000 in November. Multifamily permits reversed some of their extraordinary gain in the prior month and fell back to 373,000.

In judging the underlying trends, we pay much less attention to the starts numbers because they're much noisier than permits, and this morning they lived up to that reputation. They were weak in September and October, but we'd already guessed that that would be the case, based on other information Census had already released. They jumped in November to 727,000, which is the strongest reading on single-family starts since early 2008, when construction was on the way down.

It'll be interesting to see whether the market this morning is distracted by the strong starts number or they manage to look through that. But for us, given the permits numbers, I'm expecting that there's likely to be very little news for our forecast, with maybe just a few billion dollars shifting between this quarter and next quarter.

CHAIRMAN BERNANKE.<sup>7</sup> Thank you. You have a new, slightly changed variant of the alternative statements in front of you. In alternative B—in B(2), in the blue—we've added as

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<sup>7</sup> The materials used by Chairman Bernanke are appended to this transcript (appendix 7).

an alternative the language from A(2): “The Committee . . . will monitor inflation developments carefully for evidence that inflation is moving back toward its objective over the medium term.”

I think that’s an accurate statement. It’s part of an attempt to try to increase the sense that the Committee is paying close attention to the inflation situation. And this is important language to one of our colleagues, so I hope that we can either do this or do something similar to that.

I suggested at the end of yesterday that we make a point in B(4) of the possibility that asset purchases could be stopped if inflation was not moving back toward target. On consultation, it seemed as though adding more conditionality might make it too complicated. So I’m proposing a relatively simple modification—changing “the Committee’s economic outlook” to “the Committee’s outlook for the labor market and inflation” to show that these are the things that we’ll be paying most attention to. In the press conference, I can elaborate the point that, of course, conditional on this morning’s statement, our policies remain contingent on continued progress.

So those are just a couple of additional suggestions. Of course, we’ll go around and have any other comments and suggestions from all participants. If we’re ready, then, we can begin our go-round with President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I support alternative B, with some reservations. My reservations are not deal breakers, so I support B, along with the statement substantially as drafted, including the new inflation verbiage. But I will mention some concerns.

As I stated in my economy-round statement, I am concerned about the disinflationary trends in the price data over the last few months. This trend, as I read it, is problematic on two counts in that it not only represents a widening deviation from our price-stability target, but it also is a worrisome red flag that I, or possibly we, are misreading the economic signals and

therefore could be overly optimistic about the underlying trend in real activity. For this reason, I have some sympathy with waiting another meeting or two to see if we get some firming up of the inflation statistics as well as stronger confirmation of accelerating growth. But I also recognize that our communications seem to have achieved substantially what was intended, and market expectations appear to be as well aligned for a tapering decision at this meeting as we can hope.

At the last meeting, I stated my preference for being as concrete as we can about the path for asset purchases once adjustments to the LSAP program begin. I believe that financial market uncertainty will be minimized and our policies will be more effective if we lay out as clear a path as possible for winding down our purchases. I feel that we should set a high bar for any decision to suspend the wind-down or reverse course, and that we should signal that this is the case.

I think there are changes to alternative B that would nudge expectations in the direction of seeing a decision today to taper as the beginning of a reasonably predictable process for exiting the LSAP program. For one, I think there is a case for starting by reducing purchases by the amount of \$20 billion, as presented as an option in an earlier draft of alternative B, rather than \$10 billion. Assuming that actual reductions in purchases begin in January, the pace suggested by this first taper would take us through the June or July meeting, with an end of the LSAP program completed by sometime in the third quarter. It seems to me that a pace of reduction of \$10 billion, if that's the assumed meaning of "measured steps," would drag out the process for longer than desirable and longer than markets expect. To my mind, starting at \$10 billion and describing it as modest conveys a tentativeness that may generate uncertainty about our intentions.

Now, I know the likely outcome today is \$10 billion, but if \$20 billion was the downstroke, my suggestion would be to replace "further measured steps" in paragraph 4 with the

phrase “similar steps.” Paragraph 4 would then read, “the Committee will likely reduce the pace of asset purchases in similar steps at future meetings.” That said, overall, the plan is more important, in my mind, than the amount. As a general statement, the markets are going to make guesses about future steps, and it is better to tell the markets what we can to avoid wrong guesses. So efforts to preserve a great deal of optionality may just create confusion and unwanted volatility. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. My goal for this meeting would be to leave financial conditions unchanged until we see data that clearly indicate real GDP growth above potential and clear movement of PCE inflation back toward our target of 2 percent. My forecast is that such evidence will be more apparent in the data by our March meeting. I have three reasons for waiting. First, we have been consistently overestimating how quickly we will get above-potential real GDP growth with inflation moving toward our 2 percent target. We should wait until these outcomes are in the data, not just in the forecast. Second, the cost of patience is quite low. In my estimation, we have little evidence that the costs associated with increasing our balance sheet will be much higher if we wait until March to begin tapering. Third, with inflation so low, we should be doing whatever we can to more quickly return both elements of our mandate to their goals. My forecast is that even waiting until March to reduce purchases would still leave us below our 2 percent inflation target and the unemployment rate just above my estimate of the natural rate three years from now.

I am concerned that, by reducing purchases at this meeting, we risk tightening financial conditions, possibly significantly. I certainly hope I’m wrong. Such a tightening would put at

serious risk the 3 percent growth in most of our outlooks and thus push the attainment of our dual mandate goals even further into the future.

My strong preference is to do nothing at this meeting. But quantitative forward guidance, such as lowering the unemployment threshold in our statement to 6 percent, would mitigate my concerns. There does not seem to be sufficient support for that now. However, I cannot support the current alternative B, which risks a further and, in my view, premature tightening of financial conditions.

In summary, with the unemployment rate still elevated and the inflation rate well below the FOMC target, changes in the purchase program are premature until incoming data more clearly indicate that the economy has sufficient momentum to sustain GDP growth faster than its potential rate. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. As I indicated in my December 5 memo, I think policy has become difficult to communicate, and there are too many moving parts. We can reduce policy uncertainty if we simplify our strategy regarding the current flow-based LSAP program. My suggestion was to announce an intended purchase of a specific amount of additional securities, noting the total size of the program when it's completed and the time frame over which it would be completed. I appreciate the staff's effort to include something on this in alternative C, but this is really not a question about the size of total purchases. The Committee can make that whatever they want. But I still do favor this approach or something very similar. I think it would bring clarity to the program. It would avoid the continued speculation from meeting to meeting about our near-term intentions without jeopardizing our forward guidance regarding the funds rate path, which is clearly indicated in the SEP.

The speculation that's going to go on, meeting after meeting, without a path is going to be, are they going to taper some more? Is it going to be a bigger step? Is it going to be a smaller step? Are they going to pause? To me, this is Chinese water torture, for us and the markets. And that Chinese water torture is absolutely unnecessary, as far as I'm concerned, and does not contribute to either clarity or improving the economy. So I think it's very important that we still try to achieve as much clarity as we possibly can.

I do support a reduction in the pace of purchases at this meeting. I believe the criteria we laid out in June for beginning to taper have been met. While the exact timing of the taper may not be known to the market, I don't believe that tapering today will come as too much of a surprise. Yes, there will be some reaction, but I don't think that should deter us.

I agree with much of what President Lockhart said. I, too, could support a larger step—of \$20 billion—at this meeting as a way of signaling our resolve. I think most of us agree and understand that the actual pace of purchases, whether it's \$10 billion more or \$10 billion less, is not the determinative factor for the economy. Many people have come to believe that most of the effect is on signaling our intention, as opposed to the actual economic effect of a marginal \$10 billion one way or another.

But I think we should have some changes in language to help clarify our intentions more. As I have said, it's important to try to turn our focus away from meeting-to-meeting changes in the flow of purchases, and laying out a path of purchase reductions would improve things. I sense that some people are reluctant to do so because it would appear to be backing away from our earlier statement that “asset purchases are not on a preset course.” I think there are times when we have to strategically withdraw—for clarity and for our effective communications.

Rather than specifying the path, another approach that is more in keeping with the statement is to be clear that further reductions are the default and that it would take significant changes in the economic outlook to alter that presumption. We could simply replace the second sentence in paragraph 4 by reversing the clauses and saying, “The Committee intends to reduce the pace of asset purchases in further measured steps at future meetings unless the economic outlook weakens significantly from current projections.” That just reverses the language in a way that strengthens it and signals the presumption that we will be continuing.

Now, there is a softer way to do that that the Committee may wish to consider. In that same sentence—which begins “If incoming information broadly supports the Committee’s expectation”—one change that might strengthen that a little bit is to say “So long as incoming information supports the Committee’s expectation.” That just gives it a little tweak to suggest that we are presuming it’s going to continue this way, and may better communicate that we are more likely to continue on this path than not. I think that would help our communications.

I’m also uncomfortable with alternative B’s language about forward guidance on the funds rate path in paragraph 5. I would prefer that we come closer in trying to describe our anticipated behavior or reaction function once we pass one of our current thresholds, rather than making statements about changing the thresholds that don’t convey very much about why we’re changing them or what conditions would cause us to act after a threshold is met. Our reaction function may lead to our not acting after we get to 6½ percent. Depending on what inflation is and what economic activity is, we could choose not to act, and the reaction function may help us do that. But just to leave it open, I find, is both confusing and a bit problematic.

It does appear, for example, that there is a consensus that our policy path is likely to be more gradual as the economy improves, with rates lower and rising more slowly than we typically see. And even if there's less agreement as to why that might be the case—and there are different stories that people have told—it's still true we can probably agree that rates would rise more slowly than otherwise. So I think that we would serve ourselves well with forward guidance in trying to articulate that path rather than moving our thresholds around in one form or another or signaling that we're not going to act just because one variable isn't behaving the way we think it should. Part of my concern here is also that we seem to be stressing the fact that the unemployment rate is not a sufficiently good indicator. And we talked a lot yesterday about the labor force participation rate. Independent research done around the System seems to suggest that there are some unusual things going on with labor force participation, but it's not clear that they're all bad news or that the unemployment rate is giving us the wrong signal.

I think we can convey that we anticipate a flatter-than-usual policy rate path in the statement, without precluding larger increases in policy rates if in fact they are needed, due to either inflation dynamics or financial stability, as President Kocherlakota talked about yesterday. We can convey that our behavior will be different than normal, but we'll still be systematic in responding to changes in economic conditions. For example—and this is just an example—the fourth sentence of paragraph 5 could read something like, “Based on the Committee's assessment of economic conditions and the outlook, if projected inflation continues to run below the Committee's 2 percent longer-run goal, then even if the unemployment rate declines below 6½ percent, the Committee anticipates keeping the federal funds rate lower than it typically would as economic conditions improve.”

As to other changes, the Chairman suggested that we consider thresholds. I oppose changing the thresholds. I think it will be confusing and will undermine their credibility. I also would be troubled by changing thresholds on the grounds that our estimate of the natural rate has either declined or changed in some way. Our January 2012 statement said we're not setting specific numerical goals for maximum employment because we don't know what determines it. But, to me, adjusting our thresholds based on our view of what the long-run natural rate is going to be is doing exactly that. And so I'd be very troubled with that strategy. Suppose that the Board staff's view of the natural rate has moved up—it has, in fact, changed over time. Would we then, to be coherent, have to raise the threshold back up in response to that movement in the natural rate? We don't know what the natural rate is doing, and I think it would be bad for us to get ourselves caught in that bind.

Finally, with regard to the two changes in the language that were brought in this morning, my preference would be, in paragraph 2, to leave the red language as it stands. The red language says that we “will monitor inflation developments carefully.” I think that's pretty clear and pretty straightforward, so I would leave that and not make the change in blue. I would be comfortable with the change in language in paragraph 4, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. As I listen to this conversation, I'm going to be thinking about how I'm going to talk about these things in the press conference. Let me just make a comment here on the use of the unemployment rate.

An early version of the statement said something to the effect that gains in the unemployment rate had overstated progress, which we eliminated, and I think the discussion yesterday suggested that that really wasn't the right way to think about it. In a speech about a month ago, I actually said something like, “The unemployment rate is the best single indicator

that we have, and that's why we're using it to essentially trigger the broader conversation about what's happening in the labor market." So, assuming we do not lower the threshold, if I'm asked why we didn't lower the threshold, my plan is to say something like, "Well, again, the unemployment rate is the best single indicator. It tells us when to begin looking. But we don't want to tie our entire analysis of the labor market to a single variable. The sense of the Committee was that, once we get to 6.5 percent, we want to look at a broader set of variables at that point"—so, without downplaying the accuracy of the unemployment rate, I would just suggest that it's a good signal to think about looking at the whole range of variables, without saying there's any kind of bias in the unemployment rate.

MR. PLOSSER. That's fine, Mr. Chairman. I agree with all of that, and that's okay. My reading, though, of the statement is that the language in paragraph 5 seems stronger than that. It seems to be making a much stronger statement—that we will not do anything when we get to 6½ percent. It's not definitive, but, to me, it sounds stronger than what you just said.

CHAIRMAN BERNANKE. Well, but it says "anticipates." So the notion is that once we get to 6½ percent, thinking about the configuration of labor market variables at that time, our best guess is that an overall assessment of the labor market will not yet precipitate an increase in rates. It's not really meant to be a time-dependent statement.

MR. PLOSSER. Okay. That's fine. I think those comments would be helpful in your press conference, so I support that.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. The economic setting for today seems to be the following: Our modal forecast is for growth in 2014 to pick up to a moderate or better rate, with further acceleration of activity in 2015. The accumulated economic data since September,

as well as fiscal developments in recent days, support this forecast. But I think it's fair to say that one, two, or three more months of steady confirming data would give us a much greater amount of confidence in this outlook.

Meanwhile, inflation developments have been worrisome. Our forecast is still that diminishing resource slack and expectations that the FOMC will maintain appropriately accommodative policy will be enough to get inflation moving back toward our 2 percent target. But here, too, I'd feel more comfortable about our forecast if we could start to see an actual turnaround in the numbers or, at a minimum, some confirmation that inflation is not falling further.

Yesterday Governor Yellen mentioned the possibility that we could get stuck in the mud with unemployment below 6½ percent, but taking some time to get down to 6. I agree with her that that could be worrisome. I think that the inflation projection along that type of stuck-in-the-mud scenario is likely to just stick around where it is at too low an inflation rate, and that would be worrisome as well. So I'm worried about that.

Let me make an aside, because this subject came up yesterday when I asked a question about the transitory elements in PCE inflation and Stacey Tevlin mentioned that there are some changes in the way that the BEA handles certain medical prices, and so now maybe inflation is going to continue to be lower than it was before that change. And then we talked about, well, should that mean that our 2 percent objective should be 1.8 percent? My view on this—and I'd welcome a more robust discussion—is that, in our longer-run goals and policy strategy statement, when we decided that 2 percent was our objective, the big basis for that was that we wanted a sufficient wedge in nominal interest rates so that we would avoid hitting the zero lower bound very often. And so 1.8 percent would not be acceptable just because some price was

behaving differently. It would indicate that we needed more accommodation so that, on average, all prices were 2 percent, and the probability that nominal interest rates would hit the zero lower bound remained low—in spite of some of the evidence that President Williams has that the history of the FRB/US model suggests that we're likely to hit the zero bound more often than we thought. It would be nice to have a more robust discussion of that, because I think there were different viewpoints.

Having said that, in this environment, I think today's policy actions should do no harm to the outlook. We should only take actions that maintain our current accommodative policy stance so that we have time to better assess the strength of the growth outlook and have more confidence that inflation is poised to turn back up. For my support today, the most important criterion is that our actions not lead to more-restrictive monetary and financial conditions. Now, judging that is always fraught with ambiguity. But essentially, we shouldn't see any meaningful increase in 10-year Treasury rates beyond what we would expect from improving growth and improvement in the inflation forecast. There could be some bounce after the SEP. That's why I asked whether markets are expecting anything like what is in the SEP projections for the federal funds rate. If I thought we could see an outsized increase in long-term interest rates based on this action, I'd be reluctant to support this.

So which alternatives can deliver on this criterion? As I considered it, I thought the safest choice is to make no adjustment to our LSAP program today, as in alternative A, and that would be my preference—to take that route today. I think markets would properly understand that this is a brief holding pattern until we accumulate more evidence of improvement that we expect. Markets would not be surprised if we waited until January or March. On that basis, I have many sympathies with the position that President Rosengren took on that. However,

history is not on the side of moving from alternative B to alternative A at the time of a meeting, and so I'm certainly willing to think through how this should go. The question I have is whether we can have a reasonable expectation—not a certainty but a reasonable expectation—that today's alternative B represents, overall, no substantial change in the stance of policy. I think that's what we mean when we say things like "tapering is not a tightening of monetary policy." That ought to be our goal today. I'm not sure if everybody else shares that. Maybe I'm a little bit naive on that, but I think that's what our language is intended to convey.

Well, alternative B does have a number of things going for it to meet this criterion. First, the taper is small. It's only \$10 billion. I could have imagined that the first time out, we would do a larger number than that, and I think that mitigates against an outsized reaction. As Simon Potter mentioned, markets seem prepared for this, so that could be a fine choice. Now, President Lockhart mentioned that perhaps \$20 billion, and more certainty on the path, would be a good idea. I'm not sure I completely disagree with that, if the first action was taken at the right time. And I believe that the suggestion Dennis had was, January might be ripe for that. In my mind, it might be March, if it was confirmed by the data and all of that, but tapering is what we're going to do at some point, and I'm expecting it to occur sooner rather than later. But again, I think \$10 billion is good for today. That's the size of the reduction.

Now, of course, the majority of dealers also thought a taper would be accompanied by a change in forward guidance. So I also think that strengthening forward guidance is key to keeping the taper from being read as a meaningful policy tightening. My preference, again, would be to move the unemployment threshold to 6 percent or even lower. This would likely be enough to offset the modest initial taper and keep the stance of policy relatively unchanged. I think a lower number is simple, it's visible, and it would have an impact. We also have the

inflation safeguard so if you thought that inflation would pick up, then we'd have a reason to tighten policy before inflation got to be a problem. But again, moving the threshold does not appear to have the support of the Committee at this time. At one point, it was a suggestion in alternative B, but it's not any longer. So I must look to other things to mitigate this tightening perception.

As a third-best policy, I can support the current alternative B, with the post-threshold guidance that is included in paragraph 5 in its current, relatively strong fashion and the stronger inflation language in paragraph 2—the blue that indicates that we're looking, basically, for assurances that inflation is going to be moving up toward our target, and that we're monitoring that. The guidance will once again reinforce the view that 6½ percent is a threshold and not a trigger. I did note yesterday that I would prefer that we alter the characterization of inflation in paragraph 1 to say that it's not just below target, but well below target, because I think 0.7 percent on PCE and 1.1 percent on core inflation are well below. I don't anticipate that that will be taken up, and I can live with that. If we include the language in paragraph 2 that indicates that we're not complacent about the low inflation—that's really important for me in assessing that this tapering is not likely to lead to greater tightening. Furthermore, the statement in paragraph 5—that if projected inflation continues to run below 2 percent, the first rate hike could be delayed—provides a key link between our goals and policy action. I think that's also useful and important. Including comments like this in the statement more closely aligns policy expectations to the changing inflationary conditions. As inflation moves up, as we are expecting it to do and as I have in my own SEP, this part of the statement is quickly going to lose importance and no longer be actionable. That's what the intention is, and so that would be

successful. This type of language can act as an important automatic stabilizer, particularly during times when current policy actions are constrained by the zero lower bound.

So, Mr. Chairman, I can support alternative B as long as there's no dilution of the important message about our concern over low inflation and as long as the strengthened forward-guidance language is not altered in a way that makes it appear to be a tightening. I find myself in disagreement with President Plosser over changing the language to mention that, after we get to 6½ percent, the funds rate would be lower than normal—I forget his exact language. That's vague. It's open to so many different interpretations. For instance, John Taylor would say Taylor (1993) is what the normal response would be. So as long as we're lower than Taylor (1993), we'd be fitting that bill. I don't think that's what we intend. That would clearly be tightening, in my mind, if we did that. We'd have to work an awful lot on that alone.

So if we do it this way, I think there's a plausible chance of this being a taper without tightening. After all, Simon's two out of three odds is not an unreasonable risk. I'm not going to be ridiculous about this, at least in my mind. [Laughter] Of course, there's a chance that rates will rise in the wake of an earlier-than-expected taper without a greater strengthening in the forward guidance than markets expect to be associated with tapering. If we do see an unacceptable reaction of financial conditions, I think that we need to be ready to push back. That's another important reason to stress that we are not on a preset course. Some of the pushback might be delays in further tapers. Additional pushback can take the form of speeches—especially by the leadership—assuring markets that our commitment to providing appropriate accommodation along the path has not been weakened. And if we find we have inadvertently tightened by surprising markets in one direction, we ought to be ready to respond appropriately. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. I do intend to say that if financial conditions move in a way that's inconsistent with our objectives, we will obviously respond to that, which is something I also said in June. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I'm hoping to cheer up President Rosengren later today when I pay off my bet on who would win the World Series. I do owe him a beer.

MR. TARULLO. Just one? [Laughter]

VICE CHAIRMAN DUDLEY. Big stakes.

MR. BULLARD. So I hope that will make him a little happier. Congratulations to the Red Sox on an excellent performance in the World Series.

Mr. Chairman, I'm going to support alternative B today essentially as written, and I have three remarks. My remarks are going to be as follows: First of all, I think it's appropriate to acknowledge a substantial labor market improvement since September 2012. Second, I'll make some comments that there is a clear upside to this decision in that this is the Committee's first concrete show of confidence in the economy in a long time, so it sends an optimistic signal. And, third, I'll make some comments about inflation being well below target and about how we need to be prepared to act if it continues to move lower.

So, first, let me talk about the appropriateness of this decision. The Committee laid out a clear criterion for the asset purchase program in September 2012. That criterion was that we were looking for substantial improvement in labor markets. As I stated yesterday, I think the case is strong that we have met this criterion on a cumulative basis. In particular, achieving an unemployment rate of 7 percent is an important milestone for the Committee, as this is a point at which earlier discussions suggested we might be completely finished with the asset purchase

program. Acknowledging progress in labor market outcomes is important to maintaining our credibility. We need to make sure that markets know that we mean what we say. Maintaining credibility on this occasion will help us in all aspects of policy going forward. For this reason, I think it's wise to take advantage of the current opportunity to taper slightly at this meeting.

Second, I believe that there is an important upside to this decision. I've been worried during the last few years that the Committee's promises to stay low for a long time were inadvertently sending a very pessimistic signal about the future of the U.S. economy. Today, however, we will take a concrete action that expresses some confidence in the prospects for U.S. growth and labor markets going forward. I'm hopeful that this action will provide something of a catalyst for improved private-sector expectations concerning the U.S. macroeconomic outlook. In other words, we are sending an optimistic signal instead of a pessimistic signal on the future of U.S. economic performance.

Finally, much of the discussion yesterday focused on the drift downward in U.S. and global inflation. As you know, I've been very concerned about this and have at times suggested that we should wait to taper until we see inflation moving back toward 2 percent. And as President Evans was just discussing, others on the Committee have also emphasized this point. We do not have that situation today, but my judgment is that the labor market improvement has become too compelling to ignore, and, therefore, that it's wise to taper a small amount at this meeting.

In listening yesterday to the many comments on low inflation, I heard a lot of hopeful forecasts, including my own. I remind the Committee that hope is not a strategy. We have to be prepared during the first half of 2014 for the possibility that inflation may continue to move lower. We need to have a response in mind for that possibility should it develop. The best

response may be to pause the tapering process in that circumstance. I would be open to other options, but I think continuing asset purchases would probably be the most effective option.

I want to reiterate that I'm an advocate of keeping the pace of purchases clearly state-contingent, as we do not know what the future holds and we may be surprised in either direction. In other words, we may wish to either speed up the pace of tapering or slow it down, especially on the grounds of less-than-desirable inflation developments. I also want to mention that I do not support the arguments being made by President Plosser, President Lockhart, and maybe others to remove the state contingency in the name of certainty. It's not Chinese water torture—it's optimal policy. [Laughter] Mapping outcomes into movements in our key policy instruments is a general principle that is derived from the research on DSGE models over the last four decades. We would not call the Taylor rule water torture.

On alternative B, as I said, I prefer it essentially as written. I do prefer the blue language in the last sentence of paragraph 2—to emphasize that low inflation is a concern for the Committee. The blue language, just to remind you, says “and it will monitor inflation developments carefully for evidence that inflation is moving back toward its objective over the medium term.” I do think, again, that we need to be prepared to act if inflation doesn't go our way. It's hoped that it will. My forecast says it will, and all of the forecasts I heard yesterday said that it will, but it may not, and we have to be ready to act in that circumstance.

Just a few more comments, Mr. Chairman. On the press conference, I continue to think that the Committee would be well served by having the Chairman's press conference after every meeting. We should announce that there will also be a press conference in January. This would be following the practice of the ECB. It would make all of our meetings equally likely for major policy decisions should the Committee so desire.

In today's press conference, Mr. Chairman, the way things are shaping up, we may need to be sure to emphasize the Committee's strengthened commitment to keeping rates lower for longer, which is contained in paragraph 5 with the "well past" language. I think the "well past" language does a good job of capturing what I see as the sentiment of the Committee, which does seem to lean in that direction—not thinking of raising interest rates when unemployment hits 6½ percent but maybe waiting quite a bit past that, especially depending on inflation developments. So I'm concerned today that the whole story becomes tapering. We don't want the whole story coming out of this meeting to be tapering, and I think the press conference is an opportunity to highlight that. Thank you, Mr. Chairman.

MR. PLOSSER. Mr. Chairman?

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. First, just to clarify, President Bullard, there is no optimal policy design for asset purchases that I'm aware of. I know of no theory according to which we can write down an optimal control problem with asset purchases and derive optimal control policies for asset purchases. So I'm not sure we're able to determine what is the right rule, if you will, or conditioning statements, that purchases ought to go by.

The second point I would make is that our asset purchase programs are conditional and have been conditional. We've tended to announce programs and have always been able to add another program or restart a program when we chose to do so. We did QE1, and then we did QE2 because the economy was not responding. Subsequently, we did Operation Twist, and then we started QE3. In fact, I wouldn't even taper. I would just keep the \$85 billion and then stop it at some point, with the clear knowledge that if the economy was not cooperating, we could restart the program and do it again.

I don't think it's clear that the path here is not optimal, but it's clear that it's very confusing by not specifying what our reaction function really is, and that's part of the problem—we haven't been able to do that. So I would say that we don't have a Taylor rule for asset purchases, much as we might like to have one. We don't know how to specify that optimal control problem, either.

MR. BULLARD. Mr. Chairman, if you'd let me respond briefly, and then we'll get off this subject. It's true that we don't have a Taylor-type rule for asset purchases, but if we could write down the model, we know that the optimal policy would be some kind of mapping between what's going on in the economy and how you're going to adjust the policy instrument. In that sense, that's why I've been an advocate of state contingency for the pace of asset purchases, and I think we've managed to get that expectation into markets. So in some sense, we do have a dial that we can turn in a modest way, as we're doing today. We can turn this dial in a modest way in reaction to developments in the economy. At least that has the flavor of what the optimal policy rule would look like, even if we can't exactly specify the rule.

Your points about state contingency, in the sense that we can start new programs, are valid, but, to me, that's a more volatile way to conduct policy, as we're going to entirely stop programs, and then come back with new programs later as developments don't go in our direction. I think you need to have a more continuous process, and the pace of asset purchases gives us a dial that provides a more continuous process. So with that, I'll stop. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. I support alternative B. September was a close call on whether to reduce the pace of asset purchases. Although I was in favor of a modest

reduction in the pace of purchases at that time, there were good arguments for waiting. Incoming data hinted that the economy might be losing momentum, and the budget and debt ceiling debates were looming.

Developments since then clearly shift the balance toward tapering. Labor market and consumer spending data have been solid, and the budget agreement means less fiscal drag and less policy uncertainty. Reducing the pace of purchases is fully justified by the cumulative improvement in labor markets and our greater confidence in the economy's underlying momentum. And here I would echo the comments of President Bullard that our message should be clear and strong. Assuming that the taper is begun, our action is based on the success of the program and the substantive progress we've made on our employment objective. It also addresses a concern I now hear from my contacts—that the ongoing “taper on/taper off” chatter has become a heightened source of uncertainty and distraction, even as uncertainty about the economy and fiscal policy has waned.

Of course, we can't eliminate all uncertainty, and I think paragraph 4 appropriately makes clear that policy is not on a preset course. Indeed, to be consistent with this point, I would actually omit the word “further” in the second sentence of paragraph 4. I would say that “the Committee will likely reduce the pace of asset purchases in measured steps,” not “in further measured steps.” At best, the word “further” is unnecessary. At worst, it could be construed as locking us into a path of \$10-billion-per-meeting cuts. Everybody knows that two data points make a trend, and, with the language of “further,” if we did \$10 billion reductions for two meetings, I fear that the perception would be that we're locking this in.

Now, I'm not sure what we really want to do in the future. It could be that the economy does a lot better than we're thinking and that we might want to taper a little faster than \$10

billion a meeting. As everyone knows, the math is, if you do \$10 billion a meeting, we end the program in December of next year. It could also be, as President Bullard has mentioned and as others have mentioned, that inflation is not going to behave the way we want, and we might want to slow the pace of tapering. So I want to have that optionality in there as much as possible. I recognize that this is not a big change, but I do think that the language should show, as best we can, that we may adjust further actions based on economic events. Now, the \$10 billion reduction is an appropriate small first step, but again, we should be leaving it open to the possibility that we'll change the pace in the future.

Getting to the issue that President Plosser has brought up, I do think that the language in this statement is the right thing. But at a future meeting, when we're closer to hitting the substantial labor improvement mark and to ending the current purchase program, I would support shifting away from the open-ended policy and stating an end date and total remaining quantity of purchases. At that time, stating the specifics of how the program will end should provide clarity and reduce uncertainty. I don't think the time for that is now, but I do imagine that, at a certain point, that might be the best end game.

Of course, there's no question that unemployment is still too high and inflation is still too low, and the situation continues to call for substantial monetary accommodation. For this reason, we need to make it crystal clear that reducing asset purchases does not imply an earlier funds rate liftoff. And I think the language in paragraph 5 does exactly that. It appropriately highlights our expectation that we'll keep the funds rate at its current range until the unemployment rate is well below 6½ percent. Such guidance on what we expect to happen after we reach the threshold should reinforce the perception that we're providing continued substantial policy accommodation. Furthermore, it puts low inflation as well as the elevated unemployment rate in

the spotlight, and I think that's a very good thing. It shifts the conversation toward a more standard reaction function for policy rather than the single threshold that we've been relying on. In my forecast, we reach 6½ percent unemployment in late 2014 but do not lift off until the second half of 2015, and that delay reflects in part, in my forecast, the very low underlying inflation pressures. So one of the statement's virtues is that it's consistent with a range of views on why we may need highly accommodative policy even as the unemployment rate comes down quite a bit.

And, finally, in paragraph 2, I would describe the risks as “more nearly balanced.” I think that's consistent with what people said around the table and with the SEP responses. In terms of the inflation language in paragraph 2, I can support the new language in blue that President Evans so passionately spoke about. Thank you.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. Last night I had dinner outside of the city with one of our distinguished colleagues at this table, and, after dinner, a rabbit ran in front of me, so I thought, “I'm a lucky guy. I got exactly what I wanted—alternative B.” What I mean by “lucky guy” is, first, as you know, I've long been in favor of reducing the asset purchases, since I wasn't in favor of them in the first place. Second, and very importantly, I think this statement as drafted in alternative B opens the door for us to further define forward guidance as we go through time. That's the most important thing that we can provide. It separates the two, but it begins the process of articulating our forward guidance in what seems to me to be a more helpful fashion. I wouldn't make many changes in the statement. I'm going to make a couple of comments on editorial matters, and then I want to make a general comment with regard to the size of the program. But I support alternative B.

The one editorial comment I would make is, I think it's a little bit immodest of us, a little bit too self-congratulatory, to repeat twice "since the inception of the asset purchase program." We have it in paragraph 2, and then we have it immediately at the beginning of paragraph 3. I would eliminate it in paragraph 2 so that the sentence would read, "The Committee sees the risks to the outlook for the economy and the labor market as having become more nearly balanced." We do say in paragraph 3, "Taking into account the extent of federal fiscal retrenchment"—which we've all talked about—"since the inception of its current asset purchase program, the Committee sees the improvement in economic activity . . . ," and I think that's enough patting ourselves on the back. It is inferred in the second paragraph and stated in the third paragraph, and again, I would suggest that it is more modest to eliminate it in the second paragraph.

I would not support, however, the thoughtful change of removing the word "further" in the fourth paragraph that was suggested by President Williams. I see his point, but I do think that it is a direction in which I would like to see this Committee go. Therefore, I would not accept that suggestion, but I say that respectfully.

With regard to the size of the program, I think President Lockhart is right. I would like to see a larger reduction. I don't think we're going to get it. I'm just happy to get something and begin the process. If my mind is still working, \$10 billion is 0.17 percent of the market capitalization of the New York Stock Exchange. I don't think it's going to have a significant impact. I believe that the bond markets have priced this in. I think we could reduce our purchases by more. I don't expect to get more, but I would hope that, over time, if we're able to digest this reduction well, we might increase the number at our future meetings.

I have a simple statement and feeling about what we've done so far, and that is that there is ample fuel sitting on the sidelines for businesses to take and drive our employment numbers

higher and our unemployment lower. It's there. It's there outside the depository system. It's there in terms of excess balances on our balance sheet. I don't believe we need to do much more. I'm happy, however, just to reduce the amount that we're adding to the system as we go through time.

I also think there is ample fuel to keep a floor on inflation. I do take to heart President Evans's points and other points that have been made. Again, I would like to remind President Evans and others that, even though inflation is below 2 percent, for seven months we've seen very stable numbers in the trimmed mean calculation of the CPI and PCE. That encourages me that we're not slipping off the cliff, but we'll have to see, as you pointed out. To me, price stability is when businesses and consumers are not distracted by price movements up or down in making their decisions. I don't hear that presently from business decisionmakers, and I don't hear that presently from consumers, but we'll have to monitor that as we go through time.

In short, Mr. Chairman, with that one editorial change—because I think it's a little bit too much to mention it back to back—I would support this statement.

With regard to the press conferences—President Bullard mentioned this—I've believed from the very start, as Governor Janet Yellen will remember, that the Chairperson should have a press conference after every single meeting. I'm going to advocate for that further during the transition. Actually, you will have one for this meeting and, I believe, for the January meeting. I hope that we can convince Chair Yellen to do that as we go forward.

Here's one request as you conduct your press conference this afternoon: In articulating the kinds of labor conditions that we look at or at least making clear it's not purely the unemployment rate, I hope that we don't send a signal that we believe monetary policy can affect

structural impediments. It is more powerful, of course, in dealing with cyclical improvements.

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. Given ongoing improvement in the economy and the labor market, I support a reduction in the pace of asset purchases at this meeting. The case for alternative C in terms of the size of the reduction is a solid one, I believe, based on data that continue to confirm the economy's underlying strength. That said, I am prepared to support alternative B in the spirit of its recognition of the cumulative progress realized in labor markets and the broader economy.

I would prefer that our statement not try to cushion the announcement about asset purchases with enhanced forward guidance. Stating that the funds rate will remain in its current range well past when the 6½ percent threshold is reached may intend to signal patience on the Committee's part. But as President Kocherlakota noted in his memo, the language may also imply a date-based commitment and ignore other key factors that must necessarily influence the Committee's decisionmaking in future meetings about the funds rate liftoff and path.

The SEP already provides guidance about the likely timing of liftoff and path for the funds rate, as well as indicates that the liftoff is likely to occur well after the 6½ percent threshold is hit. This point could be articulated at the press conference and would seem preferable to changing thresholds or using new language such as "well past," which may convey a quasi-commitment that rates will remain low for longer than markets already anticipate or result in tension between the message in the statement and the SEP, as we've experienced before. We could well face circumstances at future meetings in which the SEP forecast for the funds rate and unemployment rate may not be entirely consistent with the "well past" language, resulting in

challenging communication issues and potentially undermining the guidance provided by this language.

Instead of wrestling with a qualitative description of how the Committee views the funds rate path, I continue to think there is an opportunity to use the SEP by incorporating the median estimate of the funds rate from the SEP into the FOMC statement. Communicating the median estimate via the statement could reduce some of the uncertainty about the timing of liftoff and the path afterward. For example, even at the end of 2015, the expected level of the funds rate reported in the SEP ranges from  $\frac{1}{4}$  to  $3\frac{1}{4}$  percent. Instead, indicating in the statement that the median estimate of FOMC participants is for a funds rate of  $\frac{3}{4}$  percent at the end of 2015 and  $1\frac{3}{4}$  percent at the end of 2016 conveys both the likely timing of liftoff and pace of increases. Of course, these estimates will move with incoming data, as they should. I see this approach, however, as providing the flexibility the Committee will need to adjust policy as the economy and financial system adapt to a more normal rate environment, as well as eliminating the risk of the statement and SEP sending conflicting messages.

Even as I support alternative B, with this modest initial reduction, I'm mindful that we will continue to add significantly to our balance sheet and to signal near-zero rates into the future. I believe that the conditions will remain for the risk of imbalances to grow, notwithstanding the shift we've seen earlier this year that may have slowed the momentum in some asset markets. Thank you.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I support alternative B. I have been ready since our September meeting to slow the pace of asset purchases to acknowledge the substantial improvement in the outlook for the labor market. That said, I also believe that a gradual start to

the reduction in asset purchases is warranted so that markets don't think we are shifting the overall direction of policy, especially in light of the current low-inflation environment. In that regard, I think strengthening our forward guidance is also sensible. I regard the new language in paragraph 5 as establishing a soft inflation floor, in the sense that we would be willing to hold back from the first increase in the fed funds rate until projected inflation is approaching our 2 percent longer-term objective.

In my SEP, appropriate monetary policy has the fed funds rate first lifting off about two quarters after the unemployment rate crosses the 6½ percent threshold. More specifically, my current projection anticipates liftoff in the second half of 2015. I would wait until then, as opposed to starting in early 2015, because I anticipate that inflation pressures will be quite subdued at the time the unemployment rate reaches the 6½ percent threshold. By the second half of 2015, the unemployment rate will have declined well below the threshold and will actually be nearing my estimate of the natural rate. The second half of 2015 is also the point at which, in my SEP, projected inflation approaches our 2 percent longer-run objective. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. If left to my own devices at this meeting, I would prefer a clean taper. I like alternative C with no interest rate pushback or enhanced forward-guidance language. I find myself agreeing with much of what President George said on this subject. But if we are going to push back—and it looks like that's what the sentiment is for at this meeting—I think alternative B does it with as light a touch as I could imagine and is preferable. So alternative B is a statement I can support.

I think it's important to avoid trying to convey too much about interest rates beyond the point at which the unemployment rate crosses our threshold. We are already at 7 percent; 6½ percent might be right around the counter. We haven't talked much about policy-setting after we pass the threshold. I mean, sure, there's stuff in the SEP, but we haven't had a chance to really hash that out. So I think saying rates will remain low well past the time we cross the threshold is probably the best sort of minimalist approach to this that does something to enhance forward guidance. It doesn't provide much new information, but I think it avoids spurious precision. I think we have well enough established a precedent at this point that our programs and our actions are data dependent. So I don't view this as calendar-based guidance like we adopted in late 2011. I think this is very different than that.

I will say that I'm intrigued by President George's suggestion to include the median SEP funds path in the statement. We actually did get tangled up in early 2012 with seemingly conflicting messages in the statement and the SEP. And this would be a nice clinical approach to meshing the messages in the two documents. So my own preference would have been to reduce the pace of purchases by at least \$20 billion, a little more of an aggressive move, and, of course, take it all out of MBS first. But I can support the smaller reduction and the balanced approach.

Also, there is a collection of editing suggestions, and I will try and comment on the highlights among them. Forgive me if I don't address your particular editing suggestion. Regarding the option in paragraph 2, that the downside risks have diminished versus risks are more nearly balanced, I would go with the second option that they are more nearly balanced. I just think the odds of growth coming in on one side or the other in my outlook are roughly the same, so it just seems like a better approach to me, a more realistic approach. I like President Plosser's fixed-size plan, but I agree that if we don't adopt it at this meeting we should maintain

it as a live option—I am sort of where President Williams is. I think when we get about halfway done, fine distinctions in the amounts at which we reduce the pace of purchases is going to look like slicing the salami awfully thin. At some point it is going to be attractive to avoid agonizing about going from \$40 billion to \$30 billion or to \$25 billion. That just seems like spurious precision.

Just to comment on the exchange between President Plosser and President Bullard, I welcome continuity. But if we do end up increasing the fed funds rate above zero, President Bullard, your argument would take us to the return of eighth-percentage-point moves in the funds rate, or sixteenth-percentage-point moves. And there has got to be a limit there. There has to be some humility about how finely we can calibrate our tools.

MR. BULLARD. There is a limit. It's \$10 billion. [Laughter]

MR. LACKER. I see. I look forward to some analysis. Let me talk about the end of paragraph 2. I would prefer not to do this blue language. I like the original language better. It is not quite as anxious. But if we are going to do this language of President Evans, I would strongly suggest that we replace “is moving” with “moves.” The “is moving” suggests that we detect some increase in inflation that is in train. And I'm not sure we do. I think where we are around the Committee is that we expect, we hope, that inflation will increase. But I don't think we believe it is in train, and the “is moving” suggests that we think something is in train. And I think it would be a little more felicitous to make it clearly future tense there.

On the change at the end of paragraph 4, in blue, changing “economic outlook” to “outlook for the labor market and inflation”—I like that. That leaves out output growth, which is something that I have wanted for some time. Once you have talked about labor markets, you

have said it all except for productivity growth. And we don't really view that as something monetary policy can do a lot about, which is why I have been arguing for that for a while.

And then the other thing in paragraph 4 that Presidents Lockhart and Williams commented about, this “further measured steps” phrase. The concern I have about that language would be that whatever our step is now, that language might convey that we are not going to do anything bigger in the future. And “further measured steps” kind of has that flavor, and I'm not sure if President Lockhart's or Williams's suggestions get around it. I think President Williams's suggestion of deleting “further” helps because it doesn't make it sound like we think this is a measured step. It sort of leaves it open whether the step we just took is measured or not. So I would support President Williams's suggestion there. And I think I would support President Lockhart's suggestion as well to change “measured” to “similar.” I believe that's the end of my list of options to comment on. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Lacker, you confused me on that last comment. I view “further measured steps” as the intermediate option. If we take out “further,” that would seem to give more flexibility. But then you just said replace it with “similar,” which I think makes it less flexible. So I'm not quite sure which way you want to go.

MR. LACKER. I think that's right. Yes, that's compelling. Taking out “further” from “further measured steps”—but “measured steps” harkens back to the 2004–06 sequence, and I have a marginal sort of aversion to “measured” on those grounds. But you're right. I'm sorry. Deleting “further” unties it from the current move.

CHAIRMAN BERNANKE. Okay. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I would like to comment on three aspects of alternative B. The first has to do with the decision to reduce the flow of purchases at

this meeting. My recommendation will be that the Committee not taper at this meeting. The second aspect has to do with the nature of forward guidance regarding asset purchases and the fed funds rate. I believe this forward guidance is unduly imprecise, and I will offer some suggestions on how to fix this deficiency. And, finally, I will talk about what appears to be a growing consensus to taper at this meeting and the implications of that decision for our longer-run goals and policy strategy statement.

So let me first talk about the decision to taper. I found yesterday's conversation about inflation extremely interesting and informative. I think there is a lack of agreement among the Committee about what our longer-run goals and policy strategy statement means for the horizon over which we are trying to return inflation to target. There seemed to be a consensus around the table that as long as inflation is eventually to get back to target, maybe over a 5- to 10-year horizon, that was certainly an acceptable outcome. In fact, President Fisher suggested that as long as inflation is staying constant over time that's an acceptable outcome.

So that was different from the way I had been interpreting the statement. I think that that uncertainty about the length of the horizon we have for returning inflation to its target is shared by the public. And it matters. I think it matters for what their perceptions of interest rates are going to be and how they think about how we are trying to provide accommodation to the economy. So what is the situation we are in now? Inflation has been falling over the past two years. There are certainly measures of labor market improvement one can point to, but the employment-to-population ratio for prime-age workers has been essentially constant over the past two years and, really, essentially constant over the past four years.

The staff's outlook, which I share and I think is shared by many around the table, is that inflation is going to be below the 2 percent target for many years to come. In this context, a

decision to taper, even by a tiny amount—it doesn't matter what the amount is—all of these amounts we're talking about are tiny in terms of the impact. If you re-feed it through the model, they are all tiny in terms of the impact on the economy. It is the signaling component that matters. And a decision to taper, even by \$5 billion, signals that the FOMC views highly persistent inflation shortfalls as being appropriate, even if those inflation shortfalls are accompanied by unusually low employment. I think that will be an important source of news to the public and to markets about the way we view our inflation goals and mandate. And I think that communication could lead to sharp increases in fed funds futures and long-term yields, with significant consequences for the spending decisions of households and firms, as well as possibly to declines in inflation expectations.

I don't think what I just said is by any means a certainty. But I think one of the principles of operating at the zero lower bound is, when you do the kind of risk calculation that President Evans went through very carefully, if you're close to a decision about whether to tighten or not, the zero lower bound should always push you toward not doing it. That is basically the rule of operating at the zero lower bound, because of all the downside risks you can't really protect yourself against. In any event, I think the signal we are going to be sending is that we are very comfortable with inflation remaining below 2 percent for many years to come, and actually that seems consistent with what I heard yesterday. And I think that will be a source of surprise to markets and to the public. So I would recommend against tapering at this time.

Let me now turn to the issue of forward guidance. My theme is that the forward guidance of alternative B is insufficiently precise. Mr. Chairman, in September 2012, we made a conscious decision not to be quantitatively specific about our goals for the asset purchase program. I think that lack of specificity has been a real problem for us. It has meant that every

action and communication, no matter how small, has had large effects on market and public expectations about the eventual size of the program. In contrast, our specificity in December 2012 with the fed funds rate has been an incredibly valuable anchor for policy expectations during the course of a highly uncertain 2013.

I think that that lesson really pushes how you want to be thinking about forward guidance going forward. I made some suggestions along these lines in my memo from last Friday. In terms of the fed funds rate, President Lacker suggested that this is not calendar-based guidance in paragraph 5, but “well past the time” sounds like calendar-based guidance to me, but maybe I’m misreading it. I would propose using explicitly state-based guidance instead, making reference to the fact that we’re waiting for a particular signal of labor market improvement. I would prefer what’s in alternative A, waiting until the unemployment rate has fallen below 6 percent, basically lowering the threshold. But I suggested some compromise language in my memo, which is instead of talking about time, talking about a change in conditions where we could keep the fed funds rate extraordinarily low until the unemployment rate has fallen below 6½ percent and the medium-term inflation outlook has returned to 2 percent.

Again, I prefer the more specific forward guidance in alternative A. I think this kind of vague guidance in alternative B is likely to prove extremely complicated for us to manage, as our vague guidance about the asset purchase program in September 2012 has proven challenging for us to manage. I am open, as I have suggested in my memo, to the inclusion of a financial stability knockout clause. I think that is transparency in action. I think that’s going to be a factor that is going to influence the Committee’s decisionmaking going forward, and we should be open about that, more open I think than our current statements are. And I will come back to that when I talk about the longer-run goal and policy strategy statement in a few seconds.

Finally, I suggested in the memo from last Friday that the Committee reach a collective answer to the question about whether we're tightening or easing at this meeting. It doesn't seem like there is much consensus for reaching that consensus. I think people want that ambiguity about whether we're tightening or easing to be in there. And I think it's going to risk losing public confidence. We have 17 voices all going out saying different things about whether or not we were taking the first step to restoring normalization, with the associated tightening of financial market conditions. Others have said, no, this is intended to keep financial market conditions constant, or perhaps ease them. I think that is going to really confuse the public about what the Committee is trying to do at every given meeting. So I would have counseled including a collective answer as to whether or not this decision is intended to increase, decrease, or keep accommodation constant. But it seems like there is little stomach for that at this meeting.

Let me close by talking about our longer-run goals and policy strategy statement. It seems like the sense of the Committee is that we will taper at this meeting. I don't believe this decision is readily rationalized in light of our current longer-run goals and policy strategy statement. The outlook for both prices and employment is too low—and what I mean is that progress is very slow on both dimensions, especially on the inflation dimension, but employment as well. Why are we removing a tool of accommodation, given that anticipated slow rate of progress? That decision suggests to me, and I think it will suggest to the public, that factors other than our outlook for progress toward our goals are affecting our actions.

Mr. Chairman, you spoke eloquently on Monday about the benefits of transparency in monetary policymaking. This has been a hallmark of your leadership of this Committee, and I expect it will be a hallmark of your successor's leadership. As you noted, it's especially essential for us to be transparent about our objectives in the making of policy. If today's

decision suggests that we are taking into account considerations other than the outlook for inflation and unemployment—and I think it’s a little hard for me to quite get my arms around what those other considerations are, but I think one of them is financial stability concerns associated with both our tools, frankly—then I think we need to be explicit about those concerns in our longer-run goals and policy strategy statement. If that is going to be an important part of our consideration in the making of policy, we should be telling the public that as opposed to leaving them uncertain about what it is that actually is informing policy choices. And I will have more to say about this in January. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Kocherlakota, you raise a couple of interesting questions. And since I am going to have to address them in a few hours, let me try a couple of answers.

First, on whether or not we are tightening policy, we say, in the first sentence of paragraph 5 that the Committee “reaffirmed its view that a highly accommodative stance of monetary policy will remain appropriate.” I encourage participants to say externally that we are not intending a meaningful tightening of policy, that we are trying to maintain a highly accommodative policy. If you think about the components, on the one hand, we are still going to be adding to the balance sheet, and the total amount of assets that we will buy and hold is probably higher than was anticipated either in September 2012 or in June 2013. On the other hand, obviously, we have this guidance that is trying essentially to preserve market expectations about rates. So I think a rough approximation of the intent of this action is to try to keep accommodation reasonably close to where it is now.

Now, the risks I think are toward tightening, at least in the short run, for a number of reasons. One reason in particular is that people, as they did in the summer, may take, as you

said, a signal that we are in fact thinking of raising rates earlier. That is something we saw in June that we were able to push back against verbally, and I would ask for everyone's help in doing that if, in fact, that problem arises. I think one thing I am going to try to emphasize is that we have not abandoned accommodative policy and that we want to maintain a high level of accommodation; in particular, I will try to reinforce the progress we have made in separating the asset purchases and the rate guidance.

The other part of your question, which I think is very good, and I have been spending some hours when I should have been sleeping thinking about it, is how do we explain this in the context of our longer-run goals and policy strategy statement. And the way I would say it is something like the following: The Committee views asset purchases as a supplemental tool because it believes that, as the balance sheet expands, the benefit–cost ratio essentially is likely to go down because of the difficulties of managing a large balance sheet and the risks of exiting from a large balance sheet. Consequently, what the Committee did from the beginning was to explicitly state an objective for this program, which was not maximum employment and price stability; it was a sustainable improvement in the outlook for the labor market. We think we have achieved that. We have made that progress, and now we believe that we can achieve similar levels of accommodation using the continuing purchases plus our guidance. Now, that may not be true, in which case we will have to come back, and I hope that we would consider additional measures if in fact things do tighten unduly. But I put these out there as a review for my press conference. If anyone has any suggestions to make the answers better, or disagreements, I'd be happy to hear them.

MR. KOCHERLAKOTA. Well, I will offer my own feedback. On the first point, I think that it's very helpful for you to say that, Mr. Chairman. I think your words will be very helpful

in that dimension. Without it being in the Committee's own statement, I think there is always more ambiguity than not. I think having you say it is certainly a real positive—that the level of accommodation is intended to remain the same, that we are intending to keep financial conditions the same—I think it's extremely helpful. But I think there is ambiguity and maybe I'm misreading it. I sense ambiguity around the table in terms of what people are trying to accomplish. But it's very helpful for you to say that in the press conference.

CHAIRMAN BERNANKE. You don't think the first sentence in paragraph 5 gives the general thrust of that?

MR. KOCHERLAKOTA. I think that the tendency of financial market participants in reading these statements is to ignore sentences that are the same as in prior statements, so it's really the changes that they focus on. So I think there's a limited amount of comfort in that. That's a very articulate explanation of why we see asset purchases as being different from the fed funds rate, and I could not hope to do better myself, so I think you've done as well as one possibly could on that dimension. The issue is that our actions are very powerful, more powerful than any one person's words can be. I think the question that will come up is, "Boy, do you really see asset purchases as being that costly right now that you've got inflation trending downward and unemployment still elevated? Well, you must find this to be a very scary tool if you're not willing to keep using it at the same flow." I'm sure you have a good answer prepared for that, but it's not a question of your answers, it's a question of what the mindset will be of the people receiving the signal through our action.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. If I could just offer a comment, on the first sentence in paragraph 5, I cannot improve upon your statement that this continues to maintain highly accommodative

policy. But, we know from what we've done over a long period of time and research on monetary policy that you can easily say with a straight face, "We're going to continue to have highly accommodative policy even when the funds rate starts to go up to 1 percent," right? You can measure it against what Wicksell's natural rate is or whatever. That statement is operative for a very wide range of different policies. I think that the way that you will express it will be understood as genuine, but you can imagine that some people would react to it and say, "Well, you know, it's not the strongest statement."

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Mr. Chairman, I'm sensing on this issue about "in further measured steps" that the Committee is maybe a little bit uneasy. I just wanted to put something on the table as we go around the rest of the discussion here, which is, just eliminate "in further measured steps" and say "the Committee will likely reduce the pace of asset purchases at future meetings." Then I think what would happen would be that the markets would assume \$10 billion is sort of the norm, and then we wouldn't get locked into the measured-pace language of 2004–2006, as President Lacker noted. Thank you.

CHAIRMAN BERNANKE. Thank you. If there are no other comments, I'll turn to Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I support alternative B with the changes you've proposed.

In September, I began my policy remarks with the statement, "I did not find today's policy decision an easy call." I can repeat those words today. I suppose that existential angst over our initial tapering decision is simply unavoidable. Were it not for signaling considerations, the precise timing of our first move to taper would not be very important, but in the current

unprecedented environment, the signal we'll be sending is both very important and very difficult to assess.

On the merits, as I noted in the economy go-round, since the inception of the purchase program we've seen meaningful progress in the labor market based on a wide range of indicators, and current data reveal that the pace of payroll gains has been running near 200,000 per month for an entire year now without any sign of a letup. We've also seen clearer signs of a pickup in final demand since September, and with fiscal policy at home apparently now on a less disruptive course and Europe slowly pulling out of recession, I see reduced downside risks to the economic outlook. For these reasons, the doubts I've long harbored about the sustainability of progress in the labor market have finally subsided to the point where I now feel comfortable with the first modest reduction in the pace of purchases.

Paragraph 2 of alternative B indicates that the risks to the outlook have become more nearly balanced since the inception of the purchase program. I agree that the distribution of shocks to growth now seems reasonably balanced. Nevertheless, as President Kocherlakota noted, as long as we're stuck at the zero lower bound, we have considerably less capacity to respond to downside than upside shocks, so the overall risks facing the economy remain weighted to the downside. And with inflation below our objective, there's also risk there. These are reasons to proceed cautiously with an initial reduction that's modest in size. The sobering experience of the past several years should have taught us that the data can easily throw us a curve ball. We should also proceed cautiously with an initial modest step to emphasize that our actions remain data dependent. A small initial reduction sends the message that we are not hell-bent on winding down the program, but rather that we'll proceed in additional measured steps,

provided the data are consistent with continued progress in the labor market and with inflation moving back toward our objective.

Paragraph 4 of alternative B points out appropriately, in my view, that under our modal outlook we do expect to continue reducing the pace of purchases at future meetings. But it also critically emphasizes that the course of asset purchases remains contingent on both the labor market and the outlook for inflation. I confess I'm quite uncertain how financial markets will react to this announcement. Market participants appear to be convinced that a taper is coming, but they're uncertain just when it will begin and apparently consider January or March more likely than December. I expect our decision will therefore come as something of a surprise, and we need to do all we can to ensure that market participants don't overreact, similar to June, perhaps incorrectly inferring a reduced commitment on our part to our pledge to maintain accommodation for a considerable time.

The consequences for financial conditions could, as then, threaten to undermine the attainment of our objectives, and this is one reason why I support amending the forward guidance in paragraph 5 of alternative B. I think the proposed language clarifies how we're likely to set policy after the unemployment threshold has been crossed, even though it doesn't go so far as to lower that threshold. The dealer survey is representative of broader market views. Our statement in paragraph B(5) that we expect to wait for some time after crossing the unemployment threshold before liftoff should merely confirm views that are now widely held in the market, and it's also consistent with what's in the SEP that we'll be publishing.

Even so, as the June experience suggests, providing explicit confirmation of these views is prudent, especially given how uncertain we are about how markets will interpret our tapering decision and what conclusions concerning the path of the funds rate they might otherwise draw.

I also think that the revised forward guidance is appropriate based on my own assessment of all indicators of the labor market, of the overall outlook, and also the fact that inflation is running at such a low level. I think it's appropriate to wait to raise the funds rate target well past the time that unemployment declines below 6½ percent. Under my modal outlook, the unemployment rate will reach 6½ percent in the fourth quarter of 2014, around the time when I would expect asset purchases to be completed. And under that same outlook, one that's characterized by only slowly lifting headwinds, I consider it appropriate to defer liftoff until late 2015 when the unemployment rate has declined to, or is slightly below, 6 percent.

Finally, in purely pragmatic terms, given that the unemployment rate has now reached 7 percent and in some plausible scenarios could reach 6½ percent in just a few months, I think it's appropriate and, indeed, almost pressing to clarify what will happen once the 6½ percent threshold has been crossed. Mr. Chairman, I know that communicating this entire bundle of messages is going to be quite a challenge, and I'm very grateful to you for taking this on.

[Laughter]

CHAIRMAN BERNANKE. We can wait until March if you'd like. [Laughter] With apologies to Governor Tarullo, it is a little after 10 a.m. We can take a coffee break if you'd like and come back at 10:20 a.m.

[Coffee break]

CHAIRMAN BERNANKE. Okay. I think we're ready to recommence. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. As the discussion yesterday obviously showed, there's a reasonable case to be made for the proposition that the standard that we set in September of 2012 is at least in the process of being met, which is to say that we're seeing

substantial improvement in the outlook for the labor market. As the Chairman noted yesterday, there's a certain ironic twist to the qualification that we inserted on that standard—"in a context of price stability"—which I think most people believed would be a possible grounds for truncating the program, and at this juncture, it's actually an argument for extending the program.

I do favor alternative B but, as with many of you, for a somewhat complicated set of reasons that I'll now try to explain. I think that there is some risk, as people have already said, that there may be some roiling in the markets. I think that is quite possible whenever we taper, particularly because of the fact that there will be movement on certain issues with certain maturities, and that's just inevitable and a price that we're going to have to pay. The odds of it are probably a little bit higher now because I don't think that, as many of you have observed, there's a consensus around this as a likely date for tapering as opposed to one of the next couple of meetings. The data have helped us some. Our own communication probably hasn't. As I looked at the transcript for the last meeting, I noted that many of us spent a lot of time talking about how to set up market expectations for the taper, and we really haven't done much of that. But, as I say, the data have done some of the work for us.

There are good arguments for waiting, as Eric and Charlie Evans and Narayana have all, I think, persuasively argued. I don't think the costs would rise that much waiting a few months. We'd have a better chance of avoiding the possibility of having to reverse course. Narayana makes the good point about the zero lower bound. Additionally, we would have a better chance of being in a position where we were quite certain that we were ready to end. There could be a very strong presumption in financial markets as opposed to the sort of moderate presumption that we'll probably include today. Because there are these uncertainties that people have identified, I don't think we're in a position to provide the maximum kind of clarity that is explicit in Charlie

Plosser's recommendation, which I was conceptually attracted to at the last meeting, but I was attracted to it in the context of a pretty high level of assurance about the initial taper.

I think it's probably worth making the point, though, which I don't think anybody has made yet today, that while we've got a reasonable case that the standard has been met, in September 2012, we did not explicitly, at least, include the idea that we were going to taper as a way of ending the program. It could have been read as binary, and in that respect I think we can fairly characterize what we're doing today as beginning the end of the LSAP process rather than actually ending the LSAP process. And, as people have already explained, there is some optionality in that depending on data that we see over the course of the next several months. I think it is one way to square some of the tensions in the various positions and statements we've made along the way.

Well, you can see that, to this point at least, my instincts would lean more with Narayana and Eric, but like Charlie Evans, I tried to look at the situation that we actually confront collectively as a Committee. While there are going to be some communication problems that many of you have already mentioned, and that the Chairman is going to have to start confronting in a few hours, we definitely run the risk of having another communication problem if things do not improve or things backslide over the course of the next several months yet there is a continued strong view amongst some members of the Committee to want to begin to taper.

I think Jim Bullard said that it was good to taper at a moment when the data were making the case for doing so, and I agree with that proposition. I disagree a little bit with what Narayana said about the problem in the articulation of the LSAP program back in September 2012. I don't think the problem lay as much in the generality of the standards put forth as in, as I've said before, the fact that there really wasn't a consensus within the Committee for what we are

actually doing, and we have been living with that tension privately but not publicly ever since. And for a lot of reasons, not the least of which is the coherence of Committee action, I think it's a good thing that we try to maintain as much of a focus on performance of the economy and on having the LSAP program regarded, as I think it should be, as having promoted the goals that we set forth for it. And so for that set of reasons, I do support alternative B today.

With respect to the language, I think it is important to make the language modifications, including the forward-guidance modifications that have been suggested and the blue language that was inserted at Charlie's suggestion. As Narayana said, this is largely about signaling right now, and it is important, I think, to signal that we have not collectively taken a hawkish turn. I don't think we have. There continue to be different views, but looked at collectively, I actually don't think the Committee is in a different position today than it was in October or September or probably, for that matter, June. In fact, I will say that although there are a number of reasons for me to vote yes, some of which I've already detailed, an additional reason to vote yes is I don't want a dissent of mine to be regarded as my perception that the Committee has taken a hawkish turn. So I am in favor of the language as amended in red and blue that was circulated this morning to the Committee.

I don't think there's a need to say anything more about that. I'll just end with two observations that were raised by a couple of you in the course of the conversation that don't go directly to this decision today, but I thought were worth considering. One is Esther's suggestion that it may be useful to publish some of the SEP medians, including the federal funds rate information. I agree with that, in principle. I do think though that if we're going to do it, this is where we really do need to start thinking about distinguishing between voting and nonvoting members because the information value, as I think we saw yesterday, is somewhat limited when

one looks at all 17 participants. If we go in this direction, we might want to think about publishing the median for people who vote this year and next year and those are presumably somewhat different; that would give the right kind of information for the people who are going to be voting next year. But if we're going to move there, let's do it in a way that allows markets to better predict how the Committee might react in a certain circumstance.

And then finally, Narayana in his remarks mentioned the longer-run goals and policy strategy document, which will be coming up again in January. I must say my skepticism about that exercise has been somewhat reinforced over a number of meetings, including the one today. Like Narayana, I'll have more to say about that in January. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. I support alternative B. As a couple of other people have noted, I think just purely in terms of messaging, I think it's an opportune time to taper. Recent news has been positive, and doing it now allows us to come across with a relatively upbeat message. We're doing it because the outlook has improved, more or less full stop. If we wait till March, there's just the risk that even if things are generally continuing to get better, you get a bad labor market report the week before and then it's a little bit awkward, and then even if you understand that that's just noise, the message, I think, gets a little trickier. You can let March pass, but then there's sort of accumulated discomfort with the size of the balance sheet becoming more of an issue. So I think now we've been basically dealt a reasonably good hand in terms of messaging. So I think it's a good time to play it.

I'd like to just briefly touch on two other issues: The first is the extent of the predictability of the presumptive funds rate path that we set out, and the second is the nature of the forward-guidance enhancement in paragraph 5. Let me start with the guidance. I think it's

absolutely appropriate to strengthen the pre-liftoff component of the guidance. The market seems to expect liftoff to be delayed until something like mid or late 2015. This seems like a reasonable expectation. It seems like it serves our policy objectives, Mr. Chairman, for the reasons that you laid out yesterday having to do with a change in our point estimate of the natural rate. All of that, I think, points in the direction of wanting to do something to strengthen the guidance.

And then comes the question of what is the best way to do that. I actually quite like the language that we have in paragraph 5 about maintaining the target range for the funds rate well past the time the unemployment threshold is crossed. I acknowledge it is calendar-based. It's clearly sort of a calendar-based enhancement on top of the economic conditionality. I guess it's a little awkward. It's a little bit of a mix and match, but I think it strikes a good balance in terms of doing what we want to do, on the one hand, and having some reasonable risk-management properties, on the other. As I said, I was a little uncomfortable with moving the unemployment threshold to 6.0 percent, but not because it's the wrong thing in the modal scenario—I think it's just about right in the modal scenario. I think if everything kind of aligns correctly, we will lift off in mid-2015. Unemployment will be around 6 percent or something like that, and that's all great, but there's sort of this long tail of outcomes that I was concerned about. So I think the people who were involved in drafting the statement did a very nice job.

An alternative approach would be to do something along the lines of what Narayana suggested and have a knockout of some sort for financial stability. I'm sympathetic, and certainly if we were starting from scratch, I think I would have been happy to have a stronger, more fully developed financial-stability knockout, as the Bank of England has done. I think there's a bit of a risk putting it in in midstream where, if you all of a sudden call attention to it,

people might say, “Geez, you think you might even hit that knockout before you hit 6.5 percent?” So I think there is some risk that it would actually unhinge the guidance a little bit. I think we’re probably in a better place with what we have.

On the issue of how much clarity or determinism we put in the path of asset purchases, I am sympathetic to and appreciate the arguments that Dennis and Charlie and others made for a relatively deterministic path. I won’t repeat their arguments. I think they’re basically helpful. I recognize we’re not going to go all the way there now, and it’s sort of too much to throw out data dependence entirely.

I did want to point to another selling point for having a relatively clear path, which is I think that having a relatively clear path can become quite a powerful complement to our forward guidance. That is to say, suppose you make it pretty clear that we’re going to have this path, and by the way, it’s a relatively slow glide path. So it’s \$10 billion a meeting. If you do that, it takes basically eight meetings to get done. By then we’re at the end of 2014 or pretty close, and it’s going to take us another meeting or two to even really begin thinking about lifting off after that.

If that’s the way you get people in the market thinking about it, then in a very mechanical way you have more or less pushed out the date until mid-2015. So I think there’s a virtue above and beyond some of the virtues that you alluded to, but it kind of hinges on it being a relatively slow path. So I think that that’s worth having. I don’t think that we’re going to go to a fully deterministic path at this meeting, but I tend to like the pieces of the language that I think serve that purpose. So on the specifics, I like “further measured steps” because it has a little bit of that feeling of doing it slowly and semi-deterministically. I would go along with the suggestion Charlie had of changing the words “if incoming information” to “so long as incoming information.” I would be in favor of doing something like that. Again, I don’t think it takes

away data dependence, but it creates a larger area of inaction, which I think is sort of a reasonable thing. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. I am prepared to go ahead with alternative B today. In my view, the decision to reduce purchases is well justified, as can be seen in the comparison of labor market conditions to those that prevailed in September 2012 and to those that the Committee expected to prevail today. Payroll levels are 1.5 million higher than expected. Unemployment is almost a full percentage point lower than expected and, as I mentioned yesterday, and others mentioned as well, the trailing payroll numbers are in good shape for 3-, 6-, and 12-month levels. So it is, in fact, a pretty good hand of cards on that front. The decision is also justified under the framework that the Chairman articulated at the June meeting. We have continued progress in the labor market, growth picking up, and inflation that is forecast to return over time to our 2 percent objective. In addition, our reasons for not tapering in September—weaker data and the fiscal negotiations—have been addressed.

All of that said, I struggle with two concerns, the first of which is timing, and for me the question then is taper now or wait until the March meeting, and the second is inflation and how to think about the inflation forecast in connection with this decision. So on the first, on timing, at the last meeting I argued that we needed three things to taper before March: strong incoming data, a successful conclusion of the fiscal negotiations, and communications from the core members of the FOMC that signaled that the December meeting was very much on the table. So we absolutely got the first two done, and I thought that the third element would be virtually impossible to satisfy, and that was the basis for my confident prediction that we would not be able to taper until March. But I have to admit we've gotten there. Through a sequence of events,

we've gotten to a place where it's expected at one of the next three meetings. But it's not fully anticipated, although I do believe that the market would see a taper as fully justified based on the Chairman's framework, based on the improvement in labor market conditions. So the content is not a surprise. It's really that the decision to move at this meeting rather than one of the later meetings is ahead of expectations only in a time sense. It's a surprise. It's probably a tiny hawkish surprise, and I expect there will be a reaction in the market. Like others, I don't see that it ought to be a major reaction, and it ought to settle down in a few days. And the Chairman will communicate strongly at the meeting there is no intended hawkish surprise here. So I'm comfortable with going ahead from a timing standpoint.

As far as inflation is concerned, we are obviously in a very difficult place. The forecast is for a slow return to 2 percent, and there really is no expectation in the forecast of notably higher inflation in the short term. So if inflation goes sideways for a while and is mainly held down by factors that send no important signal about slack, I don't think I see that as a basis for pausing the taper.

Going to the language in the statement, I think that the new blue language in paragraph 4 of alternative B gets it exactly right. It's about the outlook for inflation. The inclusion of inflation there will be seen as a signal, and it's about the outlook. I think that kind of has it exactly right. And I actually think that the language at the end of paragraph 2, "inflation is moving back toward its objective," leaves me a little bit uneasy because there really isn't much of an expectation that we will see inflation moving back in the next couple of meetings. So I wonder whether that doesn't create some uncertainty around the path of purchases in the near term. As John indicated, one or two or three data points become a trend, and I don't think it's intended that way, but some may see it and it may create uncertainty. So I see that as a concern.

In terms of the other language, I do really like all of page 6. As written, that page is quite good. I like the original language, “in further measured steps,” because I think it’s a good balance. It creates a fair amount of certainty. One or two more tapers, it’s going to create a lot of confidence in our path. I could live with strengthening it, and I think maybe we look at that over time to see if we could become more deterministic in terms of both the time and the amount. I mentioned I like the blue language. In terms of the language for after hitting 6½ percent, I’m very comfortable with this. In my own forecast, liftoff actually happens just after we hit 6 percent, and so I think this gives a strong indication of where we are without giving away discretion for free. That’s it on the statement. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I support alternative B. I think the time has come to begin to reduce the pace of asset purchases at this meeting. My motivation for doing so is straightforward. We’ve seen better data, a somewhat firmer growth trajectory, and stronger payroll employment growth, and we do expect that, rightly or wrongly, it will continue. Also, we should be somewhat more confident about this than in the past because the fiscal drag is diminishing as we go into 2014, and Congress seems to be losing some of its appetite for further fiscal shenanigans. Thus, I think we can truly say that we have seen significant improvement in the labor market and that we expect that this improvement in the labor market outlook will be substantial by the time the purchase program has been completed. This is far preferable to beginning the taper in more ambiguous conditions, which would suggest that the taper was being driven by efficacy and cost considerations rather than by success. The conditions are satisfactory now. So I think we should move forward.

Now, are there risks to doing this? Certainly. Two risks come to mind. First, we will once again wrong foot market participants a bit. As Simon noted, the majority of respondents on the dealer survey expect us to not begin to taper at this meeting. This leads to two potential problems: less credibility for us and potentially a view that we are inclined to remove policy accommodation more quickly than anticipated, which could lead to an undesirable tightening of financial market conditions. Although I think this set of risks is real, I think the arguments for moving though are more compelling. On the credibility side, I don't think we lose much by moving at this meeting. After all, there is a strong consensus that we will move sometime soon, almost certainly by the March FOMC meeting. It just can't make that much difference if it's now, January, or March.

Also, there's a good case for moving now based on our own criterion, and market participants actually do seem to understand this. While the bulk of expectations is more on January and March than on this meeting, there was a recent *Wall Street Journal* survey of economists, where they asked them, what are your preferences? What would you do? And by a majority of 49 percent to 46 percent, those economists said that they would start at this meeting, which I think is sort of interesting. So that suggests to me that people should be able to get their arms around why we moved at this meeting relatively easily. Even in September when we surprised people by not tapering, people understood the motivation pretty quickly.

On the action being perceived as more hawkish and leading to a tightening of financial conditions that we'd want to avoid, that's not only a risk, but it probably will occur to some degree. But I think there are a couple of factors here that should mitigate our concerns. First, unlike the case prior to the September meeting, market participants now are doing a much better job of distinguishing between the decision to taper and the decision to raise short-term interest

rates, and you can see that very clearly in the markets. The September 2015 Eurodollar futures contract today is currently about 80 basis points lower in yield even though the 10-year Treasury yield is about the same level as it was prior to the September meeting. So short-term interest rate expectations are much better anchored. Second, I don't think what we're going to do today is going to disturb those expectations very much. The initial taper is small, at \$10 billion, and the forward guidance implies that future steps in terms of tapering will likely be of similar magnitude should the forecast evolve as we expect. Of course, there is going to be some residual uncertainty about this until the January meeting, and obviously if we do \$10 billion in January we'll remove much of that residual uncertainty.

Also, the forward guidance with respect to the unemployment rate in this statement—"well past the time that the unemployment rate declines below 6½ percent"—should also, I think, help pin down those expectations. That said, there will probably be some rise in forward interest rates because the curve today is somewhat below what's implied by our SEP projections. So if you look at Friday's close, the December 2016 Eurodollar futures yield was 2.14 percent. That's pretty low relative to the numbers that we're showing in the SEP, especially when you consider that that 2.14 percent is a mean, not a mode, and so that tends to bias the difference a little bit. But I think the reaction is going to be modest. My best guess is there will be a pretty sharp selloff initially in the stock and bond market, but I think the markets will stabilize relatively quickly.

The important thing to remember here is that our actions are actually going to take a risk event off the table. So people are now going to see that the taper starts. They're going to have a pretty good sense of how it's going to proceed. Also, we have to recognize that the yield curve is already very steep so that much higher forward rates are already priced in as you look beyond

the next couple of years. The rate on the five-year, five-year forward Treasury note is about 4¼ percent, which seems to me like pretty close to what you would think it would be in sort of the steady state. So it seems to me that the market is already anticipating a fully normalized interest rate environment if you look out five years.

Now, if the selloff is more substantial than I expect, then I think it is going to be very important for us to remind people that we do ultimately care about how monetary policy affects financial conditions, and I think we really want to make it clear that if financial conditions tighten unduly, we're going to very much take this into consideration in terms of our future decisions. I think it's important that market participants understand that with respect to the pace of purchases we could pause, we could reduce the pace more rapidly, or we could take the pace back up again depending on how the economy performs and the outlook changes. So there's a presumption of this glide path, but I don't think we want to take our discretion off the table should the economy behave differently than anticipated.

I really don't favor this idea of announcing a total expected size of the remaining program. To me that completely contradicts everything that we've done up to now. Up to now, we've been basically saying the program is data dependent. So then to announce that we're going to do just this much more and we're done seems to very much contradict what's come before. I also don't favor reducing the unemployment rate threshold from 6½ percent. I think people already understand that the unemployment rate figure is a threshold and not a trigger; it's interesting that if you look at the dealer survey, most people expect the time of liftoff to be around a 6 percent unemployment rate. So I'm not sure what problem we're trying to solve. Also I think if you were to reduce the threshold in that manner, I think it would be doubling down on a parameter that hasn't been particularly reliable. So why would you want to put more

emphasis on a single unemployment rate, which has not been a very good guide in terms of our decision weighing up to this point?

As far as the language is concerned, I'm less concerned about inflation than many other members of the Committee. To restate what I said yesterday, we don't really have a coherent story about why inflation is low right now. A lot of it seems to be due to special factors, but even given that, I can accept the changes in paragraphs 2 and 4 of alternative B that are proposed in blue that sort of emphasize the inflation part of the story. In paragraph 2, I prefer the red language—"the risks to the outlook for the economy and the labor market as having become more nearly balanced." I'm happy to agree with President Fisher to take out the language "since the inception of the asset purchase program" in paragraph 2. I don't think it's really necessary. I would keep the word "further" in paragraph 4. I think it provides more guidance as to the most likely path. If you don't put that in there, all you're going to do is encourage a lot of people to ask the Chairman a lot of questions about what you're going to do at the January meeting. I think it implies that the path is likely to be gradual, and I think that's important because I think it will also help pin down expectations about the timing of liftoff in terms of short-term interest rates.

Finally, just a couple of words on communication. We can make this as a Committee work well or work poorly, and I think it's really important as we go forward that we study what the Chairman says in his press conference and try to harken back to that as much as possible in terms of our communication. We can basically communicate to the market that the Committee fully supports this decision and it was done because we were achieving success. I think we can really undermine what we do today if we all talk with different voices, litigating what the statement means, what the size of the threshold is, or whether to not taper by \$10 billion at the

next meeting. I think all of that would be totally unhelpful. So I would just encourage you to try to be as close to the Chairman's press conference statement in how you refer to this decision because I think if the Committee speaks with one voice, that will reduce uncertainty and that will be in our favor in terms of generating the outcomes that we want in terms of financial conditions. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Thanks, everyone. A lot of interesting discussion, but I don't think there are too many decision points on the alternative B statement. I think in alternative B, paragraph 2 there was a pretty clear preference for the balanced risks option—"risks to the outlook for the economy and the labor market as having become more nearly balanced." This is very consistent with the SEP, which had only one or two to the downside—what is it, Matt?

MR. LUECKE. Two to the downside.

CHAIRMAN BERNANKE. Two to the downside, otherwise balanced. If everyone else is amenable, I think I would be happy to accept President Fisher's suggestion to strike "since the inception of the asset purchase program," because I think that is fairly clear. I think people are willing to accept the blue language in paragraph 2. Let me just ask President Evans—"inflation is moving"—I think is defensible. You could also say something like "is in the process of moving" or "is likely to move" or something like that or "will move"—"evidence that inflation will move back."

MR. EVANS. "Will move back" or "in the process" is fine. Something actionable—

CHAIRMAN BERNANKE. "Will move"?

MR. STEIN. "Will move" is a little better, I think.

MR. LACKER. It says "will monitor."

MR. EVANS. Yes. We're monitoring whether it will move. I mean, the fact that it's got "monitor" in it makes it just pretty unobjectionable, it seems to me—"will monitor inflation developments carefully for evidence that inflation will move back"—yes, that's all right.

CHAIRMAN BERNANKE. Is that all right?

VICE CHAIRMAN DUDLEY. I'm okay with "will move."

MR. LACKER. Mr. Chairman—

CHAIRMAN BERNANKE. Yes.

MR. LACKER. It says we "will monitor . . . for evidence that inflation will move back."

CHAIRMAN BERNANKE. All right.

MR. LACKER. So in the future, we are going to be looking for—

CHAIRMAN BERNANKE. Okay. "The Committee anticipates inflation will move back toward its objective over the medium term, and it is monitoring inflation developments carefully." How about that? Looking at the blue, we are suggesting ". . . and it is monitoring inflation developments carefully for evidence that inflation will move."

MR. EVANS. Yes, that's fine.

MR. LACKER. Yes, that's good.

CHAIRMAN BERNANKE. Did you get that, Matt? All right. The only other thing that I think I would raise at this point, there were a number of suggestions for the language about "further measured steps." There were some that made it more rigid and some that made it less rigid. In trying to think about answering questions at the press conference, I think "further measured steps"—it says, first of all, that this was a measured step, so it is suggesting that subsequent steps will be \$10 billion, \$15 billion, something like that. President Plosser may not agree, but I think it does actually in practice bow toward a fairly steady sequence of events

unless, of course, there is some change in the outlook, which then gives us flexibility. So having thought very hard about “further” and “farther,” and so on, I think I would prefer to keep it as it is.

MR. PLOSSER. Mr. Chairman—

CHAIRMAN BERNANKE. Yes.

MR. PLOSSER. I actually am open to “further measured steps” at this point. But I would like to consider the suggestion I made and Governor Stein made about changing “if” to “as long as.” I don’t know if there is any—

CHAIRMAN BERNANKE. I’m just nervous about an overreaction, a hawkish overreaction to “as long as.” But is there a strong sense about this?

VICE CHAIRMAN DUDLEY. I’d prefer “if” because I just don’t think we want to prejudge the future.

MR. EVANS. I prefer “if.”

CHAIRMAN BERNANKE. All right. I think we will make it purely contingent. I think, again, in practice, President Plosser, I think that there is pretty much a presumption here that this will happen unless there is some good reason.

MR. PLOSSER. Well, you can add some strength to that in your press conference if you can.

CHAIRMAN BERNANKE. I think it will be evident. So I think that’s it, unless I have missed something. All right. Matt, would you like to summarize the changes?

MR. LUECKE. Yes. So the vote will be on the directive for alternative B, which was on page 13 of the handout yesterday from Bill’s presentation, and on the language on pages 5 and 6 of today’s handout with these modifications—paragraph 1 as indicated in black and red;

paragraph 2 as indicated. Sentence 3 would read, “The Committee sees that the risks to the outlook for the economy and the labor market as having become more nearly balanced. 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.”

CHAIRMAN BERNANKE. There was no “that.” You said “that” before.

MR. LACKER. Third sentence?

CHAIRMAN BERNANKE. “The Committee sees the risks.”

MR. LUECKE. Yes. I apologize. Paragraph 4 would be as written in—

CHAIRMAN BERNANKE. One second. There’s a question.

MR. TARULLO. Did Matt create a compound sentence, whereas there were two separate ones before?

MS. YELLEN. Could you just read it again?

MR. LUECKE. Yes. Sentence 3 of paragraph 2 begins, “The Committee sees the risks to the outlook for the economy and the labor market as having become more nearly balanced. 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 towards its objective over the medium term.”

CHAIRMAN BERNANKE. That’s right. Go ahead.

MR. LUECKE. Paragraph 3, as written in black and underlined in red; paragraph 4, as written in black, with underlined red and underlined blue; and paragraph 5, as written in black and underlined red.

CHAIRMAN BERNANKE. Please call the roll.

MR. LUECKE.

Chairman Bernanke	Yes
Vice Chairman Dudley	Yes
President Bullard	Yes
President Evans	Yes
President George	Yes
Governor Powell	Yes
President Rosengren	No
Governor Stein	Yes
Governor Tarullo	Yes
Governor Yellen	Yes

CHAIRMAN BERNANKE. All right. Well, thank you all very much. Let me call on Simon. You have a directive to talk about, is that correct?

MR. POTTER.<sup>8</sup> Yes. Thank you, Mr. Chairman. We have a Desk statement based on the new directive. I think it is just about to be handed out.

The Desk will reduce the pace of purchases to \$40 billion per month in longer-term Treasury securities, and to \$35 billion of agency MBS per month, starting January 2, 2014. The Desk plans to complete the already announced purchases at the previous pace through the end of December; the January schedule of operations is to be released at the end of this month. The January calendar will reflect the new pace of monthly purchases. We will maintain the existing reinvestment and rollover policies.

The Desk intends to release a statement with operational details at the same time as the FOMC statement. A draft of the statement is provided in the handout for your reference.

In January, purchases of agency MBS will continue to be made in the TBA market and concentrated in production coupon MBS where most newly issued MBS trade and longer-term Treasury purchases will continue to be distributed across seven sectors based on the current weights, with an intended average duration of monthly purchases of roughly nine years.

We will continue to report regularly on the state of market function, and we will consult with the Committee regarding any material deviation from this operational plan. Thank you, Mr. Chairman.

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<sup>8</sup> The materials used by Mr. Potter are appended to this transcript (appendix 8).

CHAIRMAN BERNANKE. Thank you. Are there any questions for Simon? [No response] Okay. The press conference is at 2:30 p.m., I believe, and will be broadcast in the Special Library. Please note that, because of the holidays, the minutes will be on a very tight turnaround, so please be alert to that. The Secretariat will be in close contact with your offices with information about the schedule. Lunch will be available at 11:30 for those who are hanging around, and I will join you then. There will be no presentations or other business at lunch. The next meeting is Tuesday and Wednesday, January 28 and 29, 2014. The meeting is adjourned. Thank you all very much.

END OF MEETING