

**Meeting of the Federal Open Market Committee on
June 18–19, 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, June 18, 2013, at 1:30 p.m. and continued on Wednesday, June 19, 2013, at 9:00 a.m. Those present were the following:

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

Christine Cumming, Richard W. Fisher, Narayana Kocherlakota, 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

Gregory L. Stefani, First Vice President, Federal Reserve Bank of Cleveland

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
Thomas C. Baxter, Deputy General Counsel
Steven B. Kamin, Economist
David W. Wilcox, Economist

Thomas A. Connors, Troy Davig, Michael P. Leahy, James J. McAndrews, Stephen A. Meyer, David Reifschneider, Geoffrey Tootell, Christopher J. Waller, and William Wascher, Associate Economists

Simon Potter, Manager, System Open Market Account

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; Matthew J. Eichner, Deputy Director, Division of Research and Statistics, Board of Governors; Maryann F. Hunter, Deputy Director, Division of Banking Supervision and Regulation, 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

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

Daniel M. Covitz, Eric M. Engen, and Thomas Laubach, Associate Directors, Division of Research and Statistics, Board of Governors

Sean D. Campbell and Joshua Gallin, Deputy Associate Directors, Division of Research and Statistics, Board of Governors; Jane E. Ihrig and David López-Salido, Deputy Associate Directors, Division of Monetary Affairs, Board of Governors

Joseph W. Gruber, Assistant Director, Division of International Finance, Board of Governors

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

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

Deborah J. Lindner, Group Manager, Division of Research and Statistics, Board of Governors

Patrice Robitaille, Senior Economist, Division of International Finance, Board of Governors

Seung J. Lee, Economist, Division of Monetary Affairs, Board of Governors

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

James M. Lyon, First Vice President, Federal Reserve Bank of Minneapolis

David Altig and Loretta J. Mester, Executive Vice Presidents, Federal Reserve Banks of Atlanta and Philadelphia, respectively

Lorie K. Logan, David Marshall, Mark E. Schweitzer, and Kei-Mu Yi, Senior Vice Presidents, Federal Reserve Banks of New York, Chicago, Cleveland, and Minneapolis, respectively

Evan F. Koenig, Vice President, Federal Reserve Bank of Dallas

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

John Fernald, Senior Research Adviser, Federal Reserve Bank of San Francisco

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June 18 Session

CHAIRMAN BERNANKE. Good afternoon, everyone. President Pinalto is not able to join us today. She has a family emergency. Greg Stefani, First Vice President, Cleveland, will be taking her chair. We're sorry about the circumstances, but welcome to the meeting.

On a slightly better note, this is the last meeting for David Reifschneider. Dave has attended 65 FOMC meetings. Even more impressively than that, he has authored or coauthored more than 50 memos that have been distributed to all of you for your edification, and I think it is worth pointing out that Shakespeare only wrote 39 plays. [Laughter]. David's forward guidance is that he will be lifting off sometime in 2013:Q3, but the alt sims put the 70 percent confidence range at anywhere between tomorrow and 2017. [Laughter] David, you are a Federal Reserve institution. We'll miss you as a colleague and as a friend, and congratulations on the new stage. [Applause]

Before we get to the regular agenda, I have a couple of items I want to talk about briefly. First, after some discussions, R&S would like to do an experiment with Tealbook, Book A, for the next meeting. The idea is to present the Domestic Economic Developments and Outlook section in a more concise bullet-like form that would be, we hope, better structured and more usable by readers and would spare the R&S staff many, many late hours trying to figure out exactly the right adjective in their prose. [Laughter] David Wilcox, who is here, of course, assures me that this is only an expositional experiment, that there will be no skimping on data analysis, the forecast round, or any of those critical inputs. So we'll see how that works. We're going to try it for July, and, depending on feedback, we could continue that or not. This is my own commentary: The Board members have seen something called the "Wascher notes," which

is a very short summary of the forecast, and found those very useful. This is essentially what we're trying to accomplish. This is just an experiment. We will be soliciting your reactions. If you have any early comments or questions, David Wilcox will be happy to respond. Any questions or comments? [No response]

The second item I want to mention briefly. In previous meetings we've had a good bit of discussion about the exit principles. As you know, in June of 2011, in our minutes we put out a somewhat formal set of principles about how we would normalize our balance sheet in the longer term. We've had some discussion about whether or not we could update those principles. I think on most elements there was a good bit of agreement, but as the memo you got suggested, we really weren't able to come to a full agreement on a new set of bulleted principles to put out immediately. A few people objected, in particular, to the idea that MBS sales would not be an early part of the exit strategy, and a few others were concerned mostly about the timing, that putting it out now would be perhaps a bad signal about our imminent exit from accommodative policies. So we were not able to get, at this point, the kind of agreement we had in 2011 where I think we had only one dissent. What I'd like to do first, of course, is to continue working on this. As we get closer to the appropriate time, we'll need to have clarification, and the markets and the public will like to have clarification.

For now, the memo that was circulated suggested four summary points, which I'll read to you in just a moment in case you don't have them. What I propose to do in my press conference is to have a short paragraph that says: We're working on this, here are some of the things that we see, we'll be back to you when we have more information, but we don't have a full update at this point; in addition, any conversations we have now, obviously, as we've done before, will be

reflected in the minutes in the usual minutes style, which presents different points of view, and so on.

For your recollection, the four points that were in the memo that was sent to you—One: “Meeting participants generally continued to view the broad principles released in the minutes of the June 2011 FOMC meeting as appropriate.” That’s the whole sentence. We were thinking in terms of the use of the IOER, the funds rate target, reserve draining tools, et cetera.

Two: “However, participants agreed that the details of the eventual normalization process likely would differ from those specified two years ago, and that the Committee would need to provide additional information about its intentions closer to the time when normalization becomes appropriate.”

Three—and this is the one about MBS; I think it reflects both sides here: “While participants continued to think that the Federal Reserve should hold predominantly Treasury securities in the long run, a substantial majority of participants now anticipate that the Committee will not sell MBS as part of the normalization process, except that, in the longer run, limited sales could be used to reduce or eliminate residual holdings.” That, I think, reflects the balance of views there, but I’ll open the floor in a second.

Finally, four: “The Committee’s current focus is on providing monetary accommodation to promote a stronger economic recovery, and so the Committee judged that additional discussion of policy normalization should be deferred.” Again, those were the principles that were circulated. I recognize, exactly as I said at the beginning, that we don’t all agree on a full set of principles. Is there any concern about how we propose to proceed? Any comments?
President Lacker.

MR. LACKER. I would just suggest consideration of another aspect of timing. I think our intermeeting experience showed a couple of instances in which communicating about two or more separate aspects of our policy over the next several years sometimes confused markets. If an effort is made following this meeting, either through our statement or your press conference, to try to clarify markets' understanding of our strategy, my sense would be that that would be focused on clarifying their understanding of our strategy regarding the reduction in the pace of our asset purchases, and these normalization points could be a substantial distraction from our ability to convey a clear message in that case.

CHAIRMAN BERNANKE. A number of folks have expressed that concern. President Plosser.

MR. PLOSSER. I share those concerns. I also would like to express my concern about the MBS signal. I know many people are thinking about the idea that we do not sell MBS, but I think one of the reasons we're reconsidering our exit strategy is that we put in some tactical aspects to that strategy, which we now seem to be uncomfortable with, and we need to reconsider. I view the decision not to sell MBS as exactly one of those tactical things that may come back to haunt us later. We really don't know what the housing market is going to look like two or three years from now. We don't know what the status of Fannie and Freddie is going to be two or three years from now, and so I would caution us to steer away from making these sorts of tactical decisions on MBS at this point in time.

We made a very good statement in the most-recent exit principles that said that when the time came to shrink the balance sheet or sell assets that we would announce in advance what our plan would be, and that we would approach the shrinking of the balance sheet in a careful and gradual manner. That was a perfectly adequate signal to send, and I would encourage us to move

in that direction rather than to be very specific about MBS. If we choose some of the strategies—for example, selling short-term maturity Treasuries—we could find ourselves in a few years having a SOMA portfolio that was 60 or more percent MBS. We are making a tactical decision here, or at least signaling a tactical decision, that may come back to haunt us later, and I would encourage us to be very careful about what we say. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Well, again, it's only an expectation, and it's not an official Committee decision in either case.

MR. PLOSSER. But I think it will be hard to back off on, once we say it.

CHAIRMAN BERNANKE. Yes. President Fisher.

MR. FISHER. Mr. Chairman, I just want to second both comments. One is, it's pretty clear that what people are looking for most is some clarity about dialing back or dialing up, and you're going to be focusing on that, I think, during the press conference or we may put it in the statement, depending on the discussion. So this, to me, would be additional noise. I'm not sure about the timing of it. And I completely agree with President Plosser. It's not clear to me why we would remove one of the tools in our toolkit, depending on circumstances.

Bill has been very kind in responding to the specifics. There is, according to the tabulation, a substantial majority, but if you use the words “substantial majority,” that sounds like it's a decided deal, and I do worry about the wording in point 3. I just wanted to register my agreement with both President Lacker and President Plosser. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Okay. Any other comments? I don't think this is trivial. I do think it's important to distinguish it from the more immediate issues about our policy, but I have talked about this before, and it is something that will be very much on the minds of markets as we talk about exit and winding down and those sorts of things, and about what our sales

strategy will be. What I'd like to do is take a straw vote here on whether or not I can use language like this—or I can change it from “substantial majority” to “most” or something like that if that would help. President Dudley.

VICE CHAIRMAN DUDLEY. I just want to interject. This is also about the degree of monetary policy accommodation. If we do not sell agency MBS, we're actually adding a little bit of monetary policy accommodation. It's completely relevant to the current setting of monetary policy. So that's why I would not defer it.

I also think that the market has already made the adjustment that we're not going to sell agency MBS, in large degree. I don't know the timing. What was the last Survey of Primary Dealers in terms of expectations of agency MBS sales?

MR. POTTER. Most dealers expect no MBS sales in the projections that we have.

VICE CHAIRMAN DUDLEY. So why would you want to keep them hanging with the residual uncertainty when you could eliminate that uncertainty?

MR. FISHER. So you're saying, President Dudley, that this is certain. This underscores the certainty that we would not—

VICE CHAIRMAN DUDLEY. It's not certain—a substantial majority favors it. I think that's accurate.

CHAIRMAN BERNANKE. Well, we could check that.

VICE CHAIRMAN DUDLEY. Yes.

CHAIRMAN BERNANKE. All right. Anyone else like to comment? [No response]
What I'd like to do, I'm just going to ask for a straw vote on whether I should use this language.

MR. BULLARD. Mr. Chairman.

CHAIRMAN BERNANKE. Yes, President Bullard.

MR. BULLARD. I guess I'll weigh in here. I think the message in talking about exit strategy is that the Committee's riled up about exit strategy and was thinking about exiting. That is going to swamp anything to do with whether we may or may not sell MBS and whether that's an easier policy. It's hard to read exactly how this would be received. I don't think we have to talk about it at this point.

CHAIRMAN BERNANKE. Okay. Governor.

MS. DUKE. I'm sorry. Could I just make one comment from the other side of it?

CHAIRMAN BERNANKE. Sure.

MS. DUKE. I agree with all of these concerns, but at the same time, I would expect that the communication is going to get even more difficult when we get to September and there's a question as to whether or not we're going to step down purchases. And then as we go past that, we've already raised the question of whether or not we're going to sell MBS, and if we don't resolve that question, it's going to continue to be out there, and I think we could need to address it at a time when it was even more awkward to try to address it. So it seems like doing it this way is the lowest key way to take this off the table and still defers the actual decision on what we're going to do until a time when we do have a better idea of exactly what we're facing.

CHAIRMAN BERNANKE. In terms of the confusion that President Bullard was concerned about, I will separate it very sharply from the main message of the press conference. I'm not that concerned about that particular issue, but that is the concern a number of people had about going out now with a formal set of principles. Governor Powell.

MR. POWELL. I'm perfectly prepared to support including it in the press conference tomorrow. However, it strikes me that there is another alternative to address this concern, which is to put it into the minutes in July as a—

CHAIRMAN BERNANKE. This kind of material reflecting this discussion here—some said this, some said that—we’re going to put it in the minutes in any case.

MR. POWELL. But in terms of action, I suppose that it’s already in the minutes in that sense. It’s not really a separate statement. You’re going to read it as a statement?

CHAIRMAN BERNANKE. No. I’m just going to have a paragraph that says we’ve talked about this. It will be a paragraph that is going to say early on, one of the things we talked about was this exit strategy issue. We haven’t decided yet. We’ll be back to you as things get clearer. One point of note is that a substantial majority thought that this was the likely outcome, but, of course, all of this is still up in the air and it will be a long time before this is relevant. End of story, then on to the main policy. That’s essentially my plan.

Any other comments? [No response] People should just vote the way they think is best. I don’t have a life-or-death attachment to this, but if I get asked about it, I’m going to say what I’ve said before, which is that it is a fact that it’s not necessary to sell MBS in order either to exit or to ultimately get back to a predominantly Treasury portfolio.

Let me ask of all participants, who would support putting this in the press statement? [Show of hands] Okay, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12—14. I get about 15. All right. Thank you. I will be very careful and put very little emphasis on it. Let us turn now to the formal agenda, item 1. I will turn to Simon Potter to talk about “Financial Developments and Open Market Operations.”

MR. POTTER.¹ Thank you Mr. Chairman. During the intermeeting period, investors viewed Fed communication as signaling a somewhat earlier-than-anticipated withdrawal of policy accommodation, prompting increased discussion of how the Committee was reacting to incoming data. Treasury yields rose sharply, prompting notable price declines in many risk-asset markets around the world. While U.S. credit spreads widened somewhat, equity indexes rose modestly, suggesting

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

some investor confidence that growth at current moderate levels will be sustained, even as measures of inflation compensation registered notable declines.

Exhibit 1 begins with trends in advanced economy sovereign debt markets. As seen in the upper-left panel, 10-year Treasury and other sovereign debt yields rose sharply over the period. While yields began to rise following the stronger-than-expected April employment report, the subsequent and sharper increases came on the heels of increased investor discussion of the prospects that the pace of asset purchases could be reduced sooner than previously anticipated. Much of this discussion followed Federal Reserve communication, including the Q&A at the JEC testimony and the FOMC minutes. An important background factor behind the rise in yields has been the growing investor belief that tighter fiscal policy and other downside risks will not derail the U.S. expansion from proceeding at a moderate pace.

Indeed, the most recent dealer survey corroborates this interpretation of interest rate movements. We asked respondents to rate the importance of various factors behind this sharp rise in 10-year Treasury yields over the period on a scale of one to five, with five assigned to very important factors. The upper-right panel shows the average response for each factor, as well as the interquartile range. Dealers consistently assigned the highest-importance scores to changing expectations for policy as well as policy uncertainty, while other contributing factors such as stronger growth prospects and global factors received a more modest weighting. These results are consistent with the anecdotal views of our many investor contacts.

The rise in real rates has been even more pronounced; the 10-year real yield rose nearly 80 basis points during the period and is now positive for the first time since November 2011, shortly after the announcement of the MEP. A decomposition of the real yield change into one-year-forward rates, shown in the middle-left panel, reveals sharp increases at both intermediate and longer horizons. This appears consistent with shifting expectations for the path of real short-term rates as well as for the balance sheet. Interest rate futures also reflect a steepening of the implied path of policy; the risk-neutral implied federal funds rate, not shown, now rises above 25 basis points in the first quarter of 2015, which is one quarter earlier than ahead of the prior meeting. However, as seen in the middle-right panel, the dealer probability distribution for the timing of liftoff has changed little from prior surveys. So, while the sharp rise in rates partly reflects traders managing increased uncertainty and volatility, our dealer economist survey respondents appear to be basing their policy rate path on their macro forecasts, which were little changed. Lastly, and importantly, there has been little discussion among investors suggesting that recent communications regarding the outlook for asset purchases have increased uncertainty about the Committee's commitment to the quantitative thresholds for liftoff. However, there is still uncertainty about whether the thresholds will in fact be triggers and also about the pace of policy normalization after liftoff.

Mirroring the outsized increase in real yields, spot breakeven inflation rates declined over the period. As seen in the bottom-left panel, five-year-forward measures of five-year inflation compensation have also narrowed to levels last seen

before the introduction of outcome-based asset purchases last September. The panel also shows the median of dealer modal expectations for forward CPI from primary dealer surveys. The gap between dealer expectations and market measures of inflation compensation can be thought of as a proxy of the inflation risk premium. The recent decline in market measures of inflation compensation may therefore represent a reduction in the inflation risk premium as investors adjust their expectations for asset purchases. Additionally, even as forward inflation compensation has declined below its long-term average and investor demand for inflation protection has fallen off, market-implied probabilities of deflationary outcomes over the next five years changed little over the period.

As shown by the light blue line in the bottom-right panel, increased investor uncertainty around the path of asset purchases led to a notable increase in the current coupon 30-year MBS yield. The increase in secondary mortgage market yields was transmitted to the primary 30-year mortgage rate, which rose to almost 4 percent, its highest level in over a year. With the rise in mortgage rates, anticipated levels of refinancing activity have declined, and prepayment speeds are expected to slow further. Many strategists also note that given current levels of mortgage originator profitability, further increases in MBS yields are expected to be passed through almost entirely to the primary rate.

Your second exhibit begins with an examination of the broader impact of shifting policy expectations and higher global interest rates on risk assets. Domestically, most credit instruments underperformed Treasuries only modestly, though riskier sectors such as high yield saw more-pronounced spread widening. Leveraged loans continue to see comparatively strong investor demand perhaps because they tend to be structured as floating rate instruments. Meanwhile, domestic equity markets gained modestly over the period and outperformed most equity markets in both advanced and emerging economies. Analysts and investors note reduced downside risks to growth and relatively attractive valuations relative to other asset classes as supporting equities.

However, the back-up in advanced economy interest rates has had a much more pronounced effect in emerging markets, which experienced considerable currency weakness as international investors drew down their EM bond and equity exposures. The backdrop of a deteriorating growth outlook in many emerging markets may have exacerbated weakness in their financial markets. As seen in the upper-right panel, investors in emerging market stock and bond indexes lost roughly 9 percent over the past cycle.

The position liquidation in emerging markets can also be viewed as an unwind of carry trades in high-yielding currencies that have accumulated as a result of expectations of continued highly accommodative policy in many advanced economies, particularly in the U.S. Your middle-left panel presents one way of illustrating this unwind. Since May 1, economies with higher interest rates, as shown on the x-axis, generally exhibited greater currency losses against the U.S. dollar. Given the size of outflows and the sharp moves in currency markets, a number of

emerging market countries took steps during the period to limit outflows and prevent further currency depreciation. These steps included intervention, relaxing controls on capital inflows, and in some instances adjusting policy rates or signaling a less accommodative policy stance. Importantly, additional tightening of monetary policy in response to further currency depreciation could present increased downside risks to global economic growth.

Regarding Japan in your middle-right panel, investors have grown skeptical of the outlook for well-defined and impactful structural reform and fiscal stimulus. This skepticism, along with some of the difficulties in implementing the large-scale asset purchases, has contributed to some unwinding of the loosening of financial conditions associated with the Bank of Japan's QQE program. Heightened global market volatility related to shifting U.S. policy expectations likely contributed to this change in Japanese financial conditions, although it is also possible that changing expectations about the global rebalancing effects of the BOJ's new policies also contributed to the global selloff. Implied volatility in Japanese equities and the dollar-yen currency pair touched close to multiyear highs. As seen in the bottom-left panel, implied volatility in the JGB market also remained elevated amid the rise in yields but also as a result of implementation challenges associated with the new QQE program and uncertainty of the program's eventual impact on inflation expectations.

In Europe, despite a weak economic outlook, comments by ECB President Draghi at his June press conference have led to reduced expectations of further interest rate cuts. In particular, investors appear to have reduced the odds of the ECB's deposit rate falling below zero. These odds had been increased by comments at the May press conference. This has led to a modest steepening of the market-implied path of EONIA, as seen in the bottom-right panel.

As part of the regular review of costs and efficacy, your next exhibit turns to some measures of market functioning and recent Desk operations. First, recall that the staff distributed a memo prior to the meeting that updated balance sheet and income projections under alternative normalization strategies. In a related update, with the recent increase in rates, the unrealized gain on the SOMA portfolio has fallen from over \$200 billion to just over \$100 billion, the lowest level since the end of LSAP 2.

As summarized in the upper-left panel, the Desk has purchased \$244 billion of longer-term Treasury securities and \$373 billion of agency MBS under the outcome-based purchases. Those purchases bring the SOMA's Treasury and MBS holdings to \$1.9 trillion and \$1.3 trillion in total, each representing about one-third of the market segments in which purchases are occurring.

To date, our sizable activity has not had a material adverse effect on either Treasury or MBS market functioning, and the operations in both sectors have proceeded smoothly, with few signs of marked deterioration in operational performance despite the recent increase in volatility. This volatility is illustrated in the upper-right panel, which shows that intraday Treasury and production coupon

MBS yield ranges have increased significantly in recent weeks, in part due to heightened uncertainty stemming from shifting policy expectations.

In the Treasury market, broader measures of market function such as trading volume, depth of market, and bid–asked spreads remain in historical ranges. There was some heightened settlement pressure in the on-the-run 10-year note amid the sharp rise in rates; however, this has subsided with the issue’s reopening, and the overall level of Treasury fails remained low. In our operations, the average coverage ratio had been trending lower, as shown in the middle-left panel, and while the average has moved up recently, the variability of this ratio from auction to auction has increased.

In the MBS market, some measures of market function such as reported bid–asked spreads did show some deterioration, particularly for larger trade sizes, but other indicators such as volumes and fails suggest few material signs of stress in the intermeeting period. We have had no difficulties executing trades. Execution prices have been at typical levels relative to market, though the competitiveness across all offers declined somewhat amid the heightened volatility.

Given the large increase in rates, total issuance is expected to decline in coming months driven by a reduced incentive for borrowers to refinance, and issuance should shift into higher coupons. As you know, we concentrate our purchases in these production coupons because we see them as the most liquid and most closely tied to the primary mortgage rate. As shown in the middle-right panel, Desk purchases have been concentrated in the 30-year 3 and 3.5 percent coupons since the beginning of outcome-based purchases last September. With the rise in rates, we have begun to increase our allocation to the 3.5 percent coupon where more origination is taking place. We anticipate that some origination may shift to the 4 percent coupon in coming weeks, which would prompt us to make further changes in our allocation.

The shifts in rates and our purchases have not negatively affected the dollar roll financing market for lower-coupon MBS. As shown in the lower-left panel, implied financing rates for 30-year Fannie Mae 3 percent and 3.5 percent coupon securities, which had been somewhat more negative in April, have drifted higher, on net, indicating few settlement pressures. As a result, the Desk executed a limited amount of dollar rolls, in line with these moderate implied financing levels.

Staff also continue to assess purchase capacity in Treasuries and MBS, and believe the Desk could continue with purchases in both assets as outlined under all Tealbook alternatives without adversely impacting market functioning. This assessment takes into account recent improvements in projections for the federal deficit.

Turning briefly to developments in money markets, overnight interest rates declined notably over the intermeeting period, as illustrated in the lower-right panel. General collateral repo rates fell toward the lower end of their post-crisis range, likely driven by a larger-than-anticipated seasonal decline in Treasury bill supply in the

wake of strong tax receipts and lower federal outlays. The federal funds rate declined as well, albeit to a somewhat lesser extent. While volumes in the fed funds market remain low as compared with pre-crisis averages, the effective rate remains well-correlated with other money market rates.

Over the longer term, staffs are working to implement a program to collect daily data on federal funds, Eurodollar transactions, and certificates of deposits at all tenors from a large number of financial institutions, which will allow for a deeper understanding of money market conditions.

Your final exhibit highlights results relating to balance sheet expectations from the most recent dealer survey. As shown in the top panel, median expectations for the near-term path of the SOMA portfolio remained fairly steady. As noted by the blue shaded interquartile range, a number of dealers expect the first reduction in pace to occur at the September meeting. However, the median dealer expects purchases to continue at the current pace until the December meeting, at which point the expectation is for a \$25 billion reduction in the monthly pace. Written comments by the dealers and other market commentary suggest market participants would not be surprised if the pace of purchases was reduced following the September meeting. Dealers have not yet focused extensively on how the Committee will apportion a reduction in purchases between Treasury and MBS, though their attention will increasingly turn to this topic over the course of the summer.

The conclusion of asset purchases is expected to occur around the middle of next year, which is a modest extension from the prior survey and represents a longer period of purchases at a reduced pace. This longer period of purchases results in a slightly higher total balance sheet as shown in the middle panel—as measured by point-wise medians—which maps pace adjustments into an expected balance sheet path. Dealers expect average monthly payroll gains of around 200,000 as the pace of purchases is reduced and through the completion of asset purchases. The unemployment rate is expected to have declined to 7 percent at the end of purchases. Longer-term, the normalization of the SOMA portfolio reflects passive redemptions only, as very few dealers expect active sales of either Treasury or agency MBS.

The results do suggest some differentiation between the policy expectations of the dealer economists that we survey and those implied by broader market pricing and commentary from investor contacts. As noted earlier, dealers recognize that changes in market perceptions of the FOMC's view of appropriate policy have led to somewhat tighter financial conditions. However, their own expectations for total purchases did not shift meaningfully over the period, given that their forecasts for growth, inflation, and labor market conditions remained fairly stable.

Your final panel shows that dealers' expectations vary consistently with economic projections, as worse unemployment outcomes at the end of the current year are associated with larger SOMA expansions by the end of next year. Further, dealers place a significant weight on total balance sheet expansions larger than their median estimate, particularly in adverse economic scenarios. By contrast, the average

probability placed on a total purchase program smaller than \$750 billion in purchases is quite low even in a favorable economic scenario. Thank you, Mr. Chairman. That completes my prepared remarks.

CHAIRMAN BERNANKE. Thank you very much. Questions for Simon? President Fisher.

MR. FISHER. First, Mr. Chairman, I'd like to thank Simon for coming to Dallas and meeting with money managers and investors who are not based in New York and for distinguishing the Fed in his presentation.

I want to make sure I heard you correctly. When you're talking about panel 19, you said that written comments indicate the market would not be surprised if purchases are reduced after the September meeting. Is that correct?

MR. POTTER. The written comments from dealers suggest that they're unsure about whether purchases could be reduced at the September meeting. That reflects them trying to understand some of the market reaction that they've seen and the recent commentary from the Fed. But their economic projections, I think, still point a little bit toward the December meeting.

MR. FISHER. Did you say they would not be surprised?

MR. POTTER. They would not be surprised, but I qualified it in that particular way.

MR. FISHER. And then, regarding your discussion of the JGB implementation challenges, I would be grateful to be briefed on that—not now, but at some point. I wouldn't want to take up the rest of the table.

I do have a comment about the dynamics of high-yield debt, Mr. Chairman. Again, Simon is in better contact than I am, but my sense is that the sophisticated guys have gotten out of that market. I mean, we're seeing in the past two weeks record sales from the ETFs and mutual funds. If my memory is correct from my old practice, the standard spread for high yield was LIBOR plus 900. Right now we are at LIBOR plus 450 or so. And then if you look at

who's selling the stuff, most of them have only been in the business of late—they're kids. So I worry that we have to think about the consequences of our policy, and then how we express ourselves and what the Chairman says during his press conference: How is this corps of kids going to manage to guide a \$2 trillion bond market through a 450 basis point adjustment? It's a comment, but also in a way a question, because this is a very tight spread, and this is a significant market. Again, my perception, talking to my contacts on the street, is that the big boys are out. And then when you talk to the people that are on the receiving end of the sales pitches, there's almost a desperation of those trying to sell these deals right now, and you're seeing that reflected in some of the outflows now from the ETFs and the mutual funds. But it's important to understand the dynamics. It's a different experience base, and we can't quantify that, but I'm a little worried about how it's going to be managed as rates rise. Is that a legitimate concern?

MR. POTTER. I think that's a concern. I would take some comfort that rates did go up very quickly and were volatile, and most of the issues we've seen have not been in the U.S. Now, it might be that the growth backdrop is strong in the U.S. and that was one of the themes we're trying to understand—how much that is driving it right now. I think in the financial stability briefing there'll be some discussion about high yield. Is that right?

MS. LOGAN. A little bit, yes.

MR. POTTER. Yes. So there will be some more there. I'd say in terms of the high frequency market dynamics you're talking about, it's reasonably encouraging how smooth it has been, given how much volatility we have seen in interest rates. And volatility took a hit really quickly.

MR. FISHER. So if you look at the emerging market and you look at the global high-yield market, maybe one of the benefits is some of these kids have grown some gray hairs.

Thank you.

CHAIRMAN BERNANKE. Any other questions for Simon? [No response] Okay.

Thank you. We do need a vote to ratify the open market operations since the May meeting. Any objections? [No response] Seeing none, item 2, the “Economic and Financial Situation.” Let me call on Thomas Laubach to introduce the discussion.

MR. LAUBACH.² Thank you, Mr. Chairman. I’ll be referring to the handout titled “Staff Presentation on the Economic and Financial Situation.” The news that we have received since the April meeting has been a mixed bag, but after folding in data that were released after the June projection closed, our near-term outlook is little changed relative to the April Tealbook. As shown in the inset box in the upper-left panel of your first exhibit, the relevant portion of the retail sales data that we received last week after the Tealbook closed came in slightly above our expectations and led us to revise up our forecast for real PCE growth in the second quarter, the orange bar in the middle of the panel. Looking ahead, we expect that the recent substantial boost to household wealth from higher house and stock prices will support a somewhat higher pace of consumption growth. Indeed, the CoreLogic house price index increased 6½ percent over the first four months of this year, while equity prices have risen 14 percent since the start of the year. Moreover, consumer sentiment in the Michigan Survey, shown on the right, improved, on balance, in May and early June, and is at its highest level since late 2007.

This morning we received data on new residential construction, not shown. Although today’s single-family starts data came in a little below our expectations, permit issuance—from which we take greater signal—continued to move up.

By contrast, the news in the business and industrial sectors has been more downbeat. As shown in the middle-left panel, shipments and new orders for capital goods excluding aircraft have flattened out recently, leading us to trim our near-term projection of spending on equipment and software. Manufacturing output, not shown, has also been on a much weaker trajectory over recent months than we had anticipated in April. Looking ahead, readings from surveys of business sentiment, shown to the right, have also been lackluster of late and suggest only modest growth in E&S spending in the near future.

Our near-term outlook for real GDP is summarized in the table to the lower left. As shown in line 1, after folding in last week’s information on defense spending

² The materials used by Messrs. Laubach, Gruber, and Campbell are appended to this transcript (appendix 2).

along with the retail sales report, we now project that real GDP will expand at an annual rate of $2\frac{1}{4}$ percent during the first half of this year and $2\frac{3}{4}$ percent in the second, essentially unchanged from our April projection. Given the usual difficulty of weighing together various conflicting pieces of news, the panel to the lower right shows projections for real GDP growth derived from our suite of factor models, updated to include information from last week's retail sales and consumer confidence data, but not this morning's CPI or construction release. The average forecast of those models for the first half of the year is very similar to the Tealbook, but going forward, the factor models see an earlier and more pronounced—but also highly uncertain—acceleration, perhaps in part because they lack information about the effects of sequestration.

Your second exhibit focuses on the outlook for the labor market. The two employment reports since the close of the April Tealbook have, on balance, portrayed a modestly stronger labor market than we had previously expected. As shown in line 1 of the upper-left table, the increases in total payroll employment since the beginning of this year have been somewhat greater, on average, than projected in the April Tealbook. In addition, the unemployment rate in April and May, line 5, averaged a touch lower than we had projected.

The bullets in the upper right list several metrics by which to assess the improvement in labor market conditions, and the table to the middle left shows for each of these metrics the improvement projected to occur between last September's meeting and the fourth quarter of this year. As shown in line 1, we now expect that over this period the level of total payroll employment will rise by 2.7 million; this is $\frac{1}{2}$ million more than we projected back in September, shown in line 2. We now expect the unemployment rate, line 3 in the table, to decline 0.8 percentage point over this period, whereas in September we expected it to remain essentially flat. However, as shown in the lower-left panel, the good news of the more rapid decline in the unemployment rate was tempered by the unexpected decline in the labor force participation rate. As a result, the employment-to-population ratio, shown in lines 5 and 6 in the middle-left panel, is projected to improve over this period but only a little more than we forecasted back in September.

An alternative assessment of labor market improvement is based on estimates of slack. Of course, the latter are contingent on the staff's uncertain estimates of various trend concepts. As discussed in the memo on the labor market sent to the FOMC, we have reconsidered the speed at which labor market functioning seems to be improving as well as our estimates of the extent of on-going permanent withdrawals from the labor market. These two factors have implications for our estimates of the natural rate and trend labor force participation, as well as for the future path of the actual unemployment rate. As shown by the blue lines in the middle-right panel, in the current projection we brought forward from late-2017 to late-2015 the return of the natural rate of unemployment to its longer-run level of $5\frac{1}{4}$ percent; in addition, the black solid and dashed lines show that we now expect a more rapid decline in the actual unemployment rate than we did in April. Moreover, as shown by the red lines in the lower-left panel, we also have lowered slightly our estimate of the labor force

participation trend since April. As shown by the black lines in the bottom-right panel, when we combine these various revisions to actual labor market conditions with our revised supply-side assumptions, we estimate that the unemployment gap is now a touch narrower than we anticipated it would be back in September. As the blue lines show, the implied shortfall of the employment-to-population ratio relative to its trend value has been moving lower, but no more than we had projected as of the September Tealbook.

Our medium-term outlook is the subject of your third exhibit. As noted in the upper left, we continue to assume that the FOMC's asset purchases will be completed at the end of this year and will total \$750 billion in 2013. We also continue our practice from past rounds of assuming that the federal funds rate will remain at its current level until one of the thresholds is crossed (in our projection this is the unemployment threshold) and will follow an inertial version of the Taylor (1999) rule thereafter. Given the more rapid decline in the unemployment rate in this Tealbook, the federal funds rate lifts off in the second quarter of 2015, two quarters earlier than in our April projection. But as shown in the upper right, the path of the federal funds rate after liftoff is less steep.

As shown in the middle left, the recent backup in Treasury and corporate yields has led us to revise up their projected paths in the near term. But given that we interpret most of the recent increases in Treasury yields as reflecting a pulling forward of anticipated increases in term premiums, long-term yields in 2015 are projected to be only a bit higher than in the April Tealbook. As shown to the middle right, we have revised up our projection for equity prices. The figure should have also shown that we revised up even more our house price projection, but unfortunately the previous line got dropped in the last printing of the charts; you can see that chart on page 4 of Tealbook A. Even though we harbor some concerns about the reliability of the CoreLogic house price index as an indicator of changes in household wealth, in light of the sustained large increases posted by this and other house price series, we have taken a stronger signal from the incoming data. As Joe will discuss, foreign economic activity in the near term is a little weaker, and the dollar a little stronger, than in the April Tealbook. By contrast, our assumptions regarding fiscal policy are little changed from what we had assumed in April. After putting all these factors together, and as shown in the lower-right panel, we expect the trajectory of real GDP in 2014 and 2015 to be just a touch stronger than before.

Regarding inflation, the subject of your fourth exhibit, this morning we received the CPI data for May. As shown in line 4 of the upper-left table, core CPI rose 0.2 percent in May, just a touch above our expectations. Earlier readings on core PCE inflation came in much lower than we had expected in the April Tealbook and, as shown to the right, core PCE inflation on a 12-month basis through April was close to 1 percent. About half of the recent downward surprise was concentrated in medical prices, reflecting, in part, what we estimate to be sequestration-induced cuts in Medicare prices, and we think that the resulting drag on core inflation will be transitory. Indeed, this morning's core CPI number, together with the readings on medical prices from last Friday's PPI, is consistent with some of the recent softness

wearing off. That said, we have taken some signal from our overall miss on core PCE inflation and have lowered our near-term projection.

Looking further ahead, as Joe will discuss, the futures curve for oil prices remains in backwardation, so we continue to have consumer energy prices moving lower over the forecast period. But with inflation expectations assumed to remain stable and resource slack projected to gradually diminish, we project both core and headline inflation to move up toward 2 percent over the medium term. As Alan Detmeister discussed in his briefing yesterday, the uncertainty around this projection is substantial, in part because we cannot be certain that inflation expectations will remain as stable as they have been over the past years. And even if the survey measures of long-term inflation expectations that we rely on were to remain stable, inflation would not be guaranteed to return to the FOMC's longer-run objective. As the Japanese experience shown in the lower right illustrates, it is possible for estimates of long-horizon expectations based on surveys to become detached from actual inflation. In fact, over the past decade, actual inflation in Japan has fallen persistently short of expected inflation by a considerably larger margin than had been typical to that point. Joe Gruber will continue our presentation.

MR. GRUBER. Foreign economic activity has continued to expand at a tepid pace. As shown on line 1 of the table at the top of your fifth exhibit, we estimate that foreign growth was just 2 percent in the first quarter and will pick up only a little in the current quarter. Nevertheless, we see foreign growth strengthening over the projection period, supported by firming demand in the United States, continued accommodative monetary policy, and diminishing fiscal drag in many countries.

One notable development shaping our outlook has been the soft tone of recent data from the EMEs. Growth in the EMEs (line 2 in the table) dropped to 2½ percent in the first quarter, the slowest quarterly pace since early 2009, and 1½ percentage points less than projected in the April Tealbook. Moreover, weakness was widespread, with the economies of China, its Asian neighbors, Mexico, and Brazil all decelerating. The reasons for this slowdown are not entirely clear, but certainly they include some payback from the rapid expansion in the fourth quarter, as well as continued weak demand from the advanced economies.

The loss of momentum appears to have extended into the current quarter. Growth in China (line 3) is expected to remain subdued at 6½ percent, with industrial production (the middle-left panel) slowing to its weakest pace since the global recession. Slowing Chinese demand should continue to restrain activity in other EMEs; as shown in the middle panel, EME exports to China (the red line) declined in the most recent quarter, joining already lackluster exports to the United States and other advanced economies.

Going forward, we expect growth in China to move back toward its estimated trend pace (shown on the middle right), and this, along with firming demand in the advanced economies and accommodative domestic macro policies, should support recovery in other EMEs. However, we see a non-negligible risk that the current soft

patch could be more prolonged than we are anticipating. Another risk voiced by many EME policymakers is that the removal of monetary accommodation in advanced economies will trigger a sudden stop of capital flows to EMEs and result in financial disruptions. Indeed, mounting anticipation of a shift in Fed policies, together with concerns about flagging growth in a number of EMEs, have already spurred a sharp reversal in net flows into EME-dedicated investment funds in recent weeks (the lower-left panel), as well as a steep depreciation of some EME currencies (the lower right). However, it bears emphasizing that such depreciations are stimulative for emerging market economies. Moreover, when monetary policy in advanced economies finally starts to tighten, it will likely be in an environment of stronger global growth that will be quite supportive for emerging market economies.

As indicated in line 2 of the top panel of your next exhibit, unlike in the EMEs, economic growth in the advanced foreign economies picked up a bit in the first quarter, albeit to a still-anemic pace. GDP in Japan, line 5, grew a stronger-than-expected 4 percent. As shown in the middle-left panel, further rises in consumer confidence (the black line) and industrial production (the red line) suggest continued strong growth in the current quarter. As shown in the middle panel, compared with our September 2012 forecast (the red bars), which was made before the advent of “Abenomics,” we revised up our current forecast for Japanese real GDP growth (the blue bars) by almost 2 percentage points in 2013, though we continue to believe that growth will slump back to around 1 percent in 2014 and 2015 as fiscal policy tightens considerably. Our forecast of inflation, shown in the middle-right panel, was also revised up substantially in 2014 and 2015, although it remains short of the BOJ’s target of 2 percent.

The recent run-up in Japanese 10-year bond yields (the black line in bottom-left panel) has raised concerns about the extent to which the BOJ’s new policy of aggressive monetary expansion will actually ease financial conditions. However, according to the staff’s term structure model for Japan, about two-thirds of the increase in yields appears to reflect higher expected short-term interest rates (the red line), consistent with an increase in inflation expectations and an upward revision to economic growth prospects. The remainder of the increase is attributable to a higher term premium (the blue line), which is more difficult to square with the intent of BOJ policy. However, we believe at least part of this run-up reflects spillovers from rising rates in other advanced economies, and moreover, the term premium remains narrower than it was last year.

Another concern is posed by the plunge in equities and appreciation of the yen since mid-May (shown in the bottom right). For now, we view these reversals primarily as corrections to outsized movements that started with anticipation of Abenomics last November. However, given the importance of transforming Japan’s inflationary psychology to the success of the BOJ’s program, further volatile and adverse movements in financial markets could pose a risk to Japan’s economic outlook.

In contrast to Japan, our forecast for the euro-area (shown in the top-left panel of your next exhibit) is little changed from last September, as the euro-area recession has played out roughly in line with our expectations. We continue to see flat GDP for 2013 as activity hits bottom later this year, a forecast supported by recent improvements in consumer confidence (the red line in the top-right panel), and an uptick in the PMI (the black line). Thereafter, we project a very weak and gradual resumption of growth. One critical factor in this recovery will be continued improvement in financial conditions, as evidenced by the substantial declines in corporate bond spreads that have taken place in the past year (shown in the bottom left). As shown in the bottom-right panel, another key factor behind our projected pickup in euro-area growth is the reduction in fiscal drag as governments ease up on the pace of austerity.

Though conditions in the euro area appear to have improved relative to a year ago, significant risks remain, particularly as the region continues in recession with economic conditions in the periphery still quite stressed. Also with less acute pressure from financial markets, euro-area policymakers may backslide on some of the structural reforms necessary to improve the resiliency of the euro-area economy, including progress toward a banking union.

As shown at the top of your next exhibit, the widespread weakness of growth has helped pushed down inflation in both the AFEs (the black line in top-left panel) and the EMEs (the red line). Continued softness in commodity prices also has been a factor contributing to the low level of inflation. Prices of both Brent crude oil (the black line in the top-middle panel) and WTI (the red line) have moved up a bit since the April FOMC meeting, but over a longer time frame, oil prices have remained relatively flat. Going forward, as shown in the top right, the price of oil (the red line) is projected to trend down, and nonfuel commodity prices (the black line) are expected to remain flat.

One factor tempering oil prices has been the remarkable boom in U.S. oil production in recent years (the black line in middle-left panel), driven in large part by technological advances, including horizontal drilling and fracking. The increase in U.S. production has been unexpectedly rapid, and the Department of Energy has repeatedly revised up its forecast, with this month's DOE forecast (the dashed black line) almost one-half million barrels per day higher by the end of 2014 than the forecast released in March (the dashed red line).

As outlined in the middle-left panel, many commentators have suggested that the energy boom has the potential to greatly enhance the international competitiveness of the U.S. economy through a decrease in the price of energy inputs relative to those in foreign economies. With regard to oil, increased production has a direct effect on activity, but as it accounts for only about 1 percent of overall GDP, that effect is likely to be small. Moreover, given the degree to which the oil market is internationally integrated, it seems doubtful that higher domestic production will more than temporarily lower oil prices in the United States relative to those abroad.

As evident in the top-middle panel, improved capacity to ship WTI to coastal refineries is already narrowing the spread of Brent over WTI.

In contrast to oil, increased domestic natural gas production could potentially have more persistent effects on relative energy prices, and U.S. competitiveness, given the high costs of transporting gas, even if the present limited capacity for gas exports were to expand. As shown in the bottom-left panel, the gap between natural gas prices in the United States (the black line) and Germany (the red line) has widened considerably in recent years. The primary and growing use of natural gas in electrical generation has also likely helped keep U.S. electricity prices in check (shown in the bottom-right panel).

The relatively low domestic price of natural gas might also be expected to benefit industries that heavily use natural gas as an intermediate input, including the chemical, fertilizer, and petroleum refining industries. However, as shown at the top left of your next exhibit, the United States does not appear to be overtaking foreign economies in these industries, with the trade deficit in chemicals and fertilizers showing no improvement. In contrast, as indicated by the black line in the top-right panel, in the petroleum refining sector, which depends heavily on natural gas, the United States has shifted from being one of the largest importers of refined products to one of the largest exporters. Interestingly, the shift to natural gas in domestic power generation at the expense of coal has also prompted a sharp increase in U.S. net exports of coal (the red line). Thus, all told, advances in energy extraction have yet to boost competitiveness in most areas of U.S. manufacturing, but they've provided significant impetus to production and exports in the primary sector.

In fact, regarding our outlook for U.S. trade, increasing U.S. oil production and an expectation of relatively flat domestic oil consumption has resulted in a steep downward trajectory in projected real imports of oil (shown in the middle-left panel). Declining oil imports are expected to weigh on overall import growth (line 1 in the table) throughout the projection period, muting the positive boost to imports coming from strengthening U.S. growth.

However, lackluster foreign growth has weighed on exports (line 2 in the table) in recent quarters, with exports declining in the second half of last year and in the first quarter, held back in part by weak exports to the euro area (the black line in the bottom-left panel). We expect export growth to pick up to 5¾ percent in the current quarter, in line with an April increase shown in panel 6, and then to strengthen to 6½ percent by 2015 supported by rising foreign GDP growth. An improving foreign outlook should also reverse some of the safe-haven flows that have boosted the value of the dollar (the black line in the bottom-right panel), with the subsequent projected fall in the dollar providing further support for exports in the forecast. Altogether, as shown on line 3 of the table, we expect the external sector to be about neutral for U.S. GDP growth over the projection period. Now I will hand it off to Sean Campbell.

MR. CAMPBELL. My remarks today on financial stability are based on the QS materials distributed to the Committee. Overall, the vulnerability of the financial

system to adverse shocks has increased modestly, on net, since the previous financial stability briefing in March. In what follows, I briefly describe some key developments for financial stability at banking firms, the shadow banking system, and asset markets.

Beginning with the banking sector, market indicators point to an overall rise in its stability and health, reflecting diminished concerns about downside risks, and greater capital and liquidity. As shown in the top-left panel of your first exhibit, LISCC firm stock prices have risen notably since March. The top-right panel displays three systemic risk measures that provide different assessments of the amount of financial stress that would be realized in the event of a sizable financial shock based on a variety of market signals including stock prices, CDS spreads, and equity correlations. Like stock prices, these measures also indicate low levels of risk among the largest banking firms.

As depicted in the middle-left panel, despite the recent tick downward in Tier 1 ratios owing to the onset of Basel 2.5, both risk-based and leverage-ratio capital measures of the largest BHCs have been rising and remain high relative to pre-crisis levels. The liquidity position of banking firms also continues to improve. Cash holdings of banks in particular, the blue shaded area in the middle-right panel, have more than doubled since 2007, and securities holdings also have increased modestly, though recent increases may be more concentrated in non-Treasury securities that offer higher yields.

Bank profits, shown by return on assets and return on equity in the bottom-left panel, have strengthened recently but are well below pre-crisis levels. Moreover, concerns remain regarding the sustainability of profits since recent earnings have largely been supported by cost cutting and reduced loss provisioning. In addition, net interest margins (not shown) continue to register at low levels, and it is unclear whether strong trading income during the first quarter will be sustained going forward in light of the changing business and regulatory environment.

As noted to the right, banks and insurance companies could be vulnerable to a large and sudden rise in rates given their significant holdings of fixed-rate, long-term loans and securities. As discussed in the previous financial stability briefing, a detailed supervisory analysis of these holdings and interest rate risk-management practices suggests that the largest BHC's are likely positioned to withstand and may even benefit from a moderate rise in rates of between 100 and 200 basis points, but bank equity valuations could decrease with a sudden sharper rise in rates if depositors were to flee.

A recent analysis of interest rate risk at life insurance companies, conducted by Federal Reserve Bank of Chicago staff, finds that profit margins of insurance companies have been squeezed in recent years by low interest rates, and firms have modestly increased their holdings of credit-sensitive and less-liquid fixed-income securities to boost margins. Their analysis also finds that insurance firms are likely well positioned to handle a gradual rise in rates, though a larger and more sudden

spike in rates could be destabilizing if policy holders surrender policies in significant numbers and insurance companies are forced to quickly sell assets with more credit and liquidity risk.

Your next exhibit focuses on developments in the shadow banking sector. Looking at specific aspects of the shadow banking system suggests a modest increase in the appetite for risk and a willingness to extend leverage. As shown in the top-left panel, repurchase and reverse repurchase activity by dealers has continued its general upward trend since the bottom reached during the crisis while net borrowing, the dotted line, has remained roughly flat. These trends suggest that dealers are facilitating an increasing amount of levered investing among non-dealer investors but are not growing their own holdings. Indeed, the most recent survey of senior credit officers shows a continuing increase in the demand for financing of a broad range of riskier collateral.

The top-right panel shows the amount of equity margin credit extended by broker-dealers to clients under Regulation T. The use of leverage to finance equities by large retail clients has increased appreciably. While this type of leverage is limited by Regulation T, and does not appear to represent a vulnerability of the financial sector, this rise in margin credit may signal a broader increase in risk appetite and demand for leverage.

As shown in the middle-left panel, CLO issuance has been rising sharply in recent months. Moreover, strong investor interest in CLOs has contributed to robust demand for B-rated loans, which account for the majority of CLO portfolios; this demand has put pressure on price and nonprice terms alike in the broader leveraged loan market. For example, debt multiples of firms receiving leveraged loans, shown at middle right, have been rising in recent years. Moreover, market participants generally anticipate continued gradual erosion in both loan terms and the quality of borrowers with access to the loan market.

The bottom-left panel displays the aggregate holdings of the agency MBS REIT sector as well as its aggregate leverage ratio. Agency REITs use leverage to invest in agency MBS and pay large dividends to their equity investors. Agency REITs have grown rapidly in the past three years and currently hold roughly \$400 billion in agency MBS, which represents roughly 5 percent of the outstanding stock of agency MBS.

Our recent discussions with some of the largest dealers financing agency REITs indicate that they believe haircuts are sufficient to protect them against problems that could arise at agency REITs. Moreover, dealers have indicated that they view the significant size and liquidity of the MBS market, as well as the assumed willingness of other investors to step in and purchase MBS if yields were to rise, as factors that would likely keep problems at agency REITs from spilling over into the wider MBS market. These assertions have been partially tested in the past few weeks, as agency REIT share prices have declined by roughly 20 percent amid rising MBS-to-Treasury spreads that has resulted in losses and some asset sales by REITs. To date, however,

problems faced by these REITs do not appear to have materially affected wider MBS market functioning.

As part of our regular monitoring program, we track the development of new financial products. The bottom-right panel highlights a recent trend toward the migration of swaps to futures contracts, or “swap futurization.” Since the passage of Dodd–Frank, swaps have come under increased regulation, and a recent CFTC rule would require that cleared swaps be subject to a minimum initial margin consistent with a five-day period of risk, while futures contracts would require margin for only a one-day period of risk. Initial margin limits the amount of leverage embedded in a derivative contract. Several CCPs have introduced a number of economically equivalent futures contracts to products that were previously only available as swaps. As an example, the intercontinental exchange (ICE) recently introduced CDS index swap futures to the market. This development may signal a desire by market participants to trade derivative contracts with lower initial margin and higher leverage. Moreover, to the extent that the liquidity and pricing depth of these products is more consistent with that of a bespoke swap rather than a liquid futures contract, the required initial margin may understate risk and expose market participants and intermediaries to heightened counterparty risks.

Your final exhibit considers the state of asset markets. Overall, equity, corporate debt, and real estate prices have increased, but valuations generally do not appear stretched. As shown in the top-left panel, despite their recent rise, corporate bond yields are near the bottom of their historical range, raising concerns that a return to more normal term premiums could imply significant losses to bondholders. However, many corporate bondholders are unlevered, reducing financial stability concerns. In addition, corporate bond spreads, depicted in the top-right panel, are not unusually narrow relative to historical experience. Accordingly, a significant rise in corporate yields may not be further compounded by a concomitant rise in credit spreads.

Domestic equity prices have increased over the past few months with some broad price indexes reaching all-time nominal highs. Valuation measures, shown in the middle panel, have also risen somewhat, but not to historically elevated levels. In particular, the 12-month forward price-to-earnings ratio, the green line, is well within its historical range. Also, in the case of the price-earnings ratio based on 10-year trailing earnings, the black line, its current level is well below the level reached in 2000 and is also below the level reached in 2007, two periods preceding significant stock market declines.

Like equity prices, house prices have also risen steadily over the past few months. A valuation metric that is comparable to the price-to-earnings ratio in the stock market, the house price-to-rent ratio, appears in the lower-left panel. As shown by the black line, the price-to-rent ratio for the national market has risen and increases have generally been larger in what were depressed markets—like Miami and Phoenix. In these markets, investors appear to be an important source of stable demand, as they view prices as being favorable relative to current and forecasted future rents. Also,

staff analysis indicates that underwriting standards remain firm even in those areas that have recently exhibited the most robust price increases.

In summary, while banks continue to build capital and liquidity, there is concern about the long-run outlook for profitability, and there is evidence that the appetite for risk in the financial system has increased modestly and is being accommodated through the shadow banking system. Also, while risky asset prices have been rising, they do not appear to be built largely on increasing leverage, and most valuation measures do not appear to be out of line with fundamentals. Jane Ihrig will follow my remarks.

MS. IHRIG.³ I am going to continue the presentation, discussing the “Summary of Economic Projections” in the next handout. Exhibit 1 shows the trajectories of your forecasts for key economic variables. The top panel shows the gentle pickup in the growth of real GDP projected over the period; the second panel displays a gradual decline in the unemployment rate; and the bottom two panels point to some acceleration in inflation, although most of you see inflation as still running a little below the Committee’s 2 percent objective by 2015.

The second exhibit compares your current projections with those in the March SEP and the June Tealbook. The general message from the changes in the central tendencies is softer real GDP growth and lower inflation in the near term, and a lower level of the unemployment rate both in the near term and over the forecast period. As reflected in the top panel, the revisions to your forecasts for real GDP growth tended to be small, and they were concentrated in the first half of this year, in response to the incoming data. As shown in the second panel, most of you revised down your near-term forecast for the unemployment rate and carried this revision forward. In the bottom panels, your 2013 forecasts for inflation moved down considerably, reflecting the low readings in recent months. But a number of you noted that factors now putting downward pressure on inflation were likely to prove transitory, and your inflation forecasts for 2014 and 2015 were roughly unchanged. The Tealbook forecast is for economic growth near the upper end of your central tendencies over the projection period. Meanwhile, the Tealbook projections for unemployment move from the upper end of your central tendencies this year to the lower end by 2015. For inflation, the Tealbook projections are again near the lower ends of 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, four participants believe that the federal funds rate should increase this year or next, while the rest of you think that it will not be appropriate to begin raising the funds rate until at least 2015. The middle panel of the exhibit provides your current assessments of the appropriate target for the federal funds rate at the end of each year of the forecast period and over the longer run. On balance, although your views of the year when it will be appropriate for the

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

federal funds rate to leave the effective lower bound have not changed much, those who expect the first tightening to be appropriate in 2015 now call for a modestly higher rate at the end of that year than you reported in your March forecasts, which are shown in the bottom panel. This is consistent with a slightly earlier date of liftoff or a more rapid increase after liftoff. By contrast, a few of you who judge that liftoff before 2015 will be appropriate now see the funds rate rising more gradually than you did in March.

With regard to securities purchases (not shown), half of you indicated that your assessment of appropriate policy is about in line with the assumption in the Tealbook baseline forecast, which is conditioned on purchases totaling \$750 billion in 2013. Seven of you think that it will be appropriate to have a larger purchase program, in the range of \$900 billion to \$1.25 trillion, and most of these participants see purchases continuing into 2014. In contrast, one participant noted that it would be appropriate to end the purchases immediately, and a couple of others focused their comments on concerns about exit or communications.

Exhibit 4 depicts the economic conditions that you anticipate at the end of the year in which you judge that it will become appropriate to raise the federal funds rate from its current target range. Recognizing that liftoff may occur before year-end, the series shown are only illustrative of the market conditions around the time of liftoff. Your projections for the unemployment rate at the end of the year of liftoff range from about 5½ percent to 7 percent, with the median a touch above 6 percent, while your inflation projections for that time are in a range of 1½ percent to 2¼ percent, with a median of 1¾ percent. All 15 of you who see the initial increase in the funds rate occurring in 2015 or later (shown by the gray circles and blue square) project unemployment below the Committee's 6½ percent threshold at the end of that year; nearly all of this group also see inflation at 2 percent or below. All but one of the participants who judge that the first funds rate increase should occur in 2013 or 2014 (shown by the blue triangle and white diamonds) see the unemployment rate at the time of the first funds rate increase as still above 6½ percent. Most of these participants pointed to concerns about inflation as a primary reason for expecting that it will be appropriate to raise rates before 2015.

The final exhibit reviews your assessments of the uncertainty and risks surrounding your economic projections. As shown in the top two panels in the column on the left, the majority of you now judge the current level of uncertainty about GDP growth and unemployment to be broadly similar to the average level over the past 20 years, although a number of you continue to see it as higher. The panels to the right indicate that the majority of you continue to view the risks to GDP growth and unemployment as broadly balanced, though the rest of you see downside risks to growth and upside risks to unemployment. Regarding the bottom-left panels, a majority of you continue to view the uncertainty associated with your inflation projections as broadly similar to the average level of uncertainty over the past 20 years. As in March, most of you see the risks to your inflation outlook, shown to the right, as broadly balanced, with a few of you, on net, seeing it as weighted to the downside. In assessing the uncertainty and risks to the outlook for real activity and

prices, many participants noted the current issues surrounding U.S. fiscal and monetary policy. Thank you. That concludes the staff presentations.

CHAIRMAN BERNANKE. Thank you very much. We had four presentations. Are there questions for our colleagues? President Kocherlakota.

MR. KOCHERLAKOTA. Yes. Thank you, Mr. Chairman. I had a question about the total payroll employment number in exhibit 2. The June Tealbook forecast for the change in total payroll employment between August 2012 and the fourth quarter of 2013 is 500,000 higher than it was in last September's Tealbook. So of that 500,000, if I think about the range of possible outcomes, how many standard deviations away from the mean is it? Is that really unusual? Is that a big increase relative to what everyone expected, in terms of statistical uncertainty, or can it just be interpreted as being reasonable due to noise of some kind?

MR. LAUBACH. I hate to say it, but I am afraid I'd have to get back to you with an answer on that. I don't have a probability distribution for payroll employment at my fingertips.

MR. WILCOX. I suspect that over a period of nine months that a forecast error of 500,000 on the level of employment is a pretty small event. I think the impression that I'm left with, as a consumer of this chart, is that things have improved more or less as we expected and, indeed, a little better than what we had expected, but, in probability space, pretty close.

MR. KOCHERLAKOTA. Thanks. That's helpful.

CHAIRMAN BERNANKE. Did you have an intervention, President Lacker?

MR. LACKER. President Kocherlakota, just to help the staff, were you asking about the probability distribution around a certain period-ahead forecast or around realized values of employment?

MR. KOCHERLAKOTA. I'm not actually quite sure what you're asking.

MR. LACKER. I'm not sure what you're asking—variance of what?

MR. KOCHERLAKOTA. What I was asking is that if you form a probability distribution of possible outcomes as of August 2012—

MR. LACKER. Outcomes, not forecasts? I mean, do you want to know if the forecast has changed significantly? Do you want to look at the distribution of the forecast?

MR. KOCHERLAKOTA. I see what you're asking. Either one is fine with me. I would be interested in both.

CHAIRMAN BERNANKE. I think what he's asking is, given the forecast, how likely is the actual, surprisingly good, outcome? In other words, is it statistically significantly different from the mean of the forecast?

MR. KOCHERLAKOTA. Yes, exactly.

MR. LACKER. You're comparing two forecasts of the level at a future date.

MR. KOCHERLAKOTA. Yes. That's true. We've moved forward nine months. How likely is it that that forecast has gone up?

MR. LACKER. Do forecasts fluctuate a lot or not?

MR. KOCHERLAKOTA. No, it's really about the forecast. You're right. That's a correct correction.

MR. WILCOX. Dave might have an answer.

MR. REIFSCHEIDER. Not exactly, but I think the question is even slightly different than the way you're putting it. [Laughter] I think it is, how unusual is it, given that GDP came in the way we expected it?

MR. KOCHERLAKOTA. Oh, that wasn't what I was asking.

MR. REIFSCHEIDER. But I still think that David's answer is going to be correct. And the forecasts do change dramatically at times. You can see that in terms of the forecast

errors we do. They blow up really fast. And David's point about the confidence intervals for the unemployment rate that you see in Thomas's chart—those blow up very fast; it's almost certainly not surprising.

MR. KOCHERLAKOTA. Thank you.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. First, I wanted to thank Sean for including the margin debt chart, a thing I've been concerned about. The thing I worry most about is the rate of increase, as we saw in 2000 and 2007, but I appreciate that very much.

I just want to make a comment on the international presentation, exhibit 5. You may remember that the business operators we were talking to—I believe I mentioned specifically Emerson Electric, Apple, the miners, the shippers—were indicating that the data were weaker than what was being reported and weaker than expectations. For what it's worth I'm still hearing that, and I see this reflected in your Q2 number, but still the business operators in China are concerned about the slowdown, particularly on the industrial side. Thank you.

CHAIRMAN BERNANKE. I had a couple of questions about the energy projections. One is at one point IF started using macro information as well as futures curves to project oil prices, and I didn't hear much about that. And then the other question I have is that it sounded like from your discussion of natural gas versus oil that one could almost make the case, or at least it's a possibility, that the trade barriers would be welfare-improving if there were enough externalities of lower natural gas prices. I was just wondering if anybody had thought that through.

MR. GRUBER. On the first point, we have implemented over the past couple of years this adjustment to the futures curve-based forecast for macro outcomes. We're continuing to do

that. We found that it has helped us a little bit on the margin to improve the forecast over the pure futures-based forecast. We haven't written it up every time. Generally, the adjustment factor has been quite small. So the idea is that we look at the futures curve, and then if we think that we have a more optimistic forecast, let's say, than outside forecasters and they're going to be surprised on the upside, we actually want to adjust the curve up a little bit in order to accommodate that. It turns out now that we're actually slightly more pessimistic than the outside forecasters that we look at in consensus. We have actually added about a negative ½ percent adjustment to the oil price going down every year but pretty much on the margin, a small adjustment.

As far as the welfare improvement of trade barriers, there currently is a trade barrier for oil—an export ban on crude oil. One of the things that we're seeing though is that there are ways to get around these barriers in some sense, because we're exporting a lot of product now even though we're not exporting the crude. For natural gas, there's a permitting process for the building of new export terminals. There are only two terminals that are currently permitted to be built. There's a big debate going on about whether or not the government should allow more to be built. But even if we weren't exporting the raw, natural gas and were exporting things like coal and such, there's some fungibility basically in how this energy is going to get exported, whether it's gas or coal or manufactured products supported by lower natural gas prices.

MR. KAMIN. If I could just add a word to Joe's comments. There are two issues. One of them is the non-normative issue. In the context of our energy development, would some continued difficulties exporting our product actually be helpful to U.S. manufacturing? And the answer is "maybe," but there's not much data to support that yet, right, Joe?

MR. GRUBER. That's correct, yes.

MR. KAMIN. Then going to the welfare implications, it could be that bottling the natural gas in the United States is helpful to U.S. manufacturing, but that might not be beneficial to overall welfare. The dynamic spin-offs from the improvements in manufacturing competitiveness might not end up being that great, and we might be better off just acting as a primary commodity exporter and reaping the income gains from that.

CHAIRMAN BERNANKE. I think with just enough increasing returns and perfect competition, you probably could get either answer.

MR. KAMIN. Exactly.

CHAIRMAN BERNANKE. Are there other questions for our colleagues? Governor.

MS. RASKIN. Yes. This is a question, Sean, for you on interest rate risk at banks. I was hoping you could unpack a little bit your statement about banks being positioned to benefit actually from a modest basis point increase. And I'm wondering whether we should be concerned with the possibility that there is a potential nonlinearity in the models that banks use to look at how deposits react to changes in interest rates. Maybe liquidity is so plentiful now that assumptions regarding stickiness really aren't that relevant. I just wanted to know if you had anything to add about what those models look like, how they would perform, and how they may be performing under prolonged low interest rate environments. Then also if there's anything you would want to add about banks' interest rate risk-management practices.

MR. CAMPBELL. Sure. To start the response, I should say I'm not the person who was principally involved in the actual supervisory work that was done and that I canvassed in my remarks, but I can say a little bit about what I know, and maybe Nellie or somebody else can fill in the gaps where there are any.

In terms of unpacking the results a little bit, we think a rise in interest rates is going to potentially have two impacts. The first is on the securities side of the bank's balance sheet. To the extent that they are holding long-term fixed-rate assets, the bump up in rates is going to depress the value of those assets. The second thing that will happen is that, to the extent that the banks have a deposit franchise and rates are rising, that basically gives an uplift to net interest margins and is going to result in an income stream going forward that, in principle, you would think about valuing as an asset on the bank's balance sheet. That would moderate the effect of the securities' decline.

And the analysis that was done, again, by my colleagues looked at a variety of different changes in interest rate scenarios and tried to put those two pieces of the puzzle together. This analysis suggests that for modest interest rate increases of between 100 and 200 basis points, you actually might get an increase in total overall bank valuations. In some empirical work, I think they also looked at stock price reactions of banks to interest rate changes and found similar modestly rising interest rates give a kick, or an increase, to total bank equity valuations.

In terms of thinking through the point that you just made, I think the work that has been done in the past generally shows that deposits are a little bit on the sticky side. But recent experience has shown more than anything else that assuming that "past is prologue" is a potentially dangerous recipe, or that one might want to tread lightly in doing that. I know that my colleagues who are engaged in this work are thinking about a range of models that could be used to try to think about the transitory or potentially flighty nature of deposits in a rising rate environment. But to be quite frank with you, I don't have any specific knowledge of exactly what's being done either at the banks or on the supervisory side to think about "robustifying"

those models to make sure that they're robust to changes in assumptions about how sticky deposits might be in the future.

CHAIRMAN BERNANKE. Yes, Mr. Stefani.

MR. STEFANI. Thank you, Mr. Chairman. I had a question on life insurance companies, and there was a lot of focus in the materials on life insurance companies. We talked with several contacts in our District from large life insurance firms, who indicated that they would really benefit from a gradual rise in interest rates.

I know the Tealbook uses assumptions of 200 basis points over a two-and-a-half-year period in terms of their definition of a gradual range anywhere from 100 to 300 basis points. But it did emphasize that a sudden and sharp rise in interest rates would pose serious problems to the life insurance industry. And I'm not sure how to compare stress tests for life insurance companies with stress tests for the banking sector. I was just wondering if the staff has done any analysis or had any perspective on how life insurance may differ from banking or how they may fare given economic assumptions.

MR. CAMPBELL. Sure. Again, in some sense I'm channeling the work of my colleagues from the Federal Reserve Bank of Chicago, but I will relay to you my understanding of their work. Again, Nellie or somebody else can step in to fill in the gaps where there may be some.

Actually, a key difference, potentially, between insurance companies and banks is that, if I think about an insurance company's balance sheet, at least under current conditions, the liability side of its balance sheet is actually significantly longer in terms of maturity than its assets. We think of it as being completely flipped for a bank. So liabilities that are potentially short-term are basically short-term deposits, and the assets are longer-term. And so that's why,

from the perspective of thinking about the stress testing for an insurance company, if you have liabilities that have a longer maturity than your assets, then the case of a modest gradual interest rate rise can actually be somewhat beneficial to the insurance company, whereas for the bank, the analysis is a little bit different. That's a key difference that I think was raised in the context of their analysis that suggests that thinking about stress-testing insurance companies is different from banks. I don't know if that answers your question.

MR. STEFANI. Yes. I didn't know if insurance companies are particularly more or less sensitive, given those assumptions.

MR. CAMPBELL. Right, and so again, to compare very briefly the kinds of analysis that we've done in the context of banks and insurance companies, in the case of banks, there has been actually a very rigorous quantitative review that uses statistical and econometric models to think about what would be the actual basis point impact, if you will, of a certain rise in interest rates. Since we don't directly regulate any insurance companies, our analysis has been largely based on publicly available data and I would characterize it as largely qualitative and not so quantitative. We have looked at some qualitative numbers and some analysis that's available in 10-Qs and other regulatory filings, but I don't think we've gotten to a place with respect to our insurance company analysis that would allow us to drill down and make quantitative statements about the size of the change in the value of the assets on the insurance company's balance sheet that would result from a 150 basis point rise over a six-month period.

MR. STEFANI. Okay. Thank you.

CHAIRMAN BERNANKE. If you indulge me for one more question, in exhibit 3 you have the fiscal impetus shrinking very substantially in 2014 and 2015. President Williams, I think there were some reports of research at the San Francisco Fed, the thrust of which was that

fiscal restraint was going to be much greater going forward. If you're not aware of this, I don't want to put you on the spot, but is there an easy resolution between that research and this from the Board staff?

MR. WILLIAMS. Yes, I don't want to try to answer in detail because I'll probably get it wrong, but my recollection was that they had CBO assumptions about pretty strong rising tax revenues in their analysis, which I think was one of the factors, but that's about as much as I can comment on what the—

MR. WILCOX. Eric Engen had taken a look at the San Francisco research.

MR. ENGEN. Actually, yes, what it was showing is not so much what the direct restraint was, but the restraint relative to what historical norms were. You may remember, Vasia Panousi's briefing to the Board in the middle of May showed that fiscal restraint at all levels of government in the United States now relative to historical average recovery periods is much, much greater. So, the actual amounts of restraint are consistent with what we have in the staff fiscal impetus measures for the United States, but the difference between what it is now and what it has been historically is still relatively wide. So that's the reconciliation.

CHAIRMAN BERNANKE. Thank you. That's helpful. President Lacker.

MR. LACKER. Yes, I'd like to follow up on this. I was puzzled by the numbers in the panel of exhibit 3 referred to as "Fiscal Impetus," which shows the percentage point contribution to real GDP growth. You may have just answered my question because it shows a number well below negative 1, and the Tealbook reports minus 0.7 for 2013. I ask this because the change is pretty substantial between 2013 and 2014, which is, of course, the measure of the lift we would get from the waning of fiscal drag. Yet in the Tealbook, it goes from negative 0.7 to negative 0.4, which is about 0.3 less than what was shown here. Is this the reconciliation that this panel

that shows contributions to real GDP growth is relative to some trend, is that right? Do I have the right Tealbook?

MR. ENGEN. I think so. It is marked “June,” yes. This is the restraint on the pace of economic growth. One way to think of it is the change in that restraint coming from fiscal policy. One reason why it’s so big in 2013 is the sequestration, which is very front-loaded. It puts a big downdraft on government purchases. Also for this year, there’s the effect of the payroll tax cut expiration and additional other income tax increases. Those are all front-loaded in a sense.

The easiest way to think about it is in terms of government purchases. There’s a big downward step in the level, but the further restraint on economic growth next year and the year after is a lot smaller because there’s not additional downward pressure in each one of those years. At that point the level is lower and it stays relatively flat, and so the drag on the contribution to real GDP growth is getting smaller. Does that help?

MR. LACKER. Maybe I’m being dense about this. I’m comparing a table that says “Contributions to Changes in Real Gross Domestic Product” in the Tealbook, Book A, and a panel in exhibit 3 that shows contributions to real GDP growth. So is this the change in the contribution? I don’t understand.

MR. ENGEN. In this table, it’s just G. So what the blue bars in the panel “Fiscal Impetus” also show are not only the changes in government purchases, G, but also any changes in taxes and transfers as well.

MR. WILCOX. It’s the discretionary component. It’s not the automatic stabilizer component.

MR. LACKER. Okay.

CHAIRMAN BERNANKE. Good. Thank you. President Bullard.

MR. BULLARD. While we're on this topic, when this is calculated, do we also look at what happens if you cut government spending today and there are taxes that you're not going to have to collect over the next 10 years? Is that also part of the calculation?

MR. LAUBACH. I believe what this measures is, as David just mentioned, any discretionary measures being taken up.

MR. WILCOX. I think it's a first-round effect. I don't believe there's any effort to, in some sense, dynamically close the government budget constraint.

MR. ENGEN. Oh, we don't do that in our calculations of fiscal impulse, but FRB/US certainly would account for the fact that there would be less government debt and less need to have a fiscal rule raising taxes or whatever in the future. It would be reflected in the longer-term extended forecast based on FRB/US. So those kinds of dynamic effects—

MR. BULLARD. Okay. So when I'm looking at a picture like this, I'm looking at a partial equilibrium calculation that's just telling me, okay, here's the reduction in government expenditure, even though there's some positive effect.

MR. ENGEN. Yes, it's partial equilibrium and it is near term, relatively speaking. But the dynamic effects you're talking about are reflected in the extended forecast using FRB/US.

MR. REIFSCHNEIDER. But the way we run it, we would never expect they'd make it up in the next 10-year window because the federal government never makes it up over the next 10 years. So if you did it the way you're thinking, it wouldn't make any difference in the numbers because they would be spread out so far in the future, at least the way we usually do it.

CHAIRMAN BERNANKE. Okay. Thank you. I don't see any other questions. We have on the agenda an opportunity here for comments on financial stability issues. Let me start with President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I just wanted to make a couple of comments in regard to money market funds.

CHAIRMAN BERNANKE. Probably surprises everybody. [Laughter]

MR. ROSENGREN. The SEC has announced their new proposal, which I had hoped would reduce financial stability concerns for money market funds. Unfortunately, as structured, it's not at all clear that the SEC proposal will produce greater financial stability, and I just wanted to highlight three problems.

First, for institutional prime money market funds, which account for approximately 40 percent of the industry, the proposal would require a floating NAV under one potential reform option. Unfortunately, it's not clear how many assets will, in reality, be priced. For assets with a maturity of 60 days or less, funds will continue to be able to use amortized costs rather than market values. Since two-thirds of prime money market fund securities have remaining final maturities of 60 days or less and weighted average maturities of approximately 43 days, a fund's net asset value still will not reflect market values for a significant percentage of assets. As a result, funds will have an incentive to purchase volatile and risky assets with less than 60 days to maturity because funds can avoid reporting market values for that subset of assets in their holdings. By smoothing fluctuations in the reported NAV, investors may be misled about the underlying risk in a fund's portfolio.

Second, retail prime money market funds will not be required to have a floating NAV. Presumably this is predicated on the fact that such funds have historically experienced lower run-

risk vis-à-vis institutional prime funds. However, a significant number of both retail and institutional prime funds have taken significant credit risk and required sponsor support. Thus, prime retail funds also should be required to have a floating NAV, with all assets priced at market values.

And third, the second option allows the money market fund board at their discretion to impose gates or redemption fees. Since it is at the discretion of the money market fund board, I would view this second option as the do-nothing option. This alternative likely increases flight risk because when fees or gates are triggered by explicit events, investors will be able to reasonably perceive the imposition of a gate or fee and thus will be incented to run in advance. In addition, the imposition of gates and/or redemption fees by one prime fund will provide a strong incentive for investors of other funds to redeem as well, in anticipation of those funds also possibly imposing gates and/or fees.

It's regrettable that important alternative enhancements already have been discarded in narrowing the reform options to two. However, if from this point forward one focuses only on the SEC options that have been included, it would be important that the SEC ensures that valuations do reflect market values on all of the assets under the floating NAV option so that the NAV truly floats. I would hope that the FSOC will not be passive, given that the SEC proposal falls far short of what we would like to see to reduce financial stability concerns.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Can I make a two-hander? First, I agree with President Rosengren. I think there are two other issues that are probably worth highlighting. The government funds that are exempt are defined as 80 percent of assets in governments, so you could have 20 percent of your assets in other stuff. It is not really obvious why you would want

to allow that distinction. And the retail exemption is that retail investors can withdraw as much as \$1 million per day. It seems like a pretty high ceiling for retail investors.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. Let me make a couple of comments. I thought that the risk discussion in Tealbook, Book A, drew a great connection between the QS analysis and the risks to the macroeconomic outlook posed by financial system vulnerabilities. And I found the “Boom–bust” scenario in the Tealbook to be informative. So I thank the staff for these very valuable exercises. Based on my assessment of these exercises, I would say that right now these risks aren’t sufficiently material to justify a reduction in monetary policy accommodation.

This conclusion leads me to a suggestion about how the staff analysis could be further enhanced. Going forward, it would be useful to have a slightly more quantitative evaluation of the likelihood of something like the “Boom–bust” scenario in Tealbook, Book A. So should I see the probability of that scenario as being 1 in 1,000, 1 in 100, or 1 in 10? Without those kinds of quantitative assessments, it is difficult to make decisions about whether to take costly actions to defray possible risks to financial stability.

Now, I want to be very clear here. I don’t see my request for quantitative assessments to mean that I am asking for extensive theoretical modeling or econometric estimation. I have made reference to 1 in 1,000, 1 in 100, and 1 in 10 deliberately because I wanted to connote determination of orders of magnitude, with 1 in 1,000 being, well, 10 times 1 in 100. And so the idea is just to translate the staff’s judgmental views of the risks to the financial system into rough estimates of the likelihood of the tail events that we might be concerned about. That is one set of comments, which is on the usefulness of tying together the QS analysis to the risks of the

macroeconomic outlook, and then a suggestion to make that even more helpful by making it quantitative.

To move to the second topic, my staff have been working with staff in New York on the magnitude of a particular kind of systemic risk associated with our asset purchase program, which is the interest rate risk that it creates for the federal government. The asset purchase program involves our exchanging reserves for long-term assets. And we can think of these reserves as being essentially floating-rate debt, so it is an instrument with zero duration, and our balance sheet is tied to the federal government as a whole through our remittances to Treasury. So if you think about the consolidated government balance sheet, which includes the Fed as well, our asset purchases are increasing the duration of the federal government's assets and decreasing the duration of the federal government's liabilities because we are buying longer-term assets and then decreasing the duration of the liabilities by issuing reserves, essentially, to pay for the program. This means the program is reducing the duration of what one might call the federal government's negative net worth position. So you've got a gap between the assets of the federal government and the liabilities that it owes that is being filled by taxes, but you want to know what the duration of that is to know the duration of the value of the taxes that you have to collect. In the past, some around this table have worried that the kind of shortening of duration of this negative net worth position could create funding challenges for the federal government if interest rates rise sufficiently. And Governor Stein, I think, has been especially important in making this point.

Our staff's work on this is still preliminary, but it suggests that, as of the end of December 2012, this potential issue is not a quantitatively material consideration. Over the past six years there has been a large expansion of the federal government debt, and the Treasury has

also been engaged in lengthening the duration of its outstanding obligations. So if you put together the Treasury's actions with the Fed's, the joint impact of both—the asset purchases plus the Treasury's actions—has been a relatively small impact on the duration of the negative net worth position of the consolidated balance sheet. It is sort of in the Treasury's favor; it has actually lengthened the duration of the negative net worth position slightly.

There are two reasons why the Fed's impact has been so small—to me, surprisingly small. First, so far at least, our transactions have been only a fraction of the expansion of the federal government's liabilities. And, second, because of prepayment considerations, the Fed's mortgage-backed securities have surprisingly low duration. It is closer to 3 years than 30 years. That, again, was a surprise to me; that really influences the calculation.

Just to be clear, nothing that I have said changes the prior staff estimates of the impact of the LSAPs, as long as we take as given the Treasury's decisions about what they are doing. As long as it is exogenous to us, the staff's estimates are exactly right about the impact of the LSAPs. My point is different. When you combine the LSAPs with the expansion and terming out of the federal government debt, the joint impact of that has not had a material impact on the duration of the negative net worth position of the federal government. So at least in this sense we don't have to worry about our asset purchases having created a systemic risk. We haven't really changed the interest rate risk faced by the federal government. But, as usual, this is an issue that deserves ongoing monitoring. If we were to do more in terms of buying assets, et cetera, we would have to be thinking about this more. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. I just have a question for President Kocherlakota. On the MBS, you said that the prepayment risk was small, but that would change, I guess, as rates went up. Was that part of the analysis?

MR. KOCHERLAKOTA. Yes. That is obviously going to depend on interest rates. And that is being done on an ongoing basis, actually, in New York to calculate the—

MR. POTTER. I think it's the reverse, right? The prepayment risk is higher right now. The duration is going to extend massively as rates go up.

MR. BULLARD. Yes, sorry.

MR. KOCHERLAKOTA. Thanks, Simon.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. I thought I would make a few comments in terms of market developments, given that markets haven't been very stable recently. I'm of two minds about the recent backup in interest rates and the increase in volatility. On the one hand, I see it as a good thing that market participants now better understand that eventually we expect to become more confident about the prospects for a substantial improvement in the labor market, and then, when that time arrives, we will dial back the pace of our purchases. I also think it is a good thing that investors understand that there is two-way risk with respect to fixed-income assets. A bit of volatility is also good to shake out leveraged hot money from long positions. This volatility presumably reduces the risk to financial stability of a very sharp and larger adjustment later. On the other hand, to the extent that the backup in rates reflects an increase in risk premiums caused by poor communication on our part, it disturbs me. If our poor communication is causing risk premiums to increase, then what we are doing is essentially undercutting the effectiveness of our own policies. With not much ammunition left, I think it is

important that we are able to put in place policies that could be as effective as possible in keeping financial conditions easy, so we can more readily achieve our objectives.

Now, one might argue that the move in U.S. fixed-income markets has been pretty large relative to the shift in outlook, which is very small and, in terms of our own communications, I think that is probably correct. But it is probably typical for a period when volatility has been low in the run-up. The policy setting has not changed recently, and there is forward commitment to keep rates low until some economic thresholds that are a considerable ways off in time are reached.

What is happening, I think, is that the hot money in leveraged carry trades has been forced to exit. Also, the backup in rates has been exacerbated by the convexity hedging associated with mortgages. And, finally, I think there has been a reversal of bond mutual fund inflows, which is not surprising, given that some of the investors may not have fully appreciated the potential price risks associated with the fact that they were making longer-duration fixed-income asset investments.

I expect that, absent surprises from us or in the data, the markets will settle down of their own accord now that you have shaken out some of the hot money. And I am not particularly worried, except to the extent that we have contributed to the volatility and the selloff in fixed-income markets by communicating poorly. That is really the concern, and I will have some more to say about communication tomorrow.

CHAIRMAN BERNANKE. Okay. Thank you. Any other comments? [No response]
Seeing none, coffee is ready. Why don't we come back at a quarter to four, and we can begin the go-round. Thank you.

[Coffee break]

CHAIRMAN BERNANKE. Okay. Why don't we recommence, and we will start with the economic go-round. We will begin with President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. My forecast is similar to that of the Tealbook and to my submission for the previous SEP. However, I have a somewhat easier monetary policy assumption than in the Tealbook, with purchases being reduced somewhat this year but extended into next year, for a cumulative total over \$1 trillion. With that assumption, I expected the unemployment rate to reach 7.3 percent at the end of the year and 6.7 percent at the end of next year. My forecast for inflation has changed somewhat. While I had among the lowest inflation forecasts in the previous SEP submission, I have lowered my inflation forecast a bit further to reflect that actual inflation outcomes continue to surprise on the downside.

While working on the forecast, I wrestled with three issues. The first is that inflation outcomes have been significantly less than expected. The core PCE index is now at a low for the historical series at 1.05 percent. Total PCE is now at 0.7 percent. The Tealbook assumes that these are temporary aberrations, and that we will soon be back on a path that gradually approaches 2 percent. While this is probably the best estimate, our confidence that expectations are so well anchored that we do not need to be concerned about persistently low inflation is certainly being stretched. The TIPS five-year, five-year-forward breakeven inflation measure is now as low as it has been since 2011, and some measures of inflation expectations also have been drifting down.

While some may be reassured that the CPI measures of inflation are not as low as the PCE measures, our target is expressed in terms of the PCE measure. The choice of the PCE measure for our target is based on the belief that it is a better measure of inflation. The PCE measure, by construction, better addresses substitution effects, and it employs spending weights

from a business rather than a household survey. Furthermore, research by my staff has found that when there are large gaps between CPI and PCE inflation rates, the CPI series tends to correct toward the PCE. While not conclusive, this evidence suggests some caution in how to interpret the very low PCE inflation rates. The risks of persistent PCE inflation misses becoming more embedded in expectations is one of the reasons why my forecast has been predicated on somewhat more accommodation than assumed in the Tealbook.

The second issue I wrestled with is the underlying strength in the economy, particularly given the recent increase in interest rates, with most long rates 40 to 50 basis points higher now than at our previous meeting. It is noteworthy that the restrictive fiscal policy has not resulted in a larger adverse impact on the economy, given the significant tax increases at the beginning of the year and the sequestration starting to bite. In part, I attribute this to accommodative monetary policy that has helped to offset the fiscal restraint. Comparing final sales to domestic purchasers with final sales to private domestic purchasers shows roughly a 1 percent difference, with government spending accounting for the slower growth in final sales to domestic purchasers. The risk is that higher interest rates may cause a slowdown in residential investment and consumer durables so that they provide less of an offset for the restrictive fiscal policy. While my forecast assumes enough underlying strength so that this does not happen, as well as a reduction in the fiscal headwinds, the recent interest rate movements mean that I will be watching quite carefully the interest-sensitive sectors over the next several months.

The third issue is the strength of the labor markets. The unemployment rate is at 7.6 percent. It is certainly lower than last September. Furthermore, decreases in unemployment rates have been widespread across states. Particularly encouraging is that some of the hardest hit states, such as California, Nevada, and Florida, have shown some of the most significant

improvements. I would attribute part of this improvement to our actions, since these are all states that had been disproportionately affected by falling residential real estate prices and have been among the states that have most benefited from lower mortgage rates and rising residential housing prices. Despite these positive signs, the employment–population index is little changed from last fall, and the three-month moving average of payroll employment is only 155,000 jobs per month, hardly the significant improvement I was hoping to see. While my forecast assumes that we continue to experience a gradual improvement in labor markets, and that the unemployment rate ends the year at 7.3 percent, I worry that further increases in long rates could cause the economy to grow less than I have forecast. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. In our conversations with directors and contacts across the Sixth District, there was little change of sentiment from earlier in the year regarding economic and business prospects for the remainder of the year. Sentiment was not uniform, but, to generalize, our contacts perceived the downside risks to have lessened somewhat as the year has progressed. But, at the same time, we detected little conviction that there would be a marked improvement in business conditions and a meaningful pickup of activity in the second half. We also heard from our contacts a repeat of themes that we had heard in earlier months: holding fire on expansion-oriented investment, investment instead for productivity gain, reticence to hire additional workers, and uncertainty regarding the impact of the Affordable Care Act.

Our anecdotal inputs this cycle presented a mixed picture that has not materially changed from recent months and suggests some caution in assuming a breakout to higher, broad-based growth in coming months. My forecast submission, based on my Bank’s reading of the data and

anecdotal soundings, reflects this ambivalence. My submission did not change greatly from my March forecast. The basic narrative of the economy, as I see it, is a continuing modest pace of growth, with the second half a little better than the first half. I am projecting acceleration in 2014 from 2.3 percent this year to just short of 3 percent next year. But I confess that my conviction weakens as I try to predict 2014 and 2015. My forecast anticipates steady progress in employment conditions, with an assumption of continuity at around 175,000 jobs per month for payrolls. And my forecast treats the current low inflation readings as transitory, with gradual convergence to the Committee's target.

All that said, the most disquieting element in the current picture is inflation. The price numbers could indicate the economy is weaker than I think. We have spent considerable effort in Atlanta parsing the incoming price data. Various cuts of the data do not, in my opinion, suggest the breadth or degree of downward price pressure we saw in 2010. Still, it is hard to dismiss the softer incoming numbers, although this morning's CPI data are encouraging.

Prior to this morning's reading, the sticky-price CPI—a snapshot of the CPI market basket focused on prices that tend not to adjust very often, and may, therefore, be more forward looking—has been slowing recently. Also, Atlanta's most recent Business Inflation Expectations Survey showed a small drop in expectations of unit cost increases for inputs over the next 12 months. These are small changes, and I don't want to overstate their meaning. I think the case for a gradual strengthening of prices in the near term and a relatively quick return to our inflation target is a little stronger based on this morning's data, but still rather weak.

I am viewing the risks to my outlook on GDP growth, unemployment, and inflation as broadly balanced, at least over the near term. However, the current circumstances of weak quarterly growth and soft inflation indicators make me feel a little apprehensive about this

forecast and whether the risks are truly balanced. But for the moment, that's my story, and I'm sticking to it—a well-worn Washington expression. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. Last time, I noted the choppiness of the employment numbers for our District and the surprisingly weak performance for the April regional manufacturing service and retail surveys. I just want to give a quick update on that. The May readings from our surveys improved over April. Our Beige Book soundings were generally more optimistic. For example, our manufacturing survey came in at plus 11.2 in May versus minus 0.5 in April. Services snapped back, and retail sales bounced back strongly, some 16 points from the negative reading in April.

Nonfarm payroll employment grew 3.4 percent in my District in April. Of note, existing home sales in Texas, which is 98 percent of the output of my District, are up 5.3 percent year to date. Single family housing permits are up 5.7 percent. Construction employment is up 9.2 percent year to date, and we're seeing a lot of corporate relocations. I spend a lot of my time visiting with execs that are coming in and just want neutral information from the Fed. We're seeing a lot of investments, the most notable of which was State Farm bringing 7,000 jobs to Richardson, a little community outside of Dallas, and leasing 2½ million square feet.

And finally, with regard to the issue of fiscal impetus, our state tax inflows rose 14 percent in fiscal year 2012. They have risen 8 percent thus far in fiscal year 2013. The new budget, which is a biennial budget of \$200 billion, increases spending by 4 percent over the next two-year cycle. So that's a positive, not a negative—maybe unique in the country.

Now, with regard to the broader corporate contacts I surveyed—no longer called “interlocutors” [laughter]—here's what I come up with. The truckers, the rails, the telecoms, and

the logistics companies report that, obviously, housing and consumers are the driving forces of activity. With the rails, this offsets the coal problem even though we are increasing coal exports. Clearly, the consumer is carrying the economy.

I'll give you an example. According to the CEO of AT&T, their business with big high-end businesses is flat, and “nobody is hiring, nobody is investing,” to get to President Lockhart's point. Significantly, they are not investing in expansion, they are only investing in productivity. But the consumer broadband business, which reflects housing, is growing at a rate of 3 percent. And just to give you an order of dimension, that's a \$40 billion business just for that one company alone.

And then if you look at the MasterCard SpendingPulse data, which I like to analyze, you see a reflection again of housing. Furnishing sales were up 7.8 percent in May, year-over-year, hardware was up 3.5 percent, appliances were up 8.6 percent, and you see it in the telephonics as well, not only the direct hookups as I mentioned, but also the sales of iPhones, Androids, and so on. The consumer is clearly leading.

There are some offsets. Airlines have reported five months of flat data, and most of the airline CEOs I talk to are worried about softening advance sales and demand for the summertime and up to September. And yet when you talk to the CEO of Disney, for example, they just raised the prices on their retail products, which are not insignificant, and also on their parks, and they had no negative feedback from their clients. In fact, their advance bookings are up. Sales volume is up. So they've gone from discounts during the recession to withdrawing those discounts into 2012, and are now pricing aggressively. Other than Disney and the homebuilders, I noticed that in yesterday's release of the National Association of Home Builders, that confidence finally has reached above the 50 mark on a scale from 1 to 100—the first time in

years. And there are widespread reports of very tight pricing markets, not just in the area that I live in, but in the states that were mentioned by others.

I don't hear much about pricing power, and I want to just give a quick report on the trimmed mean, which, as you know, excludes all extreme price swings like that of the minus 8.1 percent monthly or 64 percent annualized decline for the price of gasoline and motor fuel in April. Trimmed mean inflation moved down slightly, by 0.1 percent annualized in April. That's the first negative trimmed mean that we've seen in the history of the data series, which goes back to 1977, although we had a cluster of zeros between December 2009 and October 2010. Of interest to me is, of the 178 components in the trimmed mean, 44 percent experienced a decline in April. That's very high by historical standards. So taking April into account, 12-month trimmed mean PCE ticked down to 1.3 percent from 1.4 percent.

Employment has been increasing at a rate of 175,000 or so a month and, much more importantly, cumulatively from one year ago, we have gone from recovering 50 percent of the jobs lost in the recession to a little over 71 percent. Looking forward, while slack is still high nationwide, we expect the trimmed mean or other measure of inflation to rise back up and stay below the 2 percent level for some time.

Both the Business Roundtable–types and the small businesses that I talked to reported greater-than-usual concern about the Affordable Care Act, as was also noted by President Lockhart. With each release that they get trying to clarify the act, it becomes more vexing to them and more vexing to a greater degree, especially to small businesses. They are quite worried and are the loudest complainers that I surveyed.

Finally, the consensus of the business operators I talked to is that any CEO who has not squared away the liability side of his or her balance sheet should be fired. From an operating

businessman's or businesswoman's perspective, what Sean referred to as a modest increase in interest rates—so, say, on the order of 100 to 200 basis points—would not be problematic to operating businesses. And the bankers that we talk to report they are actually not likely to be hurt by, and may benefit from, a modest rate rise—I don't know if the bias is unusual in my state, but I was interested to see that in Sean's report. Obviously, for CCCs and for those that are not creditworthy, this could be problematic, but I don't hear it from the business community, Mr. Chairman. Going back to the real economy where people are employed, I just don't hear a deep concern about increasing interest rates, because so many have been capable of taking advantage of the decline in rates.

I noticed in exhibit 5 of Jane's presentation that there has been a notable change in the risk assessment of this Committee. A majority of participants now say that the risks associated with their GDP and unemployment projections are broadly similar to the historical risk rather than elevated. You can see that in these little boxes on exhibit 5. So what I notice in looking through that survey is there's greater confidence in the outlook. Unemployment projections have been revised downward for 2013, 2014, and 2015. To me, the combination of a lower projected unemployment path and greater confidence in this path reinforces the case for dialing back, and I'll talk more about that in depth tomorrow.

With regard to our own forecast, this may frighten everybody, but I'm in the central tendency on every single front. Interestingly, for the first half of 2013, my GDP forecast, which was 2.2 percent, was the only one above 2.1 percent, and yesterday's pre-FOMC nonfinancial briefing revised the staff's forecast upward from the 2 percent figure published in the Tealbook to 2.25 percent. So I mention this not to brag, but just to scare the Board staff. [Laughter]

Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. I'm indeed disturbed, Mr. Chairman, that President Fisher has become "the new normal." [Laughter]

The Eighth District economy, like the nation as a whole, is growing at a modest pace. Year-to-date nonfarm payroll employment has increased about 1 percent in the District versus 1.7 percent nationally. A number of large firms with important operations in the District have recently announced District-based expansion plans. That's encouraging. The District's unemployment rate as measured across District MSAs is running at about 7.4 percent, still below the national rate but somewhat closer than it has been over the past year. Residential real estate conditions remain quite healthy in the District, and even commercial and industrial real estate activity is improving in many areas. District agro-business remains robust, although wet weather across the Midwest has delayed planting of some row crops, possibly damaging the outlook for yields and profitability in 2013. Eighth District banks have enjoyed modestly higher return on assets compared with national peer banks in the most recent data. A survey of bankers suggested an expectation of modestly stronger loan demand as the year progresses. Very few District contacts seem overly worried about the effects of the sequestration on their business. District transportation contacts indicated that recent readings on sales revenue and volumes have been choppy. Large firms in the District with global reach suggested that results from the international portion of their businesses were very mixed during the intermeeting period.

Nationally, financial market conditions have been somewhat more volatile over the intermeeting period. However, the St. Louis Fed's Financial Stress Index has drifted upward only modestly since our previous meeting and continues to show below-average financial market

stress. Accordingly, I do not think we are in the midst of especially difficult financial market conditions at this particular juncture.

For real growth, we had previously expected estimates of the annualized growth rate for 2013:Q1 to settle in closer to 3 percent, whereas current estimates are at about 2.2 percent. For 2013:Q2, which we had viewed as likely to be the weakest quarter of the year, our tracking and nowcasting models indicate a growth rate of 1.5 to 2 percent at an annual rate. The weaker first half numbers relative to our previous expectations have led us to mark down our forecast for all of 2013 to about 2.8 percent. This forecast still encompasses a stronger second half of 2013 with continuing improvement into 2014.

I would stress that, despite some jockeying in the numbers, the essential narrative for 2013 remains intact. The macroeconomic forecasting community generally counseled looking through the very weak 2012:Q4 growth rate toward a stronger first quarter, which turned out to be correct, and has warned that there would be some slowing in the second quarter, which also looks to be on track at this juncture. I think it is reasonable to continue to expect faster growth in the second half of 2013 as the projected scenario continues to play out.

Meanwhile, labor market conditions have continued to strengthen. Nonfarm payroll employment growth—we saw some of this in the staff presentation—averaged somewhat less than 150,000 per month in the six months to August 2012, but has stepped up to somewhat less than 200,000 per month in the period since September 2012. Unemployment has continued to tick down during this period, and I believe it will continue to fall through the remainder of 2013 and into 2014.

The key surprise for the national economy, as has already been mentioned several times, has been very low inflation readings. Headline PCE inflation, the Committee's official target

measure, is running at about 70 basis points measured from one year earlier. Other inflation measures, including core PCE inflation, have been running below target. Perhaps most worrisome, all inflation measures have been trending down since the beginning of 2012 despite the Committee's adoption of a very aggressive easing program, which was fully implemented last December when the remaining element of the Operation Twist program was replaced with outright purchases of Treasury securities.

My forecast is that inflation will, in fact, begin to turn higher as 2013 progresses. However, I prefer to see some evidence that such a movement is actually occurring before taking any important step with monetary policy. For this reason, I think we should remain in wait-and-see mode, at least for this meeting.

One way to think about the asset purchase program and inflation is to recall the events around the implementation of QE2 in the fall of 2010. At that point, inflation was low and trending down as it is today, but the program had a clear effect on inflation and on TIPS-based expected inflation, both of which rose sharply during the first half of 2011. At the time, QE2 was thought to be feeding into a global commodities price boom, which in turn raised headline inflation expectations in the United States. The increased inflation expectations drove actual inflation, including core inflation, higher. PCE core inflation measured from a year earlier moved close to 2 percent by the end of 2011, despite conventional measures of slack remaining very large. In the end, QE2 was successful in pushing inflation back toward target.

In contrast, PCE inflation has reached low levels today despite the full asset purchase program being in place since last December. Why? One missing element relative to the QE2 episode is that there is no global commodity price boom this time around, and the reason for that is quite clear. Europe, by some metrics the largest economy in the world, is in recession, and in

addition, Chinese growth rates are more subdued. Thus, the dynamic that occurred during the 2010 and 2011 episode is not in place this time around. That perhaps is not all bad. Much was said concerning the global commodity price boom in the first half of 2011, most critically that increasing commodity prices were a counterproductive side effect of the asset purchase policy, and that the U.S. growth rate was actually slower than it otherwise would have been due to this side effect.

This time, with the global commodity price effect off the table because of the European recession, we should expect that the effects of asset purchases on inflation expectations and actual inflation will take longer to materialize, which appears to be exactly what is happening. Accordingly, again, I counsel patience for now as we await more tangible signs that inflation is, indeed, moving back toward target. The Committee should, in my view, also be willing to contemplate the possibility that inflation will not behave as expected and will continue to drift lower. In that case, it would be important, in my view, to take action to defend our inflation target from the low side. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. The economy continues to improve, and I have been particularly encouraged by the resilience of private spending in the face of tax increases and the sharp government spending cuts. The fiscal drag is not completely behind us yet, but in the second half of this year and into next year, I see growth picking up as headwinds continue to ease and the economy gains further traction. Overall my outlook for growth and unemployment is similar to that in the Tealbook, and I view the risks as broadly balanced.

In conversations with my business contacts—that is, those who haven't moved to Texas—[laughter]

MR. FISHER. There won't be many left after a while.

MR. WILLIAMS. *Both* of my business contacts report. [Laughter] In those conversations, I'm reassured not only by what they say, but also by what they don't say. So everything related to housing is turning hot, hot, hot, and even outside housing, the tone is becoming a bit more positive. More of my contacts see consumers gaining confidence about jobs and turning more upbeat as the values of their homes and their 401(k) accounts climb. Now, just as importantly, my contacts say little about sequestration, fiscal austerity, or the weaker global economy, except as an afterthought. Although these are certainly risks to the larger economy, they don't seem to be looming as large in business plans and decisions today.

Regarding the labor market, since our April meeting we've seen two months of respectable job gains, and while the unemployment rate hasn't moved from the March reading, it's fallen markedly since we began our asset purchase program. Of course, the key question is whether the unemployment rate is currently giving us a reliable read on the strength of the labor market. One crosscheck on the unemployment rate is to compare it with alternative indicators of labor market slack from surveys of households and small businesses. Relative to last August, more households report that jobs are plentiful and more small businesses report having a job vacancy that's hard to fill. Over history, these indicators track the unemployment rate quite closely. Both are currently in line with an unemployment rate in the low to mid-7 percent range. That is, the current unemployment rate corresponds pretty well with public perceptions about the strength of the job market. More broadly, as I mentioned last time, a range of other indicators point to growing momentum in labor markets.

One worrying development is a continuing decline in inflation, now running well below its 2 percent longer-run target, and, like others, I see some of this slowing in inflation as

reflecting transitory influences. But that said, a reversal in transitory factors may not be immediate. For example, one of the transitory influences, the sequestration-induced decline in Medicare reimbursement prices, could produce echoes over time, since private insurance contracts are often renegotiated relative to Medicare prices but with a lag. Importantly though, the slowdown in inflation appears broad based. It's not just medical care or nonmarket prices. In the PCE data, almost 85 percent of consumer expenditures are on goods and services for which inflation over the past year has slowed compared with the year before. You have to go all the way back to the Volcker era to see such a widespread disinflation in the PCE prices.

My SEP submission takes into account the weak recent inflation data and still-considerable slack in labor markets but balances these downside factors with well-anchored inflation expectations. And so in this tug of war between the data and slack versus expectations, the recent data have pulled my inflation path slightly lower. I now expect inflation in the next few years to be a bit further below our 2 percent objective and to remain there longer. Nevertheless, my core PCE inflation forecast is only a touch lower than the Tealbook. Like the Tealbook, I expect both employment and inflation to remain below mandate-consistent levels beyond 2015. That is, we will be missing both objectives on the same side, a forecast that has long caused some consternation and puzzlement, including to some in this room.

In a research paper I'm presenting next month, I find that uncertainty about the effects and costs of unconventional policy can, in fact, make it optimal to aim to close employment, output, and inflation gaps, even gaps of the same size, slowly over time. This analysis pretty simply applies Bill Brainard's conservatism principle for monetary policy under uncertainty. Namely, it's optimal to attenuate or moderate the responsiveness of monetary policy to shocks when faced with uncertainty about the effects of policy actions on the economy. There has been

a lot of research that has explored the nuances and robustness of Brainard's conclusion. When it comes to conventional policy—the fed funds rate—I think past research has found that parameter uncertainty typically doesn't matter that much quantitatively, and I reach the same conclusion in my analysis. But when I look at unconventional policy, I find that policy attenuation turns out to be much larger, especially when thought of in terms of the current situation when conventional policy is already constrained at the zero lower bound and the focus is really on unconventional policy actions. To study this, I measure uncertainty about the effects of LSAPs using estimates from the research literature based on work done by economists at the Federal Reserve Banks and at the Board. And in my model, as I calibrate the model to the data, optimal policy aims to close gaps over several years. It's actually quite consistent with what you see in the SEP, the projection from the Committee, over the past year.

I should emphasize that this analysis argues for strong use of unconventional policy. I don't want to make it sound like it's an analysis that says you sit on your hands, but it does not argue for policy to the extent that would appear desirable absent uncertainty. Now, I worked this out for a specific model, and obviously there are caveats around that. But given the large uncertainty we face about the benefits as well as the potential costs of LSAPs that the model doesn't incorporate, I find that Brainard's conservatism principle does ring true to me.

This thinking also informs my views about the appropriate stance of monetary policy going forward. I continue to assume the funds rate liftoff will occur in the third quarter of 2015, and I continue to assume that we'll purchase around \$750 billion of assets this year in line with Tealbook, Book A. That said, like President Bullard, I would like to mention that if inflation does remain persistently low over coming months, which is not what I expect, that would argue for increasing the total amount of our purchases. Thank you.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. The recent private-sector data have been positive on balance. Consumers seem to be holding their own despite tax increases and very modest wage growth, and the labor market is doing considerably better than it was last September. Still, in a truly vibrant labor market, we would have seen a breakout in hiring, and some soft spots remain. For example, our temporary employment contacts have seen flat-to-negative orders over the past several months, and recent months' employment reports show that 200,000 each month is not yet sustainable.

The business sector also has lagged more than I expected. Investment has been sluggish, and we're not seeing any signs that cap-ex will turn around anytime soon. In a typical recovery, some lag in investment would be expected and the delay would not be especially noteworthy. But in the current episode with its extended period of high unemployment and continued consumer deleveraging, I think we need businesses to lead the recovery by more than what is typical. And so, especially in light of their relatively healthy financial condition—as President Fisher pointed out, any CEO worth their salt must have made improvements—I find this business sluggishness a particular downside concern.

Regarding my anecdotal contact reports, the news this time was better than the dour commentary I heard last round, but it's still far from uplifting. As you, Mr. Chairman, heard firsthand two weeks ago, my directors are stingy with their upbeat reports. Many of the director and business messages are pretty mixed, and that's an improvement. For example, both Caterpillar and Deere were relieved that their sales had not dropped off further. Still, their businesses are much softer than they had initially planned for this year. Even if sales improve in the second half of the year, these heavy-equipment manufacturers are unlikely to shift into an

expansionary mode with regard to cap-ex or hiring. Indeed, in the United States, they currently are contracting slightly by making small layoffs in mining and construction equipment manufacturing.

Among my international business reports, the general consensus is that Europe is doing horribly, but that the downturn may have bottomed out. At the same time, China's long-awaited rebalancing seems to be in train and appears to be heading for the lower range of expected growth, say, in the neighborhood of 6 to 7 percent.

On a positive note, when talking with the business community, it remains clear that our accommodative monetary policies are helping to support growth. My auto contacts continue to report strong light motor vehicle sales, and they cite attractive financing rates as an important contributing factor.

Although mortgage rates have risen recently, they remain low and help support the improved environment for home sales and residential construction. Increasingly, competitive lending rates for small businesses are also a positive factor. One of my banking directors who runs a medium-sized community development bank noted that small business customers are confident enough to seek concessions on rates and terms on bank loans. He said if a customer is hearing about deals getting done in the 4½ to 5½ percent interest rate range, they are coming in and asking for 3 to 3¾ percent. My last CDIAC meeting also had an extended discussion about greater competition for borrowers and broken interest rate floors. This isn't great news for bankers, but it is good news for small businesses. It's another sign that our policies are having broader competitive effects on the economy, and that's an excellent development.

My national outlook has not changed much since our previous meeting. We've revised our forecast for growth in 2013 down a bit. The main reason is that we finally threw in the towel

on the hope that a compromise agreement might scale back the sequestration. We've also brought down our inflation forecast some. Here, recent developments point to a substantial risk that inflation will undershoot our 2 percent long-run objective for much too long of a period, unless, of course, we have a sufficiently robust recovery.

Accordingly, in constructing my SEP projections under appropriate monetary policy, I assume a substantially more accommodative stance than the Tealbook. Specifically, we assume that our LSAPs continue through the first half of 2014 and that the funds rate remains unchanged until late 2015. I also assume importantly that our communications to the public convey a strong confidence that the Fed will employ our tools as long and as fully as necessary. With these policy assumptions, my SEP projections have growth accelerating to above potential in 2014 and 2015. This forecast is also premised on many normal recovery factors, including pent-up demand and the waning of deleveraging effects. Under our assumed appropriate policy path, the inflation trajectory reaches our 2 percent objective a bit more quickly than in the Tealbook's extended projection. It gets there in 2016, just beyond the SEP forecast horizon. In addition, our longer-run inflation projection displays a modest overshooting of 2 percent. I see this as being consistent with my reading of optimal policy in the monetary economics literature, and also with our view that appropriate policy takes a balanced approach and that inflation misses are symmetric about our 2 percent target. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. First Vice President Stefani.

MR. STEFANI. Thank you, Mr. Chairman. Qualitatively, the broad contours of the Cleveland forecast are little changed from the previous meeting and the previous SEP. I expect a gradual pickup in GDP growth, which will bring the unemployment rate down toward its natural rate and pull inflation up toward our 2 percent objective, broadly similar to the Tealbook

outlook. However, some of the details of the Cleveland forecast have changed, as the labor market has progressed faster than anticipated earlier in the year and inflation readings have surprised to the downside. So I'll focus most of my comments on these two areas today.

Starting with the good news, there have been a couple of developments that I find encouraging and that give some confidence that the labor market and the economy will continue to progress. First, despite fiscal headwinds, consumer spending seems to be holding up, and attitudes have improved. Second, as measured by job gains, the labor market continued to improve in April and May. My District contacts expect this labor market trend to continue in the coming months. In fact, one of the CEOs at a large paint producer and retailer in our District who claims to be one of the largest college graduate recruiters in the nation reported that he sees significantly more competing recruiters visiting campuses today compared with last year. Clearly, not all firms are back to normal in their hiring, but hiring plans seem to be moving in the right direction.

While the Tealbook also notes the increasing progress in labor markets, the recent progress does not narrow the Tealbook's estimate of the unemployment gap, since the staff has further revised down its view of the natural rate of unemployment over the next couple of years. This helps the staff, in our view, to reconcile the surprising employment gains given the mild GDP growth that we've experienced so far this year. However, as the staff memo on assessing the recent decline in the unemployment rate acknowledges, there are other reasonable explanations for the error in Okun's law and considerable uncertainty surrounding each possible explanation.

In my evaluation of the natural rate of unemployment, I continue to be guided by my staff's model of labor market flows. Their model uses current estimates of the long-run trends,

as well as flows from unemployment to employment and vice versa, to calculate an implied natural rate. The core of the model focuses on how well the labor market is matching unemployed people with job openings. So far, the model has not indicated that there is any better or worse functioning of the labor market since the recession. This has caused me to leave my estimate of the natural rate of unemployment at 6 percent, where the model says it has been for a considerable period of time. My staff's recent analysis of the economic environment would generally produce a lower amount of employment growth than we have been seeing recently, particularly if we're also experiencing demographically driven declines in the labor force participation rate. So I continue to be encouraged by the decline in the unemployment rate and the employment growth that the economy has experienced this year.

Now, regarding inflation, in preparing for this meeting, my staff spent some time assessing the surprising decline of PCE inflation and trying to better understand why PCE inflation measures have fallen to 1 percent, while CPI measures have edged down but stayed closer to 2 percent. They identified the global slowdown and appreciation of the dollar as important sources of disinflation in both the PCE and CPI measures. Reflecting these forces, import prices and the core goods component of both PCE and CPI inflation have sharply decelerated over the past year. The recent decline of PCE inflation relative to CPI inflation has been primarily driven by the services components of the two series. While inflation in a number of PCE services categories has slowed noticeably, inflation in core CPI services across a range of categories has stayed pretty close to 2 percent.

Low growth in labor costs, as measured by the ECI, is directly connected with today's low levels of inflation in both PCE and CPI services prices. With the labor market recovering and my business contacts expressing concern about increases in health-care costs, I do not expect

a further slowing of labor costs that could eventually pull services inflation lower. In addition, a range of measures of inflation expectations, including those from the Cleveland staff model, remain stable. Based on this analysis, I lowered my inflation forecast, but I continue to expect PCE inflation measures to gradually rise toward 2 percent.

As to the balance of risk around my outlook, I believe the risks are weighted primarily to the downside for GDP growth and to the upside for unemployment because of ongoing fiscal challenges in the United States and the potential for further slowing in growth abroad. I judge the overall risk to inflation as broadly balanced, with downside risks that a faltering recovery could pull down inflation and upside risks that a large balance sheet could eventually cause inflation expectations and, in turn, inflation to rise. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Economic activity in the Third District accelerated over the intermeeting period and is growing at a moderate pace. We have seen a pickup in employment growth as well as in manufacturing activity. Although business contacts remain cautious, they are expressing greater confidence in the underlying strength of the economy, noting the sustained recovery in the housing market.

Payroll employment in our three states increased 1 percent at an annual rate over the three months ending in April, comparable to the growth rate in March, which was revised up to nearly 1 percent. The unemployment rate fell for the third consecutive month to about 8 percent for the three states, its lowest level since March 2009.

After being basically flat so far this year, regional manufacturing activity increased significantly this month. Our June business outlook survey, which will not be released until Thursday at 10:00 a.m., shows a sharp rise in the general activity index, from a minus 5.2 last

month to a plus 12.5 in June. This is a very significant swing just in terms of magnitudes. The index of new orders and shipments moved into positive territory from negative levels in May. Capital spending plans also increased this month, and respondents continue to expect activity over the next six months to accelerate. The employment index improved, but not nearly as much.

Business contacts referred to big growth in warehousing and trucking in northeastern Pennsylvania. Warehouses for distribution and a scarcity of truck drivers are prominent in that area, to the point where several schools are being developed to train truck drivers to reduce the scarcity of drivers. I would also mention that, in competition with Disney, headquartered in Philadelphia is another large entertainment business that owns competing theme parks in both Orlando and in California, as well as other places around the world, and is reporting extraordinarily strong sales and attendance at all of their theme parks. They also are noting that advertising in their cable business is both strong and positive. They take these as positive signs about businesses' outlook for the economy going forward.

Housing market indicators in the District continue to improve. Rising home prices have gained some traction, and permits and sales are rising. Residential real estate contacts have grown increasingly upbeat about the sustained improvement in the housing sector. More generally, optimism has grown and broadened across the District.

Activity of the national economy continues to expand. Since our March SEP submissions, I have adjusted my forecast for 2013 down slightly to reflect the softer data we have received in the first half of the year. But I have made no change in my forecast for 2014 or 2015.

The Tealbook has been increasing its employment growth forecast and shifting its unemployment path down, reflecting faster improvements than they had anticipated at the onset of this LSAP program. The staff forecast for the level of employment in 2014 is on track to be almost three-quarters of a million people higher than the staff projected back in September 2012. Last September, the Tealbook saw the unemployment rate reaching 7.6 percent at the end of 2014. We are already there. So we are now 18 months ahead of our forecast when we started the LSAP program, yet we seem reluctant to reduce the pace of increasing accommodation. The current Tealbook now says the unemployment rate will fall to 6.6 percent by the end of 2014, 1 full percentage point lower than we anticipated when we started the program. During the past nine months, we have tolerated a change in expectations of the size and duration of our program from our original view of a \$500 billion to \$750 billion program that would end approximately now, to a \$1 trillion-plus program that extends well into 2014. And this is in spite of an economy that has exceeded our expectations when we began. How do we rein in a program when we have tolerated a view that ever-increasing accommodation will be forthcoming even as the economy improves faster than we expected? The failure to act today simply reinforces that view in the marketplace. It makes our task that much harder and the difficult adjustment that will take place in financial markets that much larger when it does occur in the future.

Inflation has been soft this year, running below our 2 percent target, yet at this point I am not overly concerned. Temporary factors, as mentioned in the Tealbook, account for some of the recent weakness. Interestingly, consistent with that view, our business outlook survey that will be announced on Thursday suggests that the indexes for prices paid and prices received also jumped markedly, from levels around negative or zero to moderately positive. So there seems to be a changing view about inflation, at least in terms of the manufacturers. That, to me at least,

provides some suggestion that the low rates of inflation may be coming to an end. Thus, I am projecting that inflation will return to our 2 percent target by the end of the forecast horizon. However, I continue to see upside risk to inflation over the medium to longer term, given the extremely accommodative stance of monetary policy and our apparent unwillingness to restrain increasing accommodation.

However, if lower inflation expectations do become a concern, then we should emphasize that, as the recovery takes hold, we will manage the growth of money and credit to ensure that inflation returns to target. I do not believe that increasing the already enormous monetary base will have much of an impact on anchoring expectations. The mechanism for large asset purchases in anchoring expectations is a mechanism that says that we will commit to allowing this money that is now going into reserves to flow into the economy, and that the larger it is, the greater commitment that represents. Another way of saying this is, now that we have ample reserves in the banking system, we can allow those reserves to flow into the economy as it improves, to generate almost any level of inflation we want. I do not believe that adding another few billion dollars to that stock of reserves will make that task any more or less credible at this point.

Based on my forecast and assessment of the costs and benefits of LSAPs, I would like us to begin dialing back the pace of asset purchases today. I think doing so is consistent with the forward guidance we have offered the markets. We should emphasize that, if we reduce the pace of purchases, we will still be increasing the degree of policy accommodation. With a balance sheet of \$3.4 trillion in assets and growing, policy remains extraordinarily accommodative and will be so for some time to come. Without a reduction in the pace, our balance sheet will exceed \$4 trillion before the end of this year. If we don't do something about it, the LSAP program will

be considerably larger than what the Tealbook is essentially assuming. As the volume of reserves continues to expand, the risks posed for our eventual exit grow as well. Thus, should the economy evolve as anticipated, our goal should still be to conclude this purchase program before the end of the year to mitigate some of those risks.

Finally, I have become increasingly concerned that we are letting the expectations of market participants drive our policy decisions, at least at the margin, rather than the other way around. We should not be deterred from acting simply by the fact that market participants are not anticipating a slowdown in the purchase pace at this meeting or because markets have been very volatile in recent days. One should expect volatility to increase around FOMC meetings, particularly if an action might be called for. I believe we should attempt to remedy this, and I will have some suggestions about how to go about doing that in the next round. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. The signals we have received over the intermeeting period suggest generally strengthening conditions in the Fifth District. We have preliminary numbers from our manufacturing and services survey, which is to be released next Tuesday, and they show the index has stepped up quite smartly in June, moving back into the plus column after having slipped below zero in recent months. The overall manufacturing index went from minus 2 to plus 9; orders swung from minus 10 to plus 10; shipments from 8 to 12. The services sector index went from 11 to 18. The general tone of anecdotal comments has been improving as well.

Having said that, for some time now business contacts have been reporting apprehension about the effects of the Affordable Care Act, like some other Districts that we have heard about

today. In our District, one banker on our board is rewriting a loan to a company that operates a chain of fast-food franchises. The company is splitting into separate legal entities, so that each individual franchise is under 50 employees, so the loan is going to have to be restructured into a number of legally different loans. At the end of the day, I think evasive maneuvers like that might not put much of a dent in employment. I mean, after all, the franchise will still probably have as many people working at it as it would have had. In fact, it may even enhance the demand for lawyers, whatever that is worth. But what I worry about is the managerial bandwidth devoted to planning and executing maneuvers like that, and the extent to which that might detract from activities that would generate new jobs. This is on top of the implicit tax on labor that some of the provisions generate. Uncertainty and apprehension are high within the health-care sector itself as well, because the ACA changes are coming in the midst of other significant structural changes to the industrial organization of that sector.

In contrast, housing is a particularly bright spot in our District. Realtors, bankers, and other observers in many of our metro markets report homes frequently getting multiple offers and selling quickly at prices above the asking price. Available inventory is thin in a number of markets. Some builders are citing a shortage of lots, although these complaints come mainly from small builders who say that larger competitors have been able to use lots that they held onto during the recession. Builders have also been expressing concerns about bottlenecks in the supply of materials, although there is some evidence that these are easing. The imminent reopening of two mothballed lumber-products plants in the Southeast is projected to increase domestic capacity by about 6 percent, and lumber prices have fallen significantly in the past three months.

With about 25 percent of federal employment being in the Fifth District, we have taken a keen interest in the effects of the sequestration. Late last year and early this year, some economists published estimates of the likely impact, both regionally and nationally, that were very large. We have been surprised, however, at how little we have heard about direct effects of the sequestration cuts. The broad, dramatic effects on employment that were projected for the region do not seem to have materialized yet. In hindsight, it is clear that many forecasters did not appreciate the extent to which the needed cuts would be accomplished through furloughs as opposed to outright layoffs. In addition, some forecasters failed to account for the difference in timing between authorizations and outlays, which is fairly significant. In addition, some economists seem to have been relying on the ever-popular stadium impact methodology which generally tends to overestimate the economic impact of a new stadium. Many of the planned furloughs are not scheduled to begin until July, although in many cases, plans were announced several weeks ago.

For the affected workers, a furlough acts like a tax, assuming it is difficult to replace the lost hours. So you would expect workers to spread out the effect of lost income to the extent that their financial resources would let them do that. In that case, the affected households may have begun scaling back spending already, but the ultimate magnitude of the effect on their spending should depend on whether they see the furloughs as relatively temporary or relatively permanent. Unfortunately, our political leaders aren't making that assessment very easy. In any event, it seems clear that the sequestration is not going to be as painful as predicted by earlier published estimates, at least from the reports we have seen.

The sequestration and the outlook for the federal budget, and federal budget austerity more broadly, figure into the national outlook as well. This is because the waning of fiscal drag

that has been talked about earlier today is one factor that is expected to contribute to a pickup in growth over the course of the next year or so. This is an example of various headwinds that are often cited as temporarily holding back the economy. The anticipation that headwinds will die out in coming quarters is often cited as reason to expect an acceleration in growth. For this and other reasons as well, I have spent most of this recovery expecting real GDP to accelerate significantly within a few quarters.

As time has gone on, however, my conviction has faded, and I have been steadily reducing my forecast. In part, I view this as simple Bayesian updating. Since the recession, real GDP growth has remained remarkably close to 2.1 percent. In fact, since the end of 2009, the level of real GDP has always been within 0.3 percentage point of a 2.1 percent trend line. The longer real GDP growth comes in so close to that slow trend, the more credence we have to give to the view that this is, and will continue to be, a persistent feature of our economy. For this SEP submission, I have more or less capitulated, and I am no longer including a spurt of above-trend growth in my projection. Accordingly, my forecast for real GDP growth is 2.1 percent this year, followed by 2¼ percent for the following two years. This slight acceleration reflects a slight reduction in fiscal drag over the next few years.

There are other restraining factors that are sometimes cited as limiting growth, but I don't see them as likely to retreat much in the near future. For example, uncertainty about fiscal policy seems unlikely to abate anytime soon. Our political system keeps delivering a succession of short-run compromises, and prospects for a multiyear grand bargain seem to have fallen quite substantially in recent months. Uncertainty about implementation of the Affordable Care Act is likely to take a couple of years to resolve. And even when uncertainty does get resolved, the act, as I said, is going to increase the effective tax on labor inputs for a number of firms, and that is

going to damp growth, at least for a time. Other anticipated regulatory burdens, be they financial, environmental, or labor-related, seem unlikely to diminish substantially over the next few years. And, moreover, a case can be made that regulatory uncertainty may rise as 2016 approaches.

The cautiousness of American households appears to be the broadest current restraint on growth. Households have accomplished a considerable amount of deleveraging, but average household net worth has not fully recovered to its pre-recession peak, and a large number of home mortgages are still underwater as well. Consumer underwriting standards have shifted significantly since before the recession, but I see credit availability as less of a binding limit on current outlays than as an important influence on households' balance sheet strategies. Households appear to be less willing now to rely on unsecured credit to finance general consumption or to buffer future personal financial shocks. This is a point that President Kocheerlakota has made several times. I think consumers' caution about spending is also being driven by the prevalence and severity of the financial shocks households suffered during the recession. I think those memories aren't likely to fade soon. We may see a modest consumption blip from the wealth effect of rising stock and home prices, but in this labor market environment, I doubt that wealth effect will be sufficient to fuel a robust pickup in spending. As a general matter, I think labor income prospects—that is, human capital—tend to trump financial capital as a driver of spending. As a result, a sustained acceleration in household spending seems quite unlikely to me without faster income growth. I recognize that a forecast of 2¼ percent growth for the foreseeable future might seem improbable, given the U.S. historical growth record. The average over the second half of the past century was 3.5 percent, for example. I am not claiming that 2¼ percent growth is going to last a half century. In fact, I think longer-run prospects for the

U.S. economy look reasonably bright. You made the case very eloquently in a recent speech, Mr. Chairman.

But I think there are good reasons growth could fall short for several more years. Over eight-tenths of the difference between overall growth now and growth in the late 20th century is attributable, in the standard growth accounting sense, to lower growth in labor productivity. And labor productivity growth has shown sustained swings of similar magnitudes that lasted several years in the past. Almost four-tenths of the difference in growth between now and the late 20th century is attributable, again, in the standard growth accounting sense, to lower growth in the working-age population. These both seem like structural factors that are likely to persist, so I don't see lower growth as something monetary policy can offset or end. Thank you very much, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. Growth in the District continues, with strong employment gains in the construction and service sectors. The District's manufacturing survey showed activity expanding in May after several months of decline. The outlook for the housing sector remains strong even as low inventories threaten to constrain the pace of sales in some areas. Agriculture remains positive, with strong demand from emerging markets. However, farm incomes may weaken somewhat heading into 2014 because of an expected increase in corn inventories and lower prices. Most producers, I think, should be able to weather a potential downturn in income, but those who are more highly leveraged could face difficulties. Finally, oil drilling activity in the District continues to expand, while natural gas drilling has declined further. Our energy contacts remain optimistic about future levels of activity because of high oil prices, increasing natural gas prices, and increasing opportunities for export activity.

Regarding the national economy, my forecast is largely unchanged since the previous meeting. Despite 1½ percentage points of fiscal tightening this year, the economy continues to grow at a moderate pace of about 2 percent. Moreover, as the economy continues to recover, I expect growth will pick up to about 2½ percent in 2014 and 3 percent in 2015. The pickup in growth reflects an improving labor market, rising household net worth from both the stock market and housing, and modestly higher foreign growth. Housing, in particular, I think, remains positive. For example, I note that the Tealbook projects house prices are likely to rise more than 10 percent this year, which would mark the second consecutive year of nearly double-digit increases.

We also continue to see improvements in the labor market. More than 2 million net new jobs have been created over the past year. Measures of labor market slack have been steadily declining since 2010, and employment growth continues to outpace what is needed to absorb population growth. Other indicators, such as the BLS employment diffusion index, continue to show that the recovery in the labor market has breadth, as far more industries continue to add jobs relative to those industries reducing employment. For example, that 12-month diffusion index has remained around 70 since early 2011. By comparison, it remained near 60 between 2004 and 2007 when the previous expansion was in high gear. While a faster pace of overall employment growth would be preferable, the broad base of industries adding jobs is reassuring.

We have also seen indicators like the quit rate move higher over the past year across a number of sectors. A higher voluntary quit rate suggests workers are increasingly finding better labor market opportunities. The layoff and discharge rate has also moved lower and remains near its 10-year low. Wages and salaries in goods-producing sectors have also started moving a bit higher, while nominal wage growth in the service sector has remained between 1½ and 2

percent. Combined, these observations suggest that while slack remains in the labor market, the overall trends are positive.

As others have noted, recent inflation readings and the decline in longer-term inflation expectations bear watching, although the softness appears likely to be temporary. The deceleration in the core CPI price index has not been as pronounced as the PCE, and wage inflation has held steady. Both of these factors, combined with expectations for stronger growth in employment, suggest PCE inflation should gradually firm.

In terms of financial stability, I appreciate the staff analysis and their conclusions, as best they can judge, that the near-term risks to financial stability appear low. Yet, as risks surface in multiple areas, I remain concerned that they are symptomatic of conditions that give rise to excessive risk-taking, reaching for yield, and distortions in asset prices. Given our open-ended asset purchases and an extended period of near-zero rates, I expect that strong demand for these riskier assets is not likely to abate. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I'll discuss three aspects of the economy. I'll talk about conditions in the Ninth District. Then I'll talk about the issue of whether we've seen substantial improvement in the labor market outlook since September 2012, and I'll talk about recent behavior in financial markets. My overall theme will be that uncertainty remains a strong force in giving rise to weak macroeconomic outcomes. I think we can best reduce that uncertainty by strengthening the perceptions of our commitment to mitigating deviations of prices and employment from our long-run goals.

The situation in the Ninth District continues to be considerably stronger than in the nation as a whole. For example, the unemployment rate in the District is below 5.5 percent. Per capita

personal income in 2012 in the District rose above 2007 levels, whereas the nation as a whole still remained short of that. Correspondingly, there have been stronger gains in employment than in the national economy. But despite these relatively good outcomes, I would say that our business contacts largely reported only cautious optimism about the national and global economy. Contacts used words like “fragile” to describe perceptions of the state of the broader economy. Surprisingly, many of our contacts used the same term, “post-traumatic stress disorder,” to refer to their view that this lack of confidence stems from memories of 2008 and 2009. My own conclusion from these conversations is that we, the Federal Open Market Committee, should be providing as much certainty as we can about the evolution of the macroeconomy. Our commitment to mitigate deviations of prices and employment from their desired levels helps along this dimension by assuring the public that we’re doing what we can to eliminate undesirable macroeconomic fluctuations.

With that in mind, let me turn to the labor market. In September 2012, we said that we would continue to buy assets until there was a substantial improvement in the labor market outlook. My staff and I pored over a number of labor market indicators to try to see if we could see something, at least in conditions—I don’t know about the outlook—that looked like a substantial improvement. This echoes President Lacker’s remarks of the flatness of the recovery. If you look at payroll employment growth from November 2012 to May 2013, it’s a little under 200,000 per month. If you went back from November 2011 to May 2012, it was just a little over 200,000 a month. It looked very flat. If you look at a graph of six-month averages of payroll employment, it looks like a flat line. There is no sign of really any kind of acceleration in the past six months. If you were to really be hard-nosed about it, you could say in the past three months we’ve actually seen a deceleration of payroll employment growth relative to those

numbers I was just citing. I have to say, it doesn't seem like employment is growing faster than population, because the fraction of people over the age of 16 who have a job remains pretty much the same now as it was in late 2009, when I became president. It's hard to see an improvement in those conditions.

After doing all that work, I decided we were asking the wrong question, because I decided the right way to think about this is something different. Regardless of how we want to define substantial improvement, if we reduce asset purchases because we see the labor market outlook as being good enough—or “substantial,” whatever word you want to use—we'll be sending the same strong message about our policy goals. And we should only be stopping or reducing purchases based on the labor market outlook if we want to send that strong message.

Okay. So what's the message I'm talking about? Our labor market policy goal is to mitigate deviations of employment from its desired level. Suppose we say that the labor market has improved enough for us to reduce accommodation by cutting back on the flow of purchases. Then apparently our labor market outlook without that forgone accommodation is such that we have succeeded in mitigating deviations of employment from its desired level. In other words, if we announce that the labor market outlook has improved sufficiently for us to reduce the flow of purchases, we are telling the public that we think that the projected rate of labor market improvement is, in fact, what we're aiming for. Otherwise we presumably would keep the flow of purchases in place. If we ever want to reduce the flow of asset purchases without sending this message that we're happy with the outlook going forward and that it represents our goals for employment, we need to be sure to take actions and engage in communication that convinces the public that this is not the message we're trying to send.

I see two ways to do that, and I'll talk about this more in the next go-round. One is what sort of falls in what President Williams just was talking about, that we have talked explicitly about costs and why we don't want to be taking these further actions because of concerns about costs, and we should be replacing the lost accommodation in some other way. But I'll talk more about that next time. This is the point I was trying to make: Whenever we reduce the pace of purchases based on the outlook being good enough, saying there's substantial improvement or whatever in the outlook evolution that leads us to reduce purchases, we're saying that we're satisfied with that outlook.

This point is a natural lead-in for my final point, which is about the behavior of financial markets over the intermeeting period. Five- and 10-year Treasury yields moved up sharply, by about the same amount, since we previously met. Now, you could attribute that increase to two possible factors. First, it could be that financial markets perceived the economy as having improved. So the FOMC will be able to meet its inflation and employment goals with less accommodation in place. That's good news. But, second, it could be that financial markets perceive us as deciding to follow policies that will give rise to lower inflation and employment paths than they previously thought. That's bad news. After all, the whole point of our long-run goals and strategy statement was to eliminate exactly these kinds of fluctuations in perceptions about our policy goals. Those perceptions were supposed to be hammered down for people in their heads. As usual, there's probably some of both going on, but I saw two suggestive signs of the second, undesirable effect. I saw a third, of course, today, with the Survey of Primary Dealers basically saying that it is confusion about monetary policy and its goals that's driving what's going on in financial markets.

But beyond that, just looking at prices themselves, the first is depicted on page 52 of Tealbook, Book A. The implied expectations of the date of liftoff of the fed funds rate moved in considerably, and the size of the movement just seemed much larger than can possibly be justified through changes in expectations about the underlying strength of the economy. The second is that the 5- and 10-year inflation breakeven rates in TIPS and swaps both fell noticeably. This is saying that markets expect us to follow policies that will give rise to less inflation than they previously thought, at least in some states of the world.

I just don't see these shifts in market beliefs about our objectives as at all surprising, in light of the public conversation about tapering. As I just argued, if we're going to go out and say that the labor market outlook is strong enough for us to go about reducing purchases, the public and markets are likely to conclude that we're satisfied with that macroeconomic outlook. It's not surprising then that discussions of tapering have led markets to shift back the perceptions of the inflation and employment paths that we're seeking to achieve.

Mr. Chairman, households and firms remain uncertain about the evolution of the macroeconomy. We can best fight that uncertainty—we can't eliminate it, but we can fight it—by making our long-run goals and strategy as credible as possible. Under your leadership, we enhanced that credibility through our public communications and decisions in September of last year, in December of last year, and again in January of this year, with a reaffirmation of our statement of long-run goals and strategy. Not surprisingly, that enhancement of credibility has been associated with the diminution of risks to the labor market outlook that are highlighted in the draft of alternative B. We need to continue to move in this positive direction of making those long-run goals and strategy credible, and in the next go-round I'll say more about how we can do that. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. My views haven't changed significantly since the previous meeting. I'm still uncertain about how the tug of war between the large amount of fiscal drag and improving underlying fundamentals will play out.

Relative to the Tealbook, I'm a bit more pessimistic about the near-term outlook—that is, that the growth rate during the second half will pick up appreciably. As I noted at the previous meeting, I don't see the factors in place for an early reacceleration in economic activity. Fiscal drag and slowing growth abroad are significant constraints. They are likely to offset to a large degree the positive effects of the housing recovery and higher household wealth. My assessment is that since the previous meeting, the data have been mixed at best. While it's true that consumer spending has held up quite well and housing is recovering, against this you have lack of momentum in terms of investment, weakness in manufacturing activity, signs that growth abroad is still slowing, and a tightening of financial market conditions. With respect to financial market conditions, it's true that stock prices have held up relatively well, but in terms of fixed-income markets, we've had a roughly 50 basis point rise in long-term Treasury yields and comparable rises in other corporate bond and mortgage rates.

With respect to labor market conditions, I would characterize the recent payroll employment gains as high relative to the growth rate of economic activity. In other words, I think they overstate the improvement in the labor market. Also, when I'm looking at the labor market, I'm struck by the fact that the hiring rate remains depressed and has not improved much over the past few years. The improvement in net hiring has come almost exclusively through a slowdown in the pace of layoffs. So my conclusion from that is the labor market is still far from being healthy.

On the inflation side of the ledger, I'm getting a bit more concerned that inflation will stay too low relative to our objective, compared with the previous meeting where I was relatively unworried. That's because inflation expectations, as measured by the five-year, five-year-forward TIPS breakeven yields, have come down about 30 basis points since the previous meeting. You could argue that we're still broadly within the range of recent years, but if the downward trend were to continue, then you'd have to say we were in some more troublesome territory. We'd be getting back to where we were in the fall of 2010 and, in that case, the idea was that inflation was going to go up because inflation expectations were anchored; that would be a less-compelling argument now, in my opinion.

The biggest issue I have currently is that there seems to be a bias toward rushing to judgment in terms of dialing down the pace of asset purchases. It's important to resist the impulse to parse the data in a way to justify an early reduction. If we try to do that, we're risking our credibility. We should be balanced in our assessment of the data. The fact is that the payroll gains we've seen overstate the growth momentum of the economy. If in subsequent months the data are consistent with a dialing down of the rate of asset purchases, I'll be very supportive of such an action. I won't be happy, however, if what we do is rationalize why it's okay to dial down when such an action is not really supported by the data and the outlook. If we do that, it could be viewed as broadly inconsistent with our prior commitment, and that would risk our credibility. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. My SEP forecast is broadly similar to the Tealbook. It shows real GDP growth picking up noticeably over the next two years from the roughly 2 percent pace we've been experiencing for some time. As actual output growth

outstrips potential, I anticipate further declines in the unemployment rate and a gradual rise in inflation back toward our 2 percent objective. My current outlook for growth in 2013 is now somewhat weaker than what I penned last September at the outset of our asset purchase program. Even so, the unemployment rate has come down faster than I had expected. Inflation has also fallen noticeably, rather than edging up as I projected. I see the magnitude of downside risks as lower now than late last summer when European financial markets seemed closer to a meltdown, but I continue to see the risks as weighted to the downside.

Starting with inflation, the trend in the readings we have received over the past year is disturbing. On a 12-month basis, total and core PCE inflation through April were down 1.2 and 0.8 percentage points, respectively, from a year ago. The trimmed mean CPI and chained core CPI have also slowed markedly over the past year, and core import prices have been essentially flat. But, of course, inflation data can be noisy even when measured on a 12-month basis, and I agree with the Tealbook that some of the recent weakness reflects temporary factors. If our conventional models provide a reasonable approximation of inflation dynamics, then assuming longer-term inflation expectations remain stable, PCE inflation should gradually move up to 2 percent as the economy continues to recover. As a modal forecast, the Tealbook projection, therefore, makes eminent sense. At the same time, I think the odds are much higher that inflation through 2015 will come in noticeably below this projection than above it, for several reasons.

First, the two transitory factors cited by the staff, nonmarket prices and sequestration-related Medicare price cuts, are only part of the story of the past year's deceleration. Core market-based PCE inflation over the past 12 months is also almost 1 percentage point lower than it was a year ago, and the past year's marked slowing in price increases for health-care services, even if—and it's a big if—it is entirely transitory, contributed only 0.1 percentage point to the

overall deceleration in PCE prices. As President Williams noted, the deceleration in core consumer prices hasn't just reflected weak readings in a couple of categories but was widespread across major components.

Second, stable long-run inflation expectations won't necessarily prevent inflation from moving lower or even morphing into deflation. As Thomas showed during the chart show, Japan has experienced moderate deflation for years despite long-run inflation expectations near 1 percent.

Third, some measures of expected inflation show signs of slippage. TIPS-based five-year, five-year-forward inflation compensation is down 35 basis points since the April meeting, and the Cleveland Fed's measure of expected inflation has fallen below 1½ percent, down from 2 percent a couple of years ago.

Turning next to the pace of economic growth, I'm concerned that it could remain frustratingly slow. I don't mean to deny the signs that a self-sustaining, robust recovery may finally be in train. Clearly, house prices and conditions in the housing market are improving. Stock prices are up markedly since the turn of the year, and consumer sentiment has risen notably. Perhaps most importantly, the economy appears to have expanded at roughly a 2 percent pace during the first half of the year despite considerable restraint from fiscal policy. If the staff's estimates of fiscal impetus are correct, the direct drag from fiscal policy should lessen appreciably going forward, allowing growth according to my forecast to pick up from around 2½ percent this year to just over 3½ percent by 2015.

While my forecast, like that of the Tealbook, assumes a significant pickup in growth starting in the second half of this year, I'm mindful that we have repeatedly predicted that the recovery in output and spending was about to shift into a higher gear, and we have repeatedly

been wrong. Moreover, Tealbook's growth and unemployment projections are, respectively, at the high and low ends of the Blue Chip consensus. The risk that we will be disappointed yet again is considerable, given that, as Tealbook notes, much of the projected acceleration in real activity rests on the emergence of a mutually reinforcing dynamic of increased confidence, declining risk premiums, improving credit availability, increasing spending, and greater hiring, a virtuous circle that is hardly guaranteed to emerge and that could easily be derailed by an adverse shock.

To see the importance of this hoped-for dynamic, consider how the staff outlook would change if risk premiums, equity prices, home prices, and the real exchange rate were to remain flat at their current levels instead of continuing to improve substantially as the Tealbook projects. Based on a FRB/US simulation, the answer is that real GDP would expand only 2.7 percent per year on average in 2014 and 2015, as compared with 3.5 percent in the Tealbook. Under such circumstances, the improvement in sentiment, credit availability, and firms' willingness to hire would presumably also be less than the Tealbook anticipates, something not factored into the simulation, and so growth would ratchet down further. This exercise illustrates the fragility of a key driver of the projected acceleration.

Finally, we need to be wary about assuming that the Tealbook is, in fact, correct in its assessment that the economy is currently managing to expand at a roughly 2 percent pace despite considerable fiscal restraint. Indeed, some of the near-term business indicators are worrisome: Industrial production has been weak, orders and shipments of nondefense capital goods have been soft, business sentiment appears to have deteriorated, and capital spending plans are at mediocre levels. Also, while overall consumer sentiment is up, households' income expectations

remain remarkably pessimistic. These data could signal that growth will be softer than we anticipate.

Turning finally to the labor market, I agree with others who have noted that, on some dimensions, conditions in the labor market have clearly improved since September. The unemployment rate has fallen considerably more than I had anticipated. Aggregate hours have grown more rapidly, and the level of payroll employment is substantially higher, although we need to be careful not to overstate the degree to which the level of employment has improved since September, as some of the surprise reflects benchmark revisions to the historical data.

On other dimensions though, the evidence for improvement is less clear. Importantly, the labor force participation rate has fallen by roughly 0.4 percentage point, 0.3 percentage point more than the staff anticipated last September, with the bulk of this decline attributed by the Tealbook to cyclical, not trend, factors. In addition, the duration of unemployment remains remarkably high. Quits have edged up slightly but remain far below levels consistent with a normal labor market, and the number of people working part time involuntarily has barely declined.

On balance, I think the data indicate a welcome improvement in labor market conditions, but one that is still somewhat modest. How confident should we be that labor market conditions will continue to improve over the second half of the year? I anticipate moderate gains in payroll employment in the coming months, with the unemployment rate falling a bit more by the end of the year, but only if GDP growth actually accelerates, as I and the Tealbook forecast. A pickup in growth is essential for me to feel confident that there will be ongoing, substantial improvements in the labor market.

The Tealbook's "Headwinds" alternative simulation provides some insight into how things might evolve if growth instead were to continue to muddle along at about 2 percent through 2014. In this scenario, unemployment edges down only very slightly through the end of next year. Moreover, the small improvement that does take place occurs only because the staff expects that continued improvements in labor market functioning will allow some expansion in employment even with GDP growth at its long-run trend, a point on which I do not find the evidence convincing. In any event, my main point is that we will need at least a few more months of labor, spending, and production data before we can be reasonably confident that the economy has weathered the fiscal shock and that the labor market will continue to improve.

So where does that leave us? Imagine that we're on a road trip from San Francisco to New York. We'd anticipated pretty arduous driving conditions across the Sierra, so right about now we thought we'd be on the outskirts of Salt Lake City. Instead we've made it all the way to Denver. It is great we have made such progress. Now it's entirely possible, and I'm optimistic, that our velocity on the remainder of the trip will match what we've achieved so far. But it's really quite premature to conclude that, and it's still quite a long way to the Mississippi River, let alone to the Lincoln Tunnel. Is this the right moment to ease up on the gas pedal? I don't think so, and I'll have more to say about that during the policy round.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. Conversations with my banker interlocutors—previously known as contacts [laughter]—indicated very little change in banking conditions. Loan demand is still weak. Competition remains fierce. Credit quality is improving rapidly. And, in fact, several noted that problem assets are moving more quickly and at prices significantly above appraised value.

All but one of the large banks noted a very preliminary, but still noticeable, strengthening in demand for small business loans. Most of the smaller banks, whose overall lending is indicative of small business demand, reported the same pickup. Everyone cautioned that the change was very recent, and no one was willing to call it a trend, but the fact that it came up so often is worthy of attention. And it seems to corroborate the strengthening and the sentiment reported by the NFIB.

As you might expect, banks in the mortgage business reported falloff in refinance applications as mortgage rates spiked up. But for the same period they reported that purchase loan applications increased. It is still early, but I view this trend as reassuring that the improvement in housing demand is being driven by more than low rates, and, thus, may be able to withstand some backup in the rates. Unfortunately, mortgage conditions are still extremely tight. To the extent that tight mortgage credit is being driven by concerns about the outlook for the economy or house prices, credit conditions should improve as the underlying fundamentals do. But I think it highly likely that a good portion of the tightness results from regulatory changes and uncertainty about the regulatory environment. So in addition to our monetary policy actions, I think it is imperative that we, as regulators, do everything we can to finalize regulatory proposals and continue to measure the accumulated effect of all of the regulatory requirements enacted since the financial crisis. It would be a real shame if potential homeowners who are currently shut out of cheap credit by tight underwriting find that, by the time we get credit flowing to all creditworthy borrowers, house prices and interest rates have moved up so much that homeownership remains still unaffordable to them.

Despite the fiscal headwinds, I believe the economy is finally beginning to find its legs. Consumer sentiment, business sentiment, and homebuilder confidence all point to recovery.

Household balance sheets, corporate balance sheets, and the financial system have all strengthened, and I would say are now quite supportive of recovery. The strength shows through in private spending levels that keep surprising to the upside. The weak payroll reading we saw earlier has been revised up. And while monthly jobs are not being created at the pace we would like to see, job creation is stronger than we might have expected in the face of the sequestration. Early in the year, staff was suspicious of the drop in the unemployment rate, but it now seems quite real and likely to be sustained. Such progress may not meet the standard of substantial improvement, but I do believe it is notable and should be reflected in our policy decisions and our communications.

I hadn't planned any comments on inflation, but I just have to say I think it must be somehow important that, despite lower inflation readings, the price of happiness is going up in "The Happiest Place on Earth." [Laughter] So, Mr. Chairman, I continue to have confidence in my somewhat-optimistic forecast.

CHAIRMAN BERNANKE. Would you like to elaborate on that place?

MS. DUKE. Disney.

CHAIRMAN BERNANKE. Oh, Disney. I actually thought about Bhutan. [Laughter]

MR. FISHER. This is the new Mickey Mouse indicator.

CHAIRMAN BERNANKE. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I think this go-round was going about according to form until we got to Jeff. And I am still trying to absorb the cumulative effect of Jeff's, Narayana's, Bill's, and Janet's interventions. But I think roughly the following is what I take from them, which is that Jeff is the only one of the four who has fundamentally changed the outlook that he puts forward, although not his monetary policy prescription. I found Janet's

intervention most interesting because there was such a dichotomy between her projections and most of her analysis, which presumably reflects her uncertainty about the projections. And Bill kind of loaded up on the pessimistic end of it.

What I take from all of that discussion is that, first, I join Janet in having observed that continually for the last four years the staff and many people on the Committee have seen a burst in growth just around the corner which is, to use my favorite metaphor, like the green light across from Gatsby's deck that keeps receding into the future at all times. And the question now is whether this time is different. The argument for the proposition that this time is different is some combination of the view that deleveraging and some of the other obvious headwinds associated with the crisis and the recession have abated significantly enough that you can now have people building up credit again, and some burst of growth—along with the view that the sequestration and the tax increases have been putting some constraints upon growth. If you project out to the point at which the sequestration and tax increases are not going to be constraining, at least anew, then growth would look pretty good. At this point, that is the question for all of us: whether Jeff's capitulation comes just at the point where his previous view would have been vindicated—

MR. LACKER. Just in time. [Laughter]

MR. TARULLO. —or whether, on the contrary, Janet's downside concern and the position reflected in Jeff's capitulation turn out to be the better analysis. And, like Janet, I think it is going to be hard to tell whether that is the case, at least for a little while yet.

But that does seem a pretty consequential question, because it is going to implicate the question not only of the continuation of the purchases but also what kind of impact we think the more accommodative monetary policy will have over time. I think many of us would draw from

that assessment that more accommodation was needed, but presumably at least some of us would draw the conclusion that monetary policy is going to remain relatively ineffective in counteracting those tendencies until there are some more structural changes in the economy. At some level, that has always been the issue before us, but I felt it was presented in starker relief today than it has been for some time now.

I have a bunch of stuff here, most of which has already been said by other people, so I won't repeat it. I will just say a couple of things on labor markets. And this, in a sense, builds on what Esther said, although I think it leans in a slightly different direction. The point I was going to make around labor markets is essentially that, regardless of what you think about how much improvement there has been, there is quite likely a substantial amount of room for further improvement. Thus, there is a substantial amount of need for further accommodation. To begin with, though, it is probably worth reminding ourselves how many currently important questions about labor markets don't have particularly good answers right now. For one, we don't have a good explanation for the decline in the labor force participation rate, one that is noticeably greater than the trend which was assumed prior to the recession. We don't know, as several people have already alluded to, whether the quits, layoffs, job openings, and other indicators of labor market dynamism will return to pre-recession levels or, as in the past two much milder recessions, they will never get there. And we don't know whether, given the severity of this recession, the change to a new normal will be even greater. All of that implicates the broader question of why there has been an apparent secular decline in labor market dynamism over the past 20 years or so. We have all of those questions, which are potentially quite important and about which there are already debates. As I say, I don't have particularly good answers at this juncture.

My second point is that the analytics behind efforts to answer those questions are necessarily complicated by at least a couple of factors. One, the significant changes in labor markets that have taken place since previous severe U.S. recessions limit the utility of the data and the learning from those recessions in trying to project what is going to happen now. And, second, the duration of the most recent recession and the slow pace of recovery raise the plausible prospect of hysteresis effects of a sort that we have not really observed previously in U.S. labor markets. That is, even if one believes, as I do, that the story during the recession and for some time thereafter was one of aggregate demand shortfalls and cyclical unemployment, the persistence of long-term unemployment and the permanent disappearance of so many jobs may now be having some structural effects. So there may come a time when we will need either to get some good answers to the questions about labor markets I noted a moment ago, or to make some assumptions about what those answers may be, in order to have a working sense of how much can be done to increase employment before we hit up against structural limits.

But the third point is that that time hasn't come. I would say, on the contrary, that current observations of what is going on in labor markets, and debates around what is going on, suggest that we may be actually further away from that point than we might have thought not so long ago. Consider, first, that there really is still no evidence of wage inflation. There is a little bit of a pickup in compensation, but nothing resembling wage inflation across the labor market more generally. I note that apparently the past few quarters of ECI data may not be very accurate, so we may have to revise that. But at least, based on what we know, I think that is the case. Mismatch indexes continue to suggest that at least this particular form of structural limit on employment growth has not become particularly binding. As Esther pointed out, the dispersion

of employment gains is actually, in some sense, a pretty good sign that we are not hitting up against structural limits.

The second point I would make in this regard relates to the current state of debate over what is going on in labor markets. And it is notable that virtually no one is suggesting, for example, that the natural rate of unemployment is at 7 percent. The debate now is whether it is at 6 percent or whether it is lower. And, similarly, the question about the unemployment rate that is most discussed is whether it understates labor market slack, not whether it reflects or overstates labor market slack.

And third, while the questions I noted earlier would argue against too strong an expectation that any particular labor market indicator will return to its pre-recession level, the fact that so many such indicators are still so far from those levels seems to me to reinforce at least a presumptive inference that while we may not be able to specify with much assurance just how much labor market slack remains, it is very likely to be quite a bit. So the implication for economic policy, of course, is that quite apart from the issues surrounding the pace and duration of our asset purchase program, which we will discuss tomorrow, there is still a very strong case for substantial accommodation in monetary policy as a whole. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. Since the time of the April Tealbook, the economy has done a bit better despite the ongoing drag from higher taxes and the sequestration. But I emphasize the words “a bit” because, compared with how far we have to go, the improvement is really very modest. In my view, it is far-fetched to think that the economy will run out of available capacity anytime soon, at least as far as the labor market is concerned. Yes, the unemployment rate has declined more quickly than we had anticipated last summer. But I

think part of this is likely due to a further decline in labor force participation, not to a true improvement in labor market conditions. There could be a number of reasons that people are dropping out of the labor force, and none of them really suggest vastly improved labor market outcomes. If workers are continuing to become discouraged about job prospects, even this late in the cycle, that surely isn't good news. And it indicates to me that there is still substantial labor slack. But even if some of those workers—the elderly and the disabled—will never rejoin because they consider themselves, and are considered by firms, to be unemployable, that can't be entirely reflective of an improvement in economic fundamentals in the labor market either.

For me, like many of you, the more genuine surprises have occurred on the inflation side. The core PCE index now stands at 1.05 percent year-on-year. This is the lowest number in the 50-year history of the series. And inflation has been running well below the Committee's September 2012 projection. We can continue to take comfort in the stability of inflation expectations. But even here the case has weakened a bit lately. The five-year-forward TIPS breakeven inflation rate has fallen from close to 2.8 percent at the start of the year to about 2.4 percent late last week, with most of the drop occurring over the past few weeks. This decline might imply that the recent weak inflation readings have caused long-term inflation expectations to move lower. I am hoping that this drop is temporary. Still, between the possibility that inflation expectations may become dislodged to the downside, and the likelihood that many workers continue to withdraw from the labor force not only because of unfavorable demographics trends but also because of discouragement, my view is that the economy is not necessarily poised for a pickup in growth that I would see as reflective of a strengthening in economic fundamentals.

Moreover, I continue to view the risks to the outlook as mainly to the downside. In particular, I remain concerned that despite the rejoicing over last year's big drop in unemployment, real disposable personal income was essentially flat last year, posting its lowest increase since the recession. As I have repeatedly noted, such lackluster growth in incomes doesn't bode well for strong economic growth.

Despite what I consider to be only modestly positive economic news, bond yields have been climbing. At the same time, mortgage and credit spreads have widened, defensive stocks with bond-like characteristics have been selling off sharply, and outflows from the emerging markets have been much more dramatic. While it is possible that market participants' views have improved more than mine, I think some of the responsibility for the unsettled financial market conditions and rising rates lies with us and our recent communications. Some of this may be good, or at least inevitable, because financial conditions are aligning themselves more closely with the intent of the Committee. But some of this probably isn't good because market participants may just be confused. Markets, including global markets, seem to be anticipating not only the end of purchases, but perhaps also an earlier normalization of the funds rate. Indeed, since the last round, forward rates two to three years ahead shifted up 30 to 50 basis points despite so-so activity data, further declines in core inflation, and no explicit indication from any one of us that we have changed our view on the path of short-term rates. That sounds like confusion to me.

So if short-term rate expectations are changing, I think we are in potentially dangerous territory. Markets are conflating their expectation for the pace of LSAPs with the path of the funds rate, which raises the risk that even a modest reduction in LSAPs will have much-larger-than-desired economic effects. If our communications aren't streamlined with sharper messages

that help markets disentangle the two effects—expectations for the pace of LSAPs and expectations regarding the path of the funds rate—we may run the risk of tightening much earlier or faster than any of us intends. I will provide some more focus on this communication aspect during the next round.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. My baseline forecast for the labor market and for GDP is now almost exactly on top of the Tealbook's. I had for some time been just a few tenths more optimistic than the Tealbook in terms of expected progress on unemployment, and I guess implicitly—and for reasons that I couldn't fully explain or defend—I had been building in essentially a stronger continuation of what we have seen in the past couple of years, whereby unemployment has outperformed relative to forecast more so than GDP. And the Tealbook's revised supply-side assumptions are very helpful in the sense that they provide one with a way to think about this kind of trend and why it might be sustained. I just find myself pretty much in sync with the staff view.

In terms of risks to the outlook, Europe and fiscal worries seem to be fading as concerns, and maybe the new number-one risk is, as a number of people have mentioned, how financial markets react to our own words and actions over the coming months. Like others, I would characterize these reactions so far as surprisingly large relative to the amount of fundamental information that appears to have come out, though not necessarily unhealthy or unwelcome at this point. Of course, if things were to go much further, or to become disorderly, that would begin to be a concern.

In particular, one thing that I was kind of worried about in the “Boom–bust” scenario, which has not yet come to pass, is more problems with the behavior of credit spreads. As Simon

talked about, in spite of the fact that we have had pretty large outflows from ETFs and from mutual funds, credit markets have been okay; high-yield spreads have not widened in any way that I would call dramatic or scary. It's something to keep an eye on. My guess is those outflows will continue. Outflows tend to lag performance in these kinds of funds, so we will see about that.

In terms of just trying to get a handle on the risks and how our actions might be contributing to them, it appears that our communications over the past few weeks have raised the market's subjective probability of us making a move in September, let's just say from 0 to 30 percent. That move from 0 to 30 percent has been accompanied by a very substantial move in Treasury and MBS yields, along with increased volatility. Here is a very simple minded question you might ask yourself: So what would happen if we were to raise that probability from 30 percent to 100 percent by actually going ahead and doing it in September? And, moreover, suppose we did that in a world where there was essentially just completely average macro news. This move would have to be thought of as a change in our reaction function at least along the narrow dimension of our reaction function about timing, not necessarily about total purchases, but just in terms of timing.

So should one think that we are going to get double the reaction if we go from one-third to the rest of the way? The answer has to depend on whether you think the recent moves that we have seen have been primarily driven by changes in market expectations about policy fundamentals—about the path of the short rate or the total stock of asset purchases—or, in contrast, by some kind of market dynamics mechanism, which may result from uncertainty rather than directional changes. There are many examples of these market-dynamic mechanisms. One would be something related to having value-at-risk constraints: Volatility has gone up very

substantially, so there is a set of people who may have to sell mechanically. There is another set of people who like to front-run the people who have to sell, and that has an effect, and then there is mortgage hedging and all these kind of relatively mechanical effects. And, of course, you can think of all kinds of stories.

I am drawn to this being at least part of the explanation for a couple of reasons. First of all, the moves that we have seen are just too big to think of them as based on the kind of model estimates that we use. They are too big, right? We have come to believe that a \$500 billion surprise LSAP does 20 basis points on the 10-year rate. Whatever expectational revisions we have had, I don't think anybody thinks that we have revised the expected stock by that amount. In fact, the dealers—I'm not saying you should take this literally—don't think that we changed our expected stock at all. So that tells you something. Also, the fact that the action has been confined to the bond market, not so much to the stock market, the fact that you see real big effects on very far forward real yields, where it feels less like expectations about the short rate over the next few years—it all feels like buying and selling pressure, to some degree.

If that hypothesis is correct, what does it imply? The first thing is we've got to be pretty humble about this whole thing because the stuff that we can control—that is to say, expectations about the future path of policy—has a relatively low R-squared in explaining the market. That is just a fact of life. Second, I don't think one should infer that more reaction function information in the same direction necessarily is going to have the same impact. I think it is going to depend very crucially on what happens to clarity and to uncertainty.

So just to take a hypothetical—I'm not recommending this, but suppose we were to announce tomorrow: "We are going to taper in September. Moreover, here is the path of policy purchases." We could either lock this in as a function of the calendar, so that would be purely

deterministic tapering, or lock it in as a function of the unemployment rate. Okay? So what is important for my example is not that it has to be certain, but that it is a function of all observable variables, and there are no unobservables creeping in.

Suppose we did that, and suppose we did it in a way that was slightly hawkish. That is to say, after we provided this clarity, the expected purchases were going to be somewhat less than the market had thought previously. You could ask yourself, what do you think would happen to yields? We would all have different bets. I think my bet would be shaded to the underside—in other words, that the uncertainty-elimination effect would be big relative to the hawkishness effect.

In a contrasting example, you could imagine saying, “Geez, that is a little bit aggressive. Let’s kind of dip our toe in the water.” And the way we’ll dip our toe in the water is to say, “Well, we are sort of thinking we might upgrade the probability to taper in September to 50 percent, not to 100 percent. But we are going to be careful, and it is going to depend really on how we read the incoming data.” And what is key to this example is that unobservables creep in. And we are going to be conditioning on a lot of stuff that is in some sense our private information. That is less hawkish. That is sort of the spirit of my example. However, it changes the speculative dynamics in the market because now as a trader I have to ask myself not only, what do I think about fundamentals, but also what do I think the guy next to me is thinking about what the guy next to him is thinking about what is in the Fed’s mind in terms of a reaction function. There I would bet kind of on the over side, which is a little bit less hawkish, but I would think that there would actually be a stronger effect on bond yields.

Here is another way to say this, which is, when we were first getting started on this, we debated whether we should have a fixed threshold for purchases based on the unemployment

rate. And, if I remember, Eric had suggested—I'm not sure if I am going to get this exactly right—something like a 7.2 percent threshold for unemployment. And at the time we talked about it, we decided not to do it for some good reasons. We didn't know how long it would take to get to 7.2 percent starting from where we were. People were worried that if it took a long time, that would be a lot of purchases on the balance sheet and all of that. Also, I think because agreeing on 7.2 percent was probably going to be very, very hard, we kind of punted on trying to agree on that.

But either way, standing where we are now—now that we are closer to 7.2 percent than we were—if I could do that, I would. I would be even pretty flexible about whether it is 7.2 percent or 7.0 percent or whatever, because that would give us a lot less uncertainty about our reaction function. That is a valuable thing, and that might help with the volatility. Of course, I don't think we are going to literally switch and implement this, but in terms of thinking about communication, I have in the back of my mind—can we communicate in such a way that it mimics some of the attractive properties of some of the original motivation for doing it, as Eric suggested? I will say a little bit more next round about how we might try to mimic, in some sense, or import some of those new properties. Thank you.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. Governor Stein's intervention is always really interesting. But my question is, if we had a 7.0 percent threshold in there, there is still a risk that, because of shocks or whatever, it could take a long time to get to 7.0 percent. Would that be credible, even within the Committee, let alone outside the Committee?

MR. STEIN. It's certainly an issue. All I'm saying is that, I guess what I have learned since then, as we face the decision to actually reduce the pace, is that the benefit side of that

looms large on my mind. Of course, if we don't literally do it, we might think about communicating in a way that captures some of the benefits.

MR. KOCHERLAKOTA. Okay. Thanks.

CHAIRMAN BERNANKE. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. I see the economy as continuing along the path of gradual improvement. My forecast is close to the Tealbook for 2013 and a bit less optimistic than the Tealbook for 2014 and 2015. There are good reasons to expect continued improvement, and I would number among them increasing consumer confidence, strong housing markets, strong housing sales, and the prospect of declining fiscal headwinds.

I will touch a little bit more in detail on housing as a bright spot. The strength in housing prices seems to be lifting consumer confidence and supporting spending. That seems likely to continue for now, despite higher mortgage rates. House prices are rising for many reasons, some of them not directly a function of super-low rates. If the Tealbook's house price projections and the CoreLogic projections are realized, the number of underwater mortgages will be cut in half by the end of 2015. In addition, at 2.7 percent of GDP, residential investment is still far below its historical trend level and ordinarily would have been expected to grow strongly for many years, adding more meaningfully to growth. The big question this time is the extent to which low credit availability for constrained buyers will counteract that trend growth over time. But, in the near term, housing should be a source of strength to the economy.

Downside risks seem to me to have diminished, although I would say that the risk is in the direction of lower GDP and higher unemployment. And I want to touch on inflation, as many others have, which has been very low and could present a real problem for our policy if expectations drop or if observed inflation breaks still lower. Several factors suggest that it is

probably a transitory deviation, and I really want to believe that it is. That may be the right modal forecast, but the tails seem particularly wide to me, and the more I dig into this, the wider those tails seem, I have to say. It seems counterintuitive that inflation would be dropping in light of a growing economy and declining slack, but this clearly bears close watching.

Moving on, in my view there has been a clear improvement in the labor market since September and progress toward our economic objective of full employment. Others have cited these numbers, but I will cite them again. The September Tealbook forecast of unemployment for year-end 2013 was 8 percent; the June Tealbook forecasts 7.3 percent. For 2014, the September number was 7.6 percent; the June number is 6.6 percent. Looking out over the whole forecast period, unemployment averages a full point lower than it did in the September forecast. So I see a substantial stock of accumulated progress toward our objective of full employment.

My conversations with investors carry a clear message that we have all heard, which is that the market does not understand when we will reduce purchases or why. And that has got to be one reason why the financial market reaction in fixed-income markets here and around the world has been stronger than I would have expected. This is a dangerous state of affairs, and I see the main purpose of this meeting, and the Chairman's press conference, as addressing that.

In a sense, as some have argued, the increase in rates has been healthy, as investors are becoming aware that low rates are not going to last forever and are taking appropriate measures. But it will not be healthy or warranted if, for example, the 10-year rate backs up another 50 basis points, or if investors move the liftoff date or, for that matter, if investors conclude that serious consideration of reducing purchases is postponed indefinitely. So it will be very important to leave the markets feeling much more certain about the Committee's intentions. And I would just

close by saying it's important that the Committee, by which I really mean the Chairman, assert strong leadership to the markets on this issue at this time. Thank you.

VICE CHAIRMAN DUDLEY. Look at him. No pressure. [Laughter]

CHAIRMAN BERNANKE. No pressure. Let me give a little summary here. This has been a very interesting, diverse discussion. People are changing their minds a little bit on things. That's interesting. [Laughter]

The first thing that people were changing their minds about was this question of whether the moderate growth will pick up. But, of course, there are different reasons why that might not be the case: It could have to do with the underlying growth potential; it could have to do with the strength of the economic recovery. Other than the mixed views on output and the potential for a pickup in growth, I saw at least a few rays of optimism on the real side of the economy—maybe it's my mood, maybe it was my lunch or something. Private spending has been fairly resilient. The fiscal headwinds so far have not proved as serious as we were concerned they might be. Consumer sentiment is up, along with house prices and stock prices. Labor markets are looking a little better. Housing is strong. Capital investment is a weak spot, which a number of people noted. I will come back to some of this, and I don't want to overstate it, but there were a few positive tones on some of these real-side issues. Interestingly, some of the darkest discussions were on inflation where I think still the majority view is probably that what we are seeing is transitory and likely to be reversed. But there was an increased sense of caution and a need to keep watching what is happening in the inflation area.

Let me look just a little bit at some details. In the household sector, people noted the strength of consumers, in part reflecting housing-related spending. They have deleveraged more,

and they are withstanding pretty well the tax increases, and weak wage gains, and weak disposable personal income growth that they have been experiencing thus far.

The labor market is doing somewhat better, but what I found very interesting was a lot of people's descriptions of the labor market, depending on whether they were looking at the level or the first difference. If they are looking at the first difference, things are looking somewhat better. We have had payroll gains of around 200,000 jobs a month recently. More recruiters are visiting campuses, which is very important. Unemployment has declined some. Optimism indicators are up, jobs are easier to get, for example. Labor market functioning does not appear to have been damaged. Diffusion indexes suggest broader hiring. So there are some signs of improvement, and I think we should acknowledge that—changes in the forecasts for unemployment, for example. But in terms of levels, of course, we are still far from where we'd like to be. No one said this, but unemployment is still higher than it ever was in a number of other recessions. Labor force participation is down. Hysteresis is a potential concern. Wage inflation is nowhere to be seen. So from the point of view of looking at labor markets, in terms of where they are as opposed to the rate of change, clearly we have a long way to go.

Housing received a lot of positive commentary. Notwithstanding the higher mortgage rates, it still seems to be relatively strong, although higher mortgage rates are potentially a risk for both housing and autos and other consumer durables. Even commercial and industrial real estate seems to be improving in some areas. A number of people mentioned bottlenecks of inventory—housing inventories, materials, and the like—that are part of the reason that prices are going up. But housing seems to be pretty much an unambiguous bright spot, albeit it is a relatively small share of the economy.

As I mentioned, investment and business sentiment is more mixed. I have here that business sentiment is only modestly improved, except in Texas. [Laughter] And there is still reluctance, evidently, to invest for expansion purposes. A number of people cited the Affordable Care Act as one example of regulatory uncertainty that may be affecting business decisions. There were also some reports of softness of demand, although I should say that there was a good bit of variety of reports in terms of business contacts, with some participants seeing stronger growth than others. One thing I am certainly convinced of is that Walt Disney and his like are all in excellent condition. And other strong areas, as we have seen recently as well, are trucking, advertising and other services, agriculture, and oil drilling. Manufacturing is somewhat more mixed.

Internationally, it's the same story we have been hearing. Europe is doing quite badly, although it may have bottomed out. China has been slowing—so we have a global situation that is not providing a lot of growth support.

The fiscal discussion was quite interesting. So far, although people commented on the sequestration and fiscal restraint in different ways, the explicit evidence of a big effect on growth and employment is not yet evident, even in the Richmond District, which has so many government workers. State and local governments, such as Texas, are doing better. So that remains an open issue to some extent.

On financial markets, there was a lot of discussion of the backup in rates, how it relates to our communication or to uncertainty about policy, the effects of rates, and potential risks to the mortgage market. It was suggested that the backup has not had such big effects on businesses because many have already refinanced or taken out the loans they need. To the extent that higher rates are really a concern about the Federal Reserve's commitment, then they do represent a

problem. More broadly, besides higher rates, financial conditions have been somewhat more volatile. Although financial condition indexes, FCIs, remain moderate, credit spreads have not blown out. So we are still looking at a fairly controlled situation. We do have to continue to monitor possibly excessive risk-taking and asset price distortions, even though the higher rates and greater volatility may have reduced some of that incentive. Banks continue to face substantial competition for borrowers, including even smaller businesses who are borrowing somewhat more. Credit quality is improving. Mortgage refinances are down, as you would expect, with higher rates. But purchase mortgages are up. Mortgage lending conditions remain fairly tight.

Again, on the real side, some optimism; on financial conditions, a lot of commentary on recent developments. Again, inflation, more concern. Inflation is quite low, although not all measures show the quite low levels that PCE, trimmed mean inflation, and other types of inflation measures show—the CPI is one exception, and perhaps even wages. The Tealbook view, which a number of people adopted, is that the reasons for this may be transitory, such as health-care costs, for example. But there was a reasonable amount of concern expressed about the stability of inflation and of inflation expectations as breakevens have come down fairly significantly. It was also noted that LSAPs have not had the same effects on inflation expectations as they did in 2011—in part because there is insufficient global demand to generate a commodity price increase, which is probably a good thing on the whole. So there are some downward risks to inflation. There was also cited, though, potential medium-term upward risks associated, for example, with the size of our balance sheet.

There was a good bit of premature policy commentary, which I shouldn't reward [laughter], but one general theme that came out a lot was about policy uncertainty. The Brainard

principle was mentioned and the need for clarity in our communications as much as possible.

Again, a very interesting discussion with some upbeat ideas or observations, but also some things that we need to continue watching.

I know that is a very quick review, but are there any questions or comments? [No response] If not, if you will bear with me, instead of doing my two cents on the economy—and I am even further down in the queue than Governor Powell in that respect—what I would like to do now is use my time to set up tomorrow’s discussion, and in particular to raise some issues about our communication and policy planning. And, of course, you know I have communicated with many of you over the weekend.

Now, let me first say that although the intermeeting period was a little bumpy with respect to communications, I think you could argue the results weren’t entirely bad. First of all, policy expectations, in terms of our future asset purchases, for example, seem to have adjusted a little bit closer toward where most on the Committee are—which is a good thing. The increase in rates was not trivial, and, as Governor Stein said, it was larger than can be easily explained by our models. But it wasn’t so large or quick that it caused major problems. And, likewise, the increase in volatility probably shook out a few speculative traders from their positions, which is not entirely a bad thing. So I don’t think, on the whole, that the intermeeting period was all that bad in terms of communications.

That said, as the past few weeks have gone by, and I have been obviously paying attention as I always do to the markets and to the commentary, I have become increasingly convinced that the communications status quo is just not going to be tenable going forward. First of all, the markets are obviously very much on edge, and we risk both higher rates and much more volatility if we are not clearer. In part, this is because markets will tend to bring

rates closer, bring them in, if we don't provide guidance to the contrary. And, as Governor Stein mentioned, lack of information can generate volatility, as market participants try to guess what we are thinking. I would mention, in particular, although the effects of the volatility over the intermeeting period on the United States were fairly manageable, we shouldn't forget that the emerging markets took some pretty big hits. And when I go to Basel this weekend, I may hear about that. While, of course, our mandate is for the United States, I do think we should not ignore the spillover effects of these financial market developments on our trading partners.

A second issue that I have, besides the potential increase in volatility and rates, is that without guidance, what we have seen is that policy expectations can move in ways that make our job much more difficult. For example, we now have views of reasonable probability of reducing purchases in September or December; if we do nothing today and say nothing else, it is entirely possible that those views will shift back in another direction. Another possibility Governor Stein has mentioned also in conversation is that the markets may get fixated on the payroll number, decide that the payroll number is everything, and then we are in a situation of having to break those expectations and create volatility when we make our decision based on broader information.

And, finally, and really important, we have to be sure that our communications and our policies are internally consistent and coherent. As you would imagine, I do some preparation for the press conference, and I was just having a great deal of difficulty answering any question about monetary policy. [Laughter] An obvious question is: You just showed us the SEP. If the forecast evolves in a way consistent with your expectations as shown in the Summary of Economic Projections, what would you do? And my answer is, I have no idea. And that is not good for internal coherence, it is not good for communications, and it is certainly not good for

our credibility externally. We really do need to have a little more clarity about this. I went for a few laughs here, but basically I think you appreciate that I think that this is a very serious matter, and that we do need to improve how we explain our policy approach and how we expect to react to incoming information going forward.

Now, as you know, I wrote to many of you over the weekend, and I made a specific suggestion, and I gave a specific program that involved certain sized reductions of purchases at certain dates over a period of time. And let me stipulate before I go any further that it was completely and entirely unfair of me to put this on you so late and so close to the meeting. I apologize for that. I am going to have to use some of my personal capital here, if I have any left, but I really felt that this was important and these things were becoming increasingly evident to me over time. Again, I apologize. I don't want to jam anybody, but we will have an opportunity tomorrow, certainly, to discuss all of these issues. In any case, I provided this scenario to people, and I got back many helpful responses. In particular, I heard two very clear themes in response to my proposal. One was that I shouldn't be giving such specific numbers about the size of the cut or the date of the cut, et cetera, because it would give a false sense of precision that would limit flexibility, and it would probably just lock in expectations in a way that we would not be able to change if we had some different view going forward.

Second, related to that was a view among those who responded that if I gave too much information in terms of the size of changes in asset purchases and meeting dates, and so on, that I would be essentially eliminating any sense of state contingency in the minds of the market. It is very important—this entire policy is tied to outcomes. It is a state-contingent policy, and I genuinely think that that has been helpful, and that we don't want to lose that feature. So I went back to the drawing board, and what I'd like to do now is describe for you—and, again, I am

preparing for our discussion tomorrow—a more qualitative and more state-contingent type of guidance that I think would be useful to the market and to the public if we were able to provide that.

This guidance has four components. The first is the forecast, and I think there is a reasonable amount of consistency in the Summary of Economic Projections—not that I am going to rely on that as the official forecast, and we don't have, obviously, an official Committee forecast. But, clearly, qualitatively what the SEP suggests is that, first, we expect inflation to move slowly back toward target from below. Second, we expect to see gradual continued improvement in labor markets, maybe roughly at the same pace as we've been seeing since last September. And, third, that as we get through the fiscal restraint, we expect to see some pickup in growth going forward, which will be sufficient to support that ongoing moderate improvement in labor markets. I think stated that way, that encompasses pretty well a lot of what the SEP is saying, notwithstanding the change of heart of a couple of people about the pickup of economic growth. All right. So that's the first element—the forecast.

The second element—and this is the most controversial one, and I will come back and defend it in a minute—is, well, what would our policy reaction be in this broad set of modal cases? And what I would like to suggest is that in this type of scenario, with these three conditions I just described, that the Committee would likely reduce the pace of purchases “later this year.” Further, if the data continue to align with the forecast, we will continue reducing the pace of purchases, hitting zero by mid-2014. Okay?

Now, I realize that mid-2014 seems a long way away, and that many of you would be very anxious about that. But, of course, what we care about is the total stock of purchases, not the duration of the program. So under a plan where you have a number of reductions, by the

time you get to early 2014, the rate of purchases is much lower. If we go as far as mid-2014—and I think this would also cut off any expectations beyond that—the additional stock involved would not be so great.

Let me try to explain this policy approach in the modal case. First of all, I do agree that we have had a good bit of improvement in the labor market since last September. This is really good news because, remember, when we started out, one of the fears we had was that we wouldn't see much progress and then we would have difficulty. We would have to basically say that the thing was just not efficacious. But, actually, it seems to be working okay. We do seem to be making progress, and we have made meaningful improvement. That being said, I would say the combination of the fact that the progress in the labor market is still only moderate, and, on top of that, the fact that inflation is so low makes it a little bit difficult to declare victory at this moment. And so it seems to me that the realistic policy options, the ones that I do believe that most of the participants around the table would support, do not involve going completely to zero before the end of the year. That would be my assumption.

They do involve taking the first reduction earlier, sometime in the fall perhaps, depending on the data, of course. But I don't really see us completely ending before the end of the year. And an advantage of extending it a little further into the middle of 2014 is that, according to our forecast and according to outside forecasts, by the time we get to mid-2014 and everything goes to zero, the unemployment rate should be somewhere around 7 percent. And we will be able to say it was 8.1 percent when we started; it's 7 percent now. That is substantial improvement, and inflation should be picking up by that point.

Again, the policy reaction I am suggesting is that we say that in the modal case we will reduce purchases later this year. If the data continue to align with the forecasts, we will continue reductions, ending by mid-2014.

VICE CHAIRMAN DUDLEY. And were you planning to highlight the 7 percent?

CHAIRMAN BERNANKE. I am not going to mention 7 percent. The last two elements I think are much less controversial. The third is just state contingency. I think it is critically important that in our communication we emphasize state contingency. If the economy performs better than expected, then we will reduce accommodation more quickly. If it is worse than expected, we could defer the reduction by a meeting, say, or another possibility would be to substitute for asset purchases a different kind of stimulus, and President Kocherlakota suggested strengthening the forward guidance. That would be one possibility. But the clear point here is to make sure that people understand that we still have a very strongly state-contingent policy.

And the fourth point is, I think, again, uncontroversial, which is that there appears to be some confusion of our asset purchases approach and our rate policy, as Governor Raskin mentioned. That is, the expectation that asset purchases might end sooner has brought in rate expectations. It is very important that we emphasize the forward guidance on rates and suggest that those two things are separate, and there is intended to be a considerable period between the end of the asset purchases and the time that the rate thresholds are likely to be hit. And then, of course, working backward, it will also suggest that we completely end asset purchases sometime before mid-2014.

That is the qualitative kind of guidance that would be helpful, without being exceptionally restrictive. It does encompass a variety of different policies and a variety of different contingencies. Now, the question is how to best present this. When I first contacted

you, I talked about either using the press conference or the statement or both. On further consultation and discussion, I think that given the complexity of this, and the fact that the Committee probably wants to have a little bit of distance, it would be better for me to do this in the press conference, and we could discuss whether we wanted to incorporate parts of this into the statement, say, in July. That would be something we can certainly discuss. That being said, I know there are a few people who probably would like to put it in the statement. The main argument for the statement is the governance. I recognize that this is a little irregular, and I apologize.

In case you want to make that point tomorrow—and I certainly think we could have a good discussion—we have circulated an alternative to alternative B, paragraph 4 here, and its language is fairly similar to what I just said.⁴ And if you want to use that as a starting point, we could talk about it as an option for tomorrow, if that's what people want to do. My preference, as I said, is to say this in the press conference where I can answer questions, where I can explain the contingency, where I can explain the fact that this is a qualitative type of reaction. But if people feel that it is important to put it in the statement, I am happy to work with that.

I do not know what the market reaction to this would be. In principle, I think it should be positive, just on the grounds that we are reducing uncertainty to some extent, and that, at least qualitatively, this is not radically different from where market expectations are now. However, any conversation that starts off by saying how we are going to be cutting the rate of purchases is probably going to have some short-term negative impact. I am not going to make a guess on that, but we will just have to judge that, assuming we go forward with this, over a few weeks.

⁴ The materials used by Chairman Bernanke are appended to this transcript (appendix 4).

But let me end where I started. What I have tried to do here is lay out one strategy to deal with a very serious issue. Tomorrow we can have a very useful conversation about how to approach this, but I think the option we do not have is just to leave things completely unclarified. That would be the worst option because the markets will then not only be uncertain about what our plans are, they will have doubts about our own ability to formulate a coherent explanation. And that is something we can't tolerate. I wanted to put this out for you now, so that you have time to think about it, and we can include this in the general policy discussion tomorrow. Are there any urgent questions? Urgent questions from President Kocherlakota.

MR. KOCHERLAKOTA. I will just throw this out there for something that is on my mind as I listened to you, Mr. Chairman. First of all, I found it very helpful, what you were saying. I thought you framed the conversation very nicely for tomorrow. A question that occurs to me, as I listened to you, that is challenging is, if the purchase program is as effective as it has been in the past and it is being so useful, why are we stepping down? I mean, that would be a question I guess a reporter might ask.

CHAIRMAN BERNANKE. Well, I have a good answer for that. There is a logical answer, which is that we have said that we think that the balance sheet has costs associated with it that may not be associated with other kinds of stimulus, and that the marginal costs are increasing with the size of the balance sheet, so it follows that, as the situation gets better, and as the balance sheet gets bigger, then you want to slow the pace of additions.

MR. KOCHERLAKOTA. Okay. Thank you.

CHAIRMAN BERNANKE. That would be the logic. Bill, can you give us an abbreviated introduction to the monetary policy? A question from Governor Powell.

MR. POWELL. Semi-urgent. It's short. Can you share a little more of your thinking about not communicating the idea of a low 7 percent stopping point for purchases? Or is that something you are going to do in the press conference?

CHAIRMAN BERNANKE. Well, in a recent draft, I pointed out that in this modal scenario, by the middle of 2014, unemployment would be probably close to 7 percent. And what I thought I would do is not say that in the opening statement but reserve it for an answer if I'm asked the question, How do you know that you have achieved substantial improvement? I could use that as an illustration. I was a little afraid that it would become the formal bogey, and that we would then be essentially doing what Governor Stein said but without getting the credit for it, in some sense. I am open to talking about that more, but that was the reason.

MR. POWELL. Thank you.

CHAIRMAN BERNANKE. Bill.

MR. ENGLISH.⁵ Thank you, Mr. Chairman. I will be referring to the exhibits that were distributed, "Material for FOMC Briefing on Monetary Policy Alternatives."

The top-left panel of page 1 shows the results from the most recent Survey of Primary Dealers regarding the projected path of SOMA securities holdings, along with the staff projections of such purchases under the alternatives provided in the Tealbook. The median dealer projection, the light blue line, is little changed from the April survey, which is shown in green and reaches almost \$4 trillion by the end of this year.

As Simon noted earlier, while the median dealer economist didn't mark down the ultimate size of the SOMA portfolio, most dealers now expect a reduction in the pace of purchases later this year, somewhat sooner than in earlier surveys. As you can see in the top-right panel, they generally anticipate that the first cut will occur at either the September or December meeting. By contrast, in the April survey, not shown, roughly one-half of the dealers saw the first adjustment to the pace of purchases coming after the end of the year.

The middle panel summarizes changes in your SEP projections for this year and next since last September when the current purchase program was initiated. As you

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

can see to the left, the central tendency of your projections under appropriate policy of the unemployment rate at the end of this year, and at the end of 2014, have moved down roughly in line with the decline in the actual unemployment rate since last summer.

By contrast, your projections for the growth rate of real GDP, shown in the middle, have edged lower over the same period. Your projections for inflation, shown to the right, have moved down some this year but are roughly the same next year. While your projections show mixed changes, you appear to be less concerned about downside risks to the outlook for the real economy, with a large majority of you now seeing the risks to your projections for the unemployment rate and GDP growth as broadly balanced, as shown in the bottom-left and center panels. And despite some concern about the low level of inflation that was expressed this afternoon, you generally continue to see the risks to the inflation outlook as about balanced, as shown to the right.

Regarding the policy decision at this meeting, alternative B on page 6 continues the current pace and composition of asset purchases and maintains the threshold-based forward guidance adopted in December. Alternative B would be attractive for policymakers who see an outlook for moderate growth, gradual improvement in labor markets, and an economy that, while recovering, is still operating well below potential and requires further monetary policy accommodation in order to support a stronger recovery.

The first paragraph of alternative B is a bit less tentative than the May statement about the recent improvement in labor market conditions. It also includes two possible changes, shown in blue, to the wording of the last sentence relative to the version that was in the Tealbook. These changes attribute a portion of the recent low level of inflation to transitory influences. The second paragraph includes a reference to diminished downside risks since last fall, consistent with the SEP results I showed a moment ago. That change is intended to highlight the possibility that the Committee could choose to reduce the pace of purchases before long, if the improvements in the labor market continue.

Market participants generally don't appear to expect significant changes to the statement at this meeting. Thus, a statement along the lines of alternative B likely would be broadly in line with market expectations. However, the new language pointing to diminished downside risks might cause some investors to trim their assessment of the likely path of the balance sheet. As a result, yields could rise modestly, equity prices might fall, and the dollar strengthen.

Alternative C on page 8 may appeal to policymakers who have become confident that the economic recovery is on a sufficiently firm footing that it is now time to reduce the pace of asset purchases.

The first paragraph of alternative C offers a more upbeat assessment of recent economic developments, and the second paragraph offers a more assertive statement

that risks to the outlook have diminished and that the Committee “is becoming more confident that labor market conditions will continue to improve over the medium term.” The third paragraph states that in light of the improvement in the outlook for the labor market since the beginning of the program, the Committee decided to reduce the pace of Treasury and MBS purchases to \$35 billion per month each. And to forestall investor perceptions that this reduction amounts to a removal of policy accommodation, it also emphasizes that, even with these changes, the Committee’s sizable and still-expanding holdings of securities should continue to put downward pressure on longer-term interest rates, support mortgage markets, and keep broader financial conditions highly accommodative. The fourth paragraph is unchanged. To push back against the possibility that market participants could conclude that the reduction in the pace of purchases implies an earlier exit from accommodation, the fifth paragraph indicates that the Committee “reaffirms,” rather than simply “anticipates,” that the low range of the federal funds rate will be appropriate at least until one of the thresholds is crossed.

A statement like alternative C, would come as a considerable surprise to market participants, leading them to mark down their expectations for the ultimate size of the purchase program; interest rates would presumably increase, and stock prices decline.

Alternative A on page 4 may appeal to participants who believe that a balanced approach to achieving both components of the dual mandate requires a greater degree of policy accommodation than is currently in train.

The first paragraph of alternative A is largely the same as in May but adds a reference to slower manufacturing activity and strengthens slightly the language regarding recent low inflation readings. The second paragraph adds the thought that with a balanced approach to policy, inflation could run modestly higher than 2 percent for a time, and it retains the reference to downside risks to the economy. The third paragraph maintains the current pace of asset purchases and announces that the Committee does not intend to sell its agency MBS holdings. The fourth paragraph is unchanged from May. The fifth paragraph provides the option to lower the unemployment threshold to 6 or 5½ percent, and it ends by indicating that the Committee expects eventually to reduce policy accommodation gradually to foster strong employment growth and inflation at 2 percent or even modestly higher for a time.

An announcement like alternative A would be a significant surprise to financial markets. Longer-term real interest rates would likely fall as investors projected a lower expected path for the funds rate and a higher level of asset purchases. Equity prices and inflation compensation likely would rise, and the foreign exchange value of the dollar decline.

Draft directives for each of the alternatives are presented on pages 11 through 13 of your handout. Thank you. That completes my prepared remarks.

CHAIRMAN BERNANKE. Thank you very much, Bill. Are there any questions for Bill? President Williams.

MR. WILLIAMS. Yes. The Tealbook forecast was generated assuming \$750 billion in purchases this year. And given the big difference with what you are building in in terms of how you are describing policy for your press conference, is it possible by tomorrow to get a gauge of how the Tealbook forecast would change if our total purchases for 2013 and 2014 were something more like what the primary dealers assume or something appropriate? Just how would that change the forecast?

MR. WILCOX. Roughly speaking, I think we would probably add another—thinking out loud—\$500 billion. That would get us another two-tenths off the unemployment rate after three years, and about a half a dozen or so basis points on the inflation rate. I could repeat those numbers tomorrow morning. [Laughter]

MS. DUKE. So the Tealbook says there is disappointment built in as market expectations come more in line with our own plans. How does that affect 2013, the near-term forecast? How is that reflected in there?

MR. WILCOX. Well, we build in the disappointment over the course of the second half of this year because we had market participants coming to the realization that the Committee has something different in mind than they currently expect. So that would cause a backup in rates over the course of this year. And the effect of adding in an additional \$500 billion in purchases would amount to taking that disappointment effect out, essentially, mechanically. I think that's the way it will be.

MS. DUKE. But there is nothing that affects the outcome in that disappointment? The effect doesn't show up until 2015?

CHAIRMAN BERNANKE. It would affect the timing, right?

MR. WILCOX. Well I'm not quite sure what you mean in saying that there is nothing that will affect the outcome. It will affect the real economic outcome of inflation, unemployment, real GDP, in the way that I just outlined.

CHAIRMAN BERNANKE. The Tealbook forecast front loads the economic effects, though, and if market participants end up being right—

MR. WILCOX. The change in rate environment would be feathered into our outlook. It would take a while to show up in terms of the economic outcomes.

MR. PLOSSER. But aren't we basically ratifying what their expectations are with this mostly?

MR. LACKER. So it would shift the disappointment from the market to the Committee. Certain members of the Committee.

MR. ROSENGREN. Some members of the Committee. [Laughter]

MR. KOCHERLAKOTA. Some of those members have already been disappointed, I think.

CHAIRMAN BERNANKE. Any other questions? [No response] All right. If not, there is a reception and dinner available, but no business will be conducted. And we will start tomorrow at 9:00 a.m.

[Meeting recessed]

June 19 Session

CHAIRMAN BERNANKE. Good morning, everybody. We are ready to start our policy go-round, and I have, first, President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. The leadoff man has to be fast and agile, and get on base by any means. [Laughter] I will leave it to you to figure out what I mean by that, but that just seemed appropriate. I am going to support alternative B, and in a moment I will get to the question of the Chairman's scenario proposal and paragraph 4' language as possible statement language. Of the three alternatives presented for this meeting, B involves no substantive policy action. The other alternative that I thought might get some serious consideration was C.

I see four reasons for taking no concrete action beyond communications efforts today. I think a cautious posture is appropriate regarding any assumption of accelerated growth. I think a cautious posture is also appropriate regarding inflation developments. There is not enough clarity, in my view, in the economic situation or outlook to pursue alternative C and dial back our purchases. And as a reason to stay the course, again, substantively, communications has already produced premature tightening.

So now to the question of communicating a scenario along the lines laid out by the Chairman. I am prepared to support the scenario in its basic substance and communicating it in both the statement and press conference today. I see three priorities necessary, currently, to restore policy effectiveness: first, to the extent possible, to get control of the communication dynamics; second, to reduce uncertainty and enhance clarity; and, third, to communicate the Committee's voice for full credibility and maximum impact. Unfortunately, our communication has turned from a positive policy tool aimed at buttressing accommodation to a factor

undermining the accommodative intent of policy. I think it is time to firm up our communication, and I think it will be achieved by laying out quite explicitly the most likely policy path and doing it in an unambiguous, forceful way using both the statement and the press conference.

I think there are good reasons to support this course of action in substance and something close to the paragraph 4' draft language. Those reasons are that, although the scenario is qualitative, it is adequately explicit; it is also sufficiently conditional to preserve flexibility. With inclusion in the statement, it would have the unambiguous endorsement of the Committee, and I think it has a good chance of calming markets and making the policy as effective as possible over its remaining life. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. Last night, as I was ripping up my comments, I asked myself: What is the problem we are trying to solve? And I looked at it from two perspectives. The first is from the perspective of financial market participants. Financial market participants are calendar based. From expiration of futures and option contracts to loan terms, calendar dates are critical to trading strategies. Thus, they are constantly trying to translate our words to calendar dates relevant to them. Thus, substantial improvement in labor markets, which is defined differently by each of us, is confusing, and positions can be impacted by our speeches. Furthermore, sentiment can shift abruptly. The exit for both QE1 and QE2 was quite easy because it was easily translated to certain dates.

What is the perspective of central bankers? We are evaluated by economic outcomes. Our mandate is tied to economic variables, with no explicit time subscript. Chairman Volcker is lauded for bringing inflation down, with little reference to the time it took. Thus, central bankers

prefer state-contingent contracts that provide plenty of optionality on how to achieve the economic outcome. However, QE1 and QE2 had to be followed by QE3. We did not achieve our economic outcome, even though the exit was smooth. A statement that adds variables and clauses but is difficult to translate to time is likely to be viewed unfavorably by market participants. It will also not prove favorable for us.

So what is the path forward? I would suggest we follow up on Governor Stein's comments yesterday and anchor our statement by ending the purchase program once we have reached 7 percent unemployment. It provides greater certitude to markets without fully retreating to calendar dates not tied to economic outcomes. While that precision compromises our flexibility and does not treat all of the variables that ideally are captured by substantial improvement in labor markets, it should simplify the translation for financial market participants sufficiently to mute the communication complaints.

Given the complexity of the paragraph in the alternative that was provided yesterday, I would stick with alternative B as written. I would delete the word "somewhat" from the first paragraph because I think, as comments yesterday made clear, PCE inflation has been well below the 2 percent target. But other than that, I would go with alternative B as written, and I would have the 7 percent endpoint discussed in the press conference rather than putting it in the statement. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Rosengren, do you take a position on the phrase that starts the sentence about inflation and transitory factors?

MR. ROSENGREN. I would prefer it not to be in; I think it's a little uncertain at this point whether it is transitory or not. But I think the sense of most people from yesterday was consistent with that, so I would be comfortable with leaving it in.

CHAIRMAN BERNANKE. Okay, thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I would like to start by making a couple of observations about intermeeting communications. As you said yesterday, they didn't go the way we had hoped. This is in the spirit of an after-action review. I understand very well why the communications choices we made were made. But I think it's important for us to reflect on the experience and learn what we can from it.

I think we always knew the time would come when there would be a pivot of some sort in our communications and in the policy outlook. I think we always anticipated it. I think it was the general view that there was the potential for some bumpiness and some choppiness about the markets' reaction to that. And given what could have happened, I think what we got was reasonably good. Not that bad at all. But I think that our ability to navigate this is going to be aided if we reflect on what we learned about communication and use what we learned going forward.

It started with the sentence that we added to paragraph 4, "increase or reduce." The markets looked at it and said, "Oh, 'increase' is on the table." But in the meeting, the bid-asked spread had been nothing or decrease. And it surprised me how markets reacted, but I think it's understandable with hindsight. Up until that point, every communications message or initiative that we had taken had been in the direction of easing the outlook for policy. We put in something that is two-handed, so there was a natural tendency—the markets had been primed, they had been conditioned to look for new communications and interpret them as easing. And I think that is because we had given them nothing but easing up until that point.

We have been very careful to avoid the risk that markets assume we are willing to do less than, in fact, we are willing to do. And, in fact, we had this discussion in April of last year, I

think, when we were using date-based guidance and we had moved the date out. And then the economy got better, and we were thinking about moving the date in. And the response of some was, well, that would be the first tightening move. So we have avoided any communications change that would move in the direction away from easing.

Now, the markets had data, and they sort of had two things to choose from. They could look at the previous six weeks at that point and see a slight softening tone in the data, or they could look over the previous six months and see the broad improvement that we were looking at and talking about at the meeting. They chose one interpretation, conditioned by what they were thinking going into it, and concluded that “increase” was the live option rather than “reduce,” and that “reduce” was window dressing.

I think that that general bias set the stage for what happened on May 22. There was a passage near the end of the prepared testimony that dwelt on the risks of a premature liftoff in interest rates. And it was asymmetric; there was nothing about the obvious other risk of tardy liftoff in interest rates. Granted, it wasn't about the pace of asset purchases, but markets interpreted it as an easing message, as pushing back against premature policy tightening. So I think they just extrapolated naturally to tapering and took it as a warning about premature tapering.

The message about the next few meetings that was delivered after the testimony in an arranged Q&A seemed to induce a bit of whiplash and some confusion. I can understand the maneuver; I can understand what the strategy was there because we think of these as separate tools—the expected path of the funds rate, you want to keep that down at the same time you adjust expectations about tapering. So I can see why you would want to do that. But I think that is too much to expect from markets. Policy outlook for markets is either one-dimensional or else

it has a really big principal component, and people view it as sort of correlated. The message is either “The outlook is better, so policy is going to be tighter,” or “The outlook is not as good, so policy is going to be easier.” There is just this one dimension that the market is going to think of first before they go to anything else.

I think this is an unavoidable interdependence, and I think we need to take that on board. You know, an economy that is better now is more likely to be better later. An economy that is better later is probably going to be better now than it otherwise would be. This is just a fact about how economies evolve, that there is this correlation across time. So I don’t think it is reasonable to expect market participants to keep these outlooks for policy at different time horizons separate. We are tempted to think about them that way because we think of them as separate policy tools. But what we are talking to the public about are aspects of the pattern of our behavior in response to economic news in the future. Anything we say has information about our reaction function, but it also contains information about our assessment of the economy, in both the near term and the far term. So I think anything we say is going to shift views about the economy at all horizons. I think it is inevitable that if we push in one direction on one policy tool and try to get people to think that we are not going to raise rates too soon, it is going to spill over into other tools. It is inevitable if we start talking about tapering, people are going to think, all right, if they are going to taper sooner, the economy is more likely to be better in 2015, so interest rates are likely to rise sooner. I think that’s just the natural correlation. It is going to be in the data and the reaction. I don’t think we should be surprised or push too hard against it.

The lessons I take away from this are that we have only changed our economic policy outlook in one direction until now. This is the first time we are going the other direction, and we

knew this would be tricky. We always feared that it would be a choppy reaction, and I think we have gotten away pretty easy, considering the possibilities. But we are entering a new phase here, in this recovery and policy, in which we are going to want to manage two-sided risk about policy. We are going to want to communicate that things could go either way. We can do it, but we just need to be simple and clear about what we are trying to do. Another lesson I take away is that we shouldn't try to communicate too many things at once, not try to be too cute about the forward curve as we are communicating about this.

So what does this mean for today? I guess where I am on this today is that I start from sharing, Mr. Chairman, your sense of an urgent need to communicate something coming out of this meeting to clarify the outlook on policy. This is our big chance. There has been a lot of commentary that notes confusion in the market about what our intentions are and claims that we have been confusing in our communications. I think markets naturally have given us a break until this meeting, and I think markets recognize this collaborative body and the role of the meetings. I think they are looking to this meeting for some coherent signal, some coherent message.

I think the broad approach you outlined, Mr. Chairman, makes sense: for us to communicate that if the economy behaves generally the way we expect it to behave in the coming months, in September we will ratchet down the pace of purchases, and we will continue to ratchet down after that at a reasonably brisk pace. We can debate what pace and when we start, but I think that general approach makes sense. I think that is the kind of clarity people are looking for. My fear here is that my support for this will taint it. My fear is that some participants in the meeting will figure if Lacker likes this, it must be crazy. So just to clarify, my druthers would be that we go with alternative C. I think the markets could handle us cutting

purchases back right now. I don't think it would be a gigantic hiccup. I don't think it would be the end of the world. But, naturally, Mr. Chairman, you've got to identify a position that commands a workable consensus of the group, and I respect your ability and position to do that.

As for an expositional or governance strategy, you might call it, the decision to send this message about our expectations about reductions in the pace of the asset purchases has been the central item of policy discussion at this meeting. It would be the central substantive decision taken at this meeting; it would be the only substantive decision, really, taken at this meeting. It would be a highly consequential one. Failing to include this in the Committee's official statement seems bizarre to me. I can't figure out a good reason not to. The idea that we can't draft something is silly because if we are going to send this message, somebody is going to have to draft something for the Chairman to say, either the Chairman or one of his able staff. So some drafting is going to have to go on, whether we put it in the statement or not—that doesn't strike me as too terribly difficult. I'm tempted to believe that those who oppose putting it in the statement want to undermine the message, but I think that is backward. I think we decide what message we want to convey to markets, and then we decide how best to communicate it.

And I think it is clear that with a message of this import and magnitude, it ought to go in the statement. As for wording, I will just say two things. One is that I think adding “moderate growth that picks up” to the statement—as in paragraph 4'—is going to muddy things a bit, just because it's changing the conditions. We've talked about substantial improvement in labor market conditions. I can kind of guess why it's in there. We have talked about labor market conditions. It is natural for market participants to think of that in terms of the unemployment rate. But, you know, the labor force participation rate is coming down. We talked about this when we went down this path last fall—that labor market participation was going to be hard to

interpret and could confound the usefulness of the unemployment rate as a signal of policy. But it seems like adding another criterion in order to avoid having to depend solely on the unemployment rate. We could say that it's employment growth that matters, not the unemployment rate.

I think an even better solution would be—instead of putting in that long description of the economic path we are looking for—to reference the central tendency of the Summary of Economic Projections. We can say, “if the economy evolves in a way that is broadly consistent with the central tendency of the Summary of Economic Projections, the Committee currently anticipates it would be appropriate to,” and on and on. I think it would be a simple way to clean up what is in paragraph 4' of alternative B. So those are my comments, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. So as not to bury the lead, I think that the suggestion that Jeremy made yesterday afternoon, and that Eric has just echoed, makes a good bit of sense given where we are right now. Let me begin by observing that there are no no-risk options here. That is, if we don't do anything, I think a lot of the risks that people talked about already yesterday and already repeated today are more likely to be with us. I think it is also the case that just about anything that the Chairman says or that we say also runs some nontrivial but hard-to-quantify risk of eliciting a kind of reaction that we would think is suboptimal.

Over the last six or seven weeks, I have asked a lot of people in the markets what they thought the state of the markets was, how sensitive they are to any future changes in policy, and the like. I find that these market participants have a broad range of views as to whether they agree with what our policies have been, but they all agree on one thing, which is that the chances of some turbulence are pretty high. So I think that, for that reason, there are no no-risk options,

but it is also the case that just because whatever option that we choose does elicit some turbulence doesn't mean it is the wrong option. There is probably no way to avoid it. Eric will relate to this—this is just like flying from Washington to Boston in the summer. There is just no way to go around all of the storms. You would have to go to Greenland and back to avoid them.

So having said that, I wanted to echo something that Eric suggested, which is that there are two sets of aims, which I think are given different weights by different people. There is the aim of putting some more certainty around the fact that we will begin to dial down the purchases and eventually end them at some point; that aim is correlated a bit with the market's desire to know. And then there is also the aim of wanting to maintain a policy that is responsive to what is going on out there in the world. And those aims are, if not irreconcilable, at least in tension with one another. And I think that tension was reflected in people's reactions to some of the ideas about how we would go forward because it almost inevitably weights one aim or the other.

The problem that I think we have all observed with the state-contingent approach is that the contingencies are not particularly apparent to markets, and maybe to this point, not even to ourselves. So it is not like the thresholds. It is not like somebody is saying, "Well, the Fed will act contingent on getting to X." People are saying, "We really don't know what the factors are that will lead them to think that the state of the economy has changed sufficiently to move forward." And I think that is what the Chairman was indicating has animated his desire to provide some more clarity here. So, in a sense, what Jeremy and Eric are proposing is to give a more tangible anchor to that state contingency. It is something consistent with the projections, but it avoids a bit of the problem that we have already experienced over the last nine months or so, which is that if we just say "the projections" or we just say "the path that we generally think we are on," it is going to leave everybody to wonder, well, which indicator is most important? Is

it still GDP growth? Is it still unemployment? Is it something else that some other members of the Committee have talked about?

Providing the indication that 7 percent unemployment is about where we think we are headed does, I think, provide some measure of certainty, though, again, not without risk for how we might feel about the economy when we get or don't get closer to 7 percent. As many of you know, in general, I have been more reluctant than most macroeconomists to do a lot of forward-guidance providing. I was schooled in an approach to policymaking that generally biases in favor of maintaining discretion as one goes forward. I understand that communication is an element of monetary policy that is dissimilar from many other policies. I actually still retain a bit of that concern. That's why I was reluctant for a longer period than most of you to go to thresholds, even though I came around. But in this instance, I don't have those kinds of reservations because I really do think that there is so much uncertainty out there that we are not really retaining helpful discretion. We are, as Bill or someone explained yesterday, probably increasing premiums just because of the uncertainty, which we really need to do something about. So that is why I think it makes sense to go down this road that Jeremy and Eric suggested, even though it does carry risks and, of course, you can make arguments against it. But, you know, policymaking is a matter of choosing among imperfect alternatives, not of discovering the heavenly perfect alternative.

And then, finally, on the question of including it in the statement or not, Jeff has put a high hurdle that he can't see any reason not to do it. Let me offer a couple of reasons why I don't think it would be a good idea to put any of this in the statement right now, even though there is a certain awkwardness in having this discussion for two days and then having a statement that doesn't look very different from the one last time. Basically, it is a matter of how quickly

we were trying to adjust here. You know, I have been here for four and a half years. I have watched us on the fly. For all of the virtues of this group, I would not characterize collective nimbleness as one of them. And there is the process of coming up with a statement—kind of a compromise is made on the fly, but, most importantly, there is no ability to really think it through. Jeff, you actually gave an example of a provision that was inserted, I think, with people a little bit—I hate to use these terms, but it's convenient—more on the hawkish side thinking that it would kind of serve their purposes. Charlie warned it could go the other direction; we really didn't think it through. And, sure enough, it did go in the other direction. So I take that as a case in point of how something that we think about that sounds kind of reasonable but then decide on within half an hour, might actually lead to consequences that the proposal was not intended to achieve.

Of course, the Chairman has to say something, too. And there is the potential for that happening with the Chairman, but there are a couple of differences. First, there is considerable weight placed on what the Chairman says at press conferences. There is no doubt about it. But most people I have spoken with, and most of the commentary that has been written out on this, suggest that there is still a gap between the Chairman saying something and then people seeing it in the statement, which is kind of a formalization, almost a ratification. So there is some more give there, number one.

Number two, the Chairman has multiple opportunities, and can create them if he needs to, to adjust the perception of what he has just said shortly after he says it in the press conference. First off, he can do it in response to a question. If there is a question about it, he can answer the question, which then clarifies what he has just said. The 19 of us cannot answer the question except through 19 different interviews on CNBC, which is not particularly optimal. He also,

with testimony and the like, has an opportunity again to adjust that message, whereas we have to wait six and a half or seven weeks to make an adjustment. So I would suggest that the conservative approach here, in the etymological sense of the term, is to have the Chairman articulate something along the lines that he was talking about yesterday, with the Jeremy–Eric gloss. Then, in light of the reactions to it and any calibration the Chairman does in the interim, we can think about putting something like that in the statement at one of the next couple of meetings, when we have all had a chance to digest it a little bit, to see some market reactions, and to go back and forth with some language. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. I support alternative B as written. In an ideal world, I would have liked to be in a position to support alternative C. But, obviously, the market is not ready, and we have to solve our communication problems before we can move. So since I'm basically going to just be echoing what Eric and Dan said, I will be very brief.

I think the time has come for us to lay out an observable, verifiable anchor—as Eric said, to define an endpoint. I think if we define the endpoint as 7 percent and at the same time make clear that we are going to take multiple steps to get there, it will dial down the temperature on the September/December thing a lot. Basically, people can do the math: If you are stopping at 7 percent and you are taking multiple steps to get there, it must be that the first step is going to come sometime pretty soon, and it won't have nearly the signal value anymore because the rest of the path has been laid out. So I think it will just make that easier.

I think it is just important to be clear in our own minds. I don't see this as a major shift, or really any kind of shift in the underlying policy at all. In other words, this is still an open-ended policy. We are doing it until we achieve substantial improvement. Before, substantial

improvement was contingent on a wide variety of data: some observable, others not observable. Now, we are just narrowing, in some sense, the data that we are making it contingent on. And it is sort of a natural evolution of the tradeoff, in the sense that nine months ago, for us to pin it to a single variable, I think, would have been extremely risky. We wouldn't have known if it would have taken a year, two years, three years, or more to get to 7 percent. Given the increasing cost of the balance sheet size, I think that would have just been too risky a thing to do.

Now we have moved much closer, so the variance in where the balance sheet will be when we get there is much smaller. At the same time, the need for clarity, given that a first move is coming, and given the dysfunctions associated with the market having to make conjectures about all of the things that we might be conditioning on—I think the terms of the tradeoff have changed, so it makes sense to start to define substantial improvement. But I think this should, expressed properly, go down pretty smoothly because it is not a change in the philosophy or in the commitment or any of that in the program. So I think it can be done well. Again, just to agree with Dan, I would not attempt to do this in the statement this time. I think the press conference is the appropriate place. As things settle down, we will have the luxury of a little bit more time to try to craft it, perhaps, as something for the statement for the next go-round. That's it; thank you.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. Let me start by saying I think that you have provided great leadership to this Committee, but I am going to have to break with you today. I don't think that this is a good time to try to attempt to make what is, in effect, an inflection-point decision by this Committee. I see what is being laid out here as carrying substantial risk that the Committee will be interpreted as having effectively ended its asset

purchase program and effectively set in motion all of its exit machinery. This could be quite a large shock, depending on how exactly this is done here. I do not think that we have a good configuration of data today to make such an inflection-point decision. And, Mr. Chairman, you said yesterday it is hard to declare victory with the data that we have in front of us right now. So I also do not think we have prepared this decision appropriately, and I agree with Governor Tarullo that collective nimbleness is not a strength of the Committee.

So my suggestion—and I think the reasonable thing to do here, and what the Committee would normally do historically—is to wait until the July meeting, collect more data, and think more carefully about how to proceed. I also suggest very strongly that we change all meetings to be meetings with a press conference, as other central banks do, in order to allow the Committee to take the appropriate action at the appropriate time. The fact that we have got this quarterly press briefing is driving decisionmaking and could set us up to make a mistake at some point. I see the attempt to lay out a road map through the press conference statement as possibly removing all or much of the intended state contingency of the asset purchase program. In particular, if we keep the suggested end date as mid-2014, that would echo the mistakes made by this Committee in ending QE1 and QE2 at inappropriate times, only to have to provide additional accommodation at later dates. And President Rosengren touched on this earlier.

This stop-go-stop approach to unconventional policy has been damaging to the recovery, and I think this time is unlikely to be very different. Those of you that know me know that I am not opposed to tapering at the appropriate time, but I think we need to wait for the appropriate time. In particular, with inflation falling well below target, it is an odd moment to try to declare victory. So what I am going to support is option A for today. I would remove the phrase in paragraph 2 that says “or [even] modestly higher for a time,” referring to inflation. I would

remove that phrase. And I would keep the unemployment threshold at 6½ percent for now; that is in paragraph 5.

I think this would show that the Committee is willing to defend its inflation target from the low side but otherwise effectively not take too much action today. It would have the phrase in it about intending “to rely upon paydowns of principal rather than sales of agency mortgage-backed securities.” And some have viewed that as more accommodative. I don’t actually think it is that much different from what is expected in markets. But I think alternative A would do a little bit to shore up our defense of our inflation target from the low side, which I think is a key issue right now.

I do not think that arguments purely about the size of the balance sheet have been effective enough to warrant this decision at this time. I am always suspicious of round numbers; I think some people have in mind that \$3 trillion is too much, \$3½ trillion is too much, \$4 trillion is too much. You need economic arguments and not just round numbers. The Fed’s balance sheet is not particularly large as a fraction of U.S. GDP relative to where other central banks are, or relative to the U.S. historical experience. It has been large as a fraction of GDP historically. And Fed holdings of outstanding federal debt as a fraction of total outstanding debt are not particularly high at this juncture. Obviously, there is more debt out there today than there has been in some recent decades, but, historically, there has been this much debt as a fraction of GDP, and the Fed is not holding a particularly large fraction of that.

I agree with President Lacker that the recent volatility in financial markets is being badly overplayed here. I don’t want to put words in his mouth—I’d say it was being badly overplayed here. It has not been particularly high during the intermeeting period compared to recent history. I agree that most of the rise in the 10-year yield was appropriately realigning market expectations

with Committee policy expectations, so this should be welcomed, as we are getting markets better in line with what Committee intentions are. Measures of U.S. financial stress, such as the St. Louis Fed Financial Stress Index, remain, actually, below average, not above average, at this point. So the notion that we have suffered through this terrific bout of volatility is a little bit surprising. I mean, given how much volatility we have seen in the last five years, to have a few weeks of backup in rates is maybe not surprising, and the Committee is leaning toward eventually making a decision about tighter policy. And this is the way that it is going to show up in financial markets.

The notion that announcing a semideterministic policy path is optimal policy is false and misleading. The policy should remain appropriately state contingent, so that markets adjust expectations of policy as new data arrive. A semideterministic path for policy means that expectations for policy will not adjust as much when new data come in. This is actually further away from the optimal policy, not closer to the optimal policy. This reminds me of the August 2011 decision of this Committee. We added a date for a likely rate rise without sufficient consideration, in my view. It took us 18 months to change that, and at the end of that process, which was December 2012, as far as I could tell, there were very few voices around the table that still endorsed the use of a calendar date. So I see something similar happening today. I think we need to take more time to allow better judgment about this decision. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Bullard, are you attracted to the unemployment contingency rule that was suggested?

MR. BULLARD. I think that's an intriguing thing, but I don't think we should try to make a policy like that on the fly here. I think we should think about that more carefully.

CHAIRMAN BERNANKE. Okay. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. Like Governor Stein, in an ideal world, as you put it, I would prefer alternative C, but, to me, clarifying communications today and getting back to focusing on the real economy are of higher importance. So in the most unprecedented way, for the first time ever, I agree with Eric Rosengren and Dan Tarullo. In fact, I'm going to echo what I call the "Sherlock Holmesian 7 Percent Solution." I think that's the way we should go.

I come at it from a different perspective. I said yesterday that in the operating business world, any CEO who has not cut his or her balance sheet by now should be fired. That's actually a quote from an operating CEO. And from an operating business's perspective, a modest rise in interest rates here would not be problematic. We have a lot of excess liquidity sloshing around in the system. Given all the uncertainties surrounding fiscal policy—even though you don't hear as much about that anymore, it's still there—and especially regulatory issues as well as weak demand abroad, operating businesses are just shy about committing to expanding payrolls and job-creating cap-ex. And as I see it and as I hear it from operating businesspeople, capital is being diverted from productive uses increasingly to speculative ones. The liquidity we've provided is going into financial markets. It's no surprise, at least to me, the way I look at the world, from where I came from, that this has become the means of mischief, speculative activity, and volatility. And because we are getting near the end of the 30-year bull market, any sensible financial operator—who is, by the way, dependent on fees and driven by performance—will play along. And they have to put money to work or else they risk losing it, and to me that exacerbates the reach for yield and the risk of growing bubbles.

In my view, the less definition we give to this program, the greater the room for mischief. It's more than the market reacting to one data point after another; I think it has become a game of

test the Fed, and see how they react. So we see enhanced volatility or we have some down days, and then we're perceived as planting a story with Hilsenrath. We get some release, and then we're tested again. That's the way things seem to be evolving. And from the standpoint of the big players, at least the contacts that I talk to, as well as some of the smaller players, it all looks amateurish.

I just can't get out of my mind, when I talk to these people, the incredible legacy of George Soros breaking the Bank of England. Now, no one can break the Fed, but there's a collective set of behavior here. They're like feral hogs, and if they scent weakness or lack of definition, they will continue to test us. And playing the Fed for a patsy is the stuff of a money manager's dream. I've been worried about this from the beginning. I've been outspoken about it. I still think what we are doing may end in tears, but I'm very confident that if we don't provide further definition here, it will end in a nervous breakdown. We need to reassert control, and we cannot continue to allow ourselves in real time to be perceived as being buffeted by markets.

So given that the FOMC has gone down this path, given that this is all proving to be sloppy, and given that we are being perceived as being distracted from what we should be focusing on in the real economy, I very much favor what President Rosengren and Governor Tarullo and Governor Stein have outlined here. I favor giving the Chairman the leeway to provide us with definition and particularly to define what we mean by substantial, and that is the "7 Percent Solution," using 7 percent as the endpoint.

Now, Governor Tarullo made a very good point. There is risk here. There is risk no matter what we do, and for some, there is an expectation or a hope this will go on almost forever. What we're effectively doing here, and I know you are repulsed by this term, Mr. Chairman, but

you're putting a ceiling on the Bernanke put, and that will be disappointing to some—those who somehow have these dreams that we go to “QE infinity.” So Governor Tarullo is right: There is no no-risk option. We might have a reaction, but so be it. I just want to make one more comment here. Governor Stein used the operative words “expressed properly.” I think you should do this in a press conference. I don't think it should be in the statement, and it really hinges on your expressing it properly. Once it is properly expressed and out there and all eyes are on this press conference, one thing we cannot afford to do is go up to the line and cave in if we get a negative reaction. Because given the way I look at the world, if we blink, we really will have a test, and then we're in real trouble.

So in summary, Mr. Chairman, I am on the same page as Eric Rosengren—he may worry now about what he said—and Governor Tarullo and Governor Stein. The only comment I'll make about alternative B here, which is where you're going to go, is I would take out the word “somewhat.” Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Sorry. The last thing—you would take out?

MR. FISHER. The word “somewhat” in the first paragraph. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Several people have spoken in favor of Governor Stein's proposal from yesterday, so before I talk, if I could get more clarity about what people are actually talking about. Is it to outline 7 percent as being the definition of victory in this program? That would mean potentially terminating the program at the end of 2013 if we got to 7 percent then, or potentially at the end of 2015, if it took that long to get there. Is that what's being proposed, just to clarify?

MR. STEIN. Yes. Effectively, yes.

MR. KOCHERLAKOTA. Okay. So 7 percent is being used as the definition of victory.

MR. STEIN. Or the stopping rule. “Victory” is a morally loaded word. But I would say “stopping rule” to be more technocratic.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Clarification is important. I was going to raise this issue, but since you’ve raised it, how does this translate into changes in the path? You seem to have defined the endpoint at 7 percent, but what progress toward that would be indicative of a taper point? I think that’s the first question the markets, once they understand that, are going to start to ask, and then they’re going to transfer their confusion to that. Would it be, close half the gap and then you begin to taper, perhaps? We’re at 7.6 percent, on our way to 7 percent.

CHAIRMAN BERNANKE. I’ve thought about this. Let me give you two alternative approaches, one softer and one a little harder. The soft approach is the following. What I actually had in my draft before I took it out was something like the following. If you refer to your language, in paragraph 4’ of alternative B, I had language similar to this, which says, “If the economy develops broadly along these lines”—you know, along the SEP lines—“we would reduce the pace in measured steps through the first half of next year, ending purchases about midyear.” And then I had a sentence like: “At that point, under this scenario, the unemployment rate would be around 7 percent, which would constitute a substantial improvement,” or something like that. I was simply drawing the observation that under this scenario, we would have about 7 percent unemployment. I think that would have a little bit of a soft sense of being the kind of improvement we’re looking for without being a fixed target.

The stronger way to do it—and I suppose the advocates ought to say which way they prefer—would be in the same sentence: “reduce the pace of purchases in measured steps until

the unemployment rate is at approximately 7 percent, which should be around the middle of the year under this scenario.” Or something like that—so, reversing the order of those two. That would be the harder target. I think one thing that makes this a little safer than you might think is that the presumption is that we’d be cutting the pace as we made progress, and I would still have the part about reducing purchases this year and so on. If it’s a long time between 7.2 percent and 7.0 percent, at least it would be only at a very slow pace of purchases. That would be, I think, the hard case.

So those are two scenarios. Hearing what I’ve heard, I’m attracted at least to doing the first, just to give some guidance about what we’re thinking about. But I think it’s a fairly strong step to make it a harder target, and I’ll need guidance from the Committee on that for sure.

President Stein, Eric?

VARIOUS. You demoted him; you demoted the Governor. [Laughter]

CHAIRMAN BERNANKE. “President Stein.” You see I’m confused here. *Governor Stein, President Rosengren.* I’m sorry. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Let me begin by thanking you, Mr. Chairman, for your efforts to address what’s become an increasingly thorny problem. We find ourselves in a position where we’re trying to manage multiple unconventional tools, where the reaction functions for them are perhaps different, and where theory gives us very little guidance as to what might be optimal. This makes for difficult policy choices and challenging communications. Despite the awkwardness of the flurry of weekend e-mails, I do appreciate the effort to make progress on this difficult set of problems.

The markets are, of course, forcing our hand, in some sense, to provide more clarity on our open-ended asset purchase program. We’ve been reluctant to commit to much of anything in

this regard, but now we must offer greater clarity. Now, as I suggested in my remarks yesterday, I think a strong case can be made to start to slow purchases today, and thus I'm more inclined to argue for alternative C. What troubles me about the proposal on the table is that it completely caves into market expectations that *we* have failed to control. We began this initiative with the expectation that it would be a \$500 billion or \$750 billion program that would last about 9 months. We're now conceding that this will be a program that will likely be over \$1 trillion, lasting 21 months, and resulting in an over \$4 trillion balance sheet—this in spite of an economy that exceeded our expectations.

So for those of us who are concerned about the risk associated with a large and growing balance sheet, this does little to allay those concerns or to mitigate the accompanying risks. I don't think we've carefully investigated the consequences of unwinding the current \$4-plus trillion balance sheet, or what may be the path of interest rates or remittances that would follow. I think we need to understand that better.

The language you propose does go in the right direction, however, in suggesting that there are conditions under which we would consider reducing the pace of purchases in the fall, and I am encouraged by that. This is a very good thing. But the lack of specificity on these conditions may leave the markets wanting more and more and more clarity, and may leave the Committee a great deal of discretion at the same time to do anything it pleases, including not acting. Now, of course, the demand for clarity and the demand for discretion are two sides of the same coin, as Governor Tarullo was pointing out. It's hard to demand complete discretion regarding future actions and provide clarity as to the course of policy. This is a tension the Committee has struggled with for some time, and I suspect it will continue to struggle with it for some time to come.

I think the language you propose is likely to increase market expectations that we will begin to slow the pace of purchases in the fall, and I'm really not quite sure by how much. Given our past behavior has been to resist slowing the increasing pace of accommodation, even in the face of moderately good news, the markets may be dubious that we will actually do so unless there is a huge breakthrough in economic performance. Again, these are roughly the remarks that President Lacker was making. We've conditioned the markets that our bias is always to ease more, and when we signal the intention that we might pull back, the question is, how much credibility will that have?

This is where the remarks that you make in the press conference will be important, and perhaps the SEPs can be useful in this regard, if not definitive. But I think you will be asked for much more concrete metrics. If I'm not mistaken, increases in employment of about 150,000 or 160,000 jobs per month, on average, would be consistent with the sort of progress shown in the SEPs and in the staff forecast. It can be signaling progress along the lines that we're looking for.

Having said all this, I would like to support your proposal for paragraph 4' of alternative B, even though I'm concerned that it does not go far enough or fast enough in reducing the risks we are taking with our balance sheet. I do so because I believe it is a positive step. I think there are several aspects of the language that I view as important, and let me touch on them. You emphasized the cumulative progress we've made since the program began. This is important because it tries to emphasize that we want to look beyond noisy, month-to-month numbers that are subject to revision, and I would encourage you to make clear this point in your press discussion. We are not just watching the most recent piece of data. We are not trying to fine-tune in response to every monthly number. We have to take a longer-term view of the economy.

Second, I would prefer to say “September” rather than “later this year.” While I would prefer September, at least we’re signaling that it’s likely to start before 2014. Ending purchases by midyear of 2014, I think, is both too slow and in danger of running into the calendar-based guidance we’ve struggled with before. So I hope that in your discussion, you will make clear that if the pace of purchases can be wound down more rapidly, we would do so before then, and I’ll come back to that in a moment.

I also like the fact that you emphasize that the pace of purchases can be increased or decreased. Symmetry is essential and important in making these points, but I’d like you to believe that markets will push on this point. How much improvement or deterioration will motivate the Committee to move in either one direction or the other? This will continue to be a challenge for us, no matter what we do. I actually have some sympathy for using something like the 7.2 percent or 7 percent unemployment rate as a point at which the purchases would end. I think doing so does add clarity by giving a state-contingent condition rather than a date, and I do think this has some merit. I have to confess, though, that I do have some trepidation about this, and some unease. I think our practice of using unemployment triggers or thresholds on this more regular basis, as we already have one at 6½ percent, runs the risk of adding credence to the view that these things are targets or something that we can achieve with some degree of confidence. I would hate for this practice to become standardized in our operating procedures, and that, I have to confess, makes me a little nervous because, going forward, the markets may expect us to do this on a more regular basis. That is troubling to me.

My own forecast is that 7 percent may be close to what we will see in December, and, if not then, maybe shortly thereafter. We are prepared to put in a 7 percent threshold and if we’re going to end at 7 percent, the sooner we should start tapering the purchases. If we wait any

longer and the unemployment rate begins to fall, we are going to have to unwind the program very quickly. So I think we need to be cautious about that. And I think we also have to make clear in your discussion that if 7 percent is the target, we are prepared to end this by January, if, in fact, that's where the economy goes. Making that credible may be very difficult in some cases.

Lastly, let me say that I think it's essential that paragraph 4' of alternative B or something to that effect be included in the statement. It represents an important explanation of our reaction function and so should come from the Committee. For you to offer this only in the press conference, I think, would lead to very difficult questions for you as to why it's not in the statement. Indeed, if it's not in the statement or something similar, it would raise, I think, far more questions than it would resolve and undermine the value of the clarification that it would bring to the markets. Questions like, "Mr. Chairman, you have said that we may begin reducing purchases in the next few meetings. Why isn't that in the statement? Is this the view of the Committee? Doesn't it agree with that prospect?" If so, this will not provide much clarity. It will challenge our credibility and our commitment to what we're trying to do. If it is in the statement, it lends credence and credibility to the argument, and if it's not, you will get pushback. I think these kinds of questions would cause distractions from the message and the fact that we're actually trying to provide clarity.

So, in summary, this is not the message that I would prefer, but I do think it would be progress, and I would encourage us to at least do something in the statement to support whatever discussion we plan to have in the press conference. They need to be in sync because if they're not, it will not be good for what the markets think about this. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you.

MR. BULLARD. Mr. Chairman?

CHAIRMAN BERNANKE. Yes, President Bullard.

MR. BULLARD. Just to follow up on some of President Plosser's comments, what would our intent be, say, if unemployment ticks down to 7.4 percent and the staff still forecasts, or the Committee forecasts, that it is going to be a shallow pace of decline in the unemployment rate? Would we taper at that point or not? I think that's a key question about how we're going to do this. And then you would say, okay, we're not going to taper at that point—but then the next month, it goes down to 7.3 percent. Now you're that much closer. How do you envision handling it?

CHAIRMAN BERNANKE. I think that the idea would be to taper roughly a third at 7.4 percent and roughly a third at 7.2 percent, but with a little bit of flexibility there—again, I'm just reacting to this discussion, which is very interesting. But the point is, if it's anchored by 7 percent, the integral is pretty invariant to whether it's October or September when you make the change, don't you think?

MR. BULLARD. I don't know.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. I think the integral would depend on your outlook for how long it would take.

CHAIRMAN BERNANKE. That's what determines it, but not how quickly we react in the interim.

MR. KOCHERLAKOTA. That's right. I think President Bullard was trying to pose a situation, if I interpreted him correctly, where we get to 7.4, but we anticipate being there, for some reason, for many months, and then—

CHAIRMAN BERNANKE. Well, then we would explain that, I think. But that's obviously a good question. President Plosser.

MR. PLOSSER. What that would mean, though, if that forecast turned out to be wrong, is that as we get closer to 7 percent, the unwinding and the reduction would have to perhaps come very quickly in that environment. And part of my question in my statement was to try to get us thinking about, are we prepared to do that? That's all.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I guess it's a formality to say that I support alternative B with no change in the flow today. As I said yesterday, my SEP projections require substantial continued monetary policy accommodation. I have about \$1¼ trillion through mid-2014, but different paths could be associated with that. I also assume full credibility for the thresholds in our forward guidance, and my own expectation is that when the unemployment rate gets to 6½ percent, it will be accompanied by an inflation outlook that is less than 2 percent, so that we would keep the funds rate at zero until the unemployment rate gets down to about 6.1 percent. I think of this as a bona fide threshold. A critical element in all of this is that the public credibly believes that this is a state-contingent response path.

Now, I came into this meeting, especially after your e-mail, with an open mind regarding our ability to maintain credibility for each of our policy tools, but also to be more specific about the path of LSAPs, which might involve tapering sooner than what I would have guessed. Having said that, I did find President Kocherlakota's arguments yesterday to be quite compelling. I think our LSAP efficiency rests on the credibility of the path of our stock of purchases. I think that, when we reduce the flow rate, we're going to be signaling either that we're satisfied or that we have a problem and we regret our position. I don't believe that we

have a problem. I think our tools are quite useful, and I don't think the evidence supports that there is a problem.

One of my biggest concerns is the regret that we might face should we end up in more of a Japanese type of situation, as we've talked about in the past. In fact, President Lacker's comments about his reduced growth path, to me, suggest the possibility of a Japanese type of situation, one with lower growth and lower productivity as unemployment is coming down; and the test is going to be inflation. In President Lacker's outlook, he's envisioning inflation to pick up on the strength of our policy accommodation, but if it goes the other way, it would be a big concern.

So that brings me back to reassessing reasons for why we would reduce the flow. I think we should be satisfied with the decision. I thought that Governor Yellen's comments and others' comments were extremely well put, that we need to see growth above potential in order to reinforce the employment improvement that we're expecting. The growth outlook is a virtuous circle, and it critically depends on growth picking up. I think that's a feature of my model as well. So I have come around to the fact that the third-quarter growth rate for GDP is going to be a fairly substantial test of the sustainability of employment growth. It seems that the current assessment is that the second quarter has been pretty volatile. Maybe we will get lucky and it will be better, but I think two quarters in a row would be important for understanding that the employment growth is sustainable. And that's kind of in the late-October reporting date. Maybe we'd have enough confidence before that that things are picking up.

I put all this together, and I think we should communicate state contingency that avoids, as Vice Chairman Dudley said, the rush-to-taper risk. I think that in the statement that you put together in paragraph 4' of alternative B, there are many helpful pieces of language that get at

that, talking about growth that picks up over the next several quarters, and that seems in line with how I'm thinking. I would prefer whatever action we take to leave an expectation that, in fact, December tapering is slightly more likely than October, which is more likely than September. That's a preference that I have. And if the data come in faster than that, as paragraph 4' indicates, then that would be consistent with earlier tapering. So I think that language works fairly well. If we got employment growth over 200,000 for several months, that would be good, but I think that's unlikely unless we get a good third quarter. What's the difference, in terms of September versus December tapering? I think we're probably talking about \$30 billion over three months—only \$100 billion on the whole size of the program. So it doesn't seem like it's that big.

Now, in terms of the proposal of Rosengren and others for the unemployment rate threshold, it's breathtaking, the amount of agreement that has been marshaled for this among different competing views—truly a noteworthy meeting. And I'm attracted to it. I think that you've gone quite a way toward answering the question that I had as I began to understand 7 percent as the endpoint for this program: How are we going to adjust it? I might be a little more attracted to the notion that we should close half the gap before we taper, and then we start more aggressively reducing the flow. But we *are* talking about reducing the flow. President Plosser emphasized the unwinding aspect of that. I'm more optimistic because it's really reducing flows; it's not like we're unwinding the assets. So it seems simpler. I can definitely be attracted to that. I can support your making these comments in your press conference only without accompanying FOMC language this time. I do think that it needs to get into the FOMC statement language, but it's very difficult unless we go to three-day meetings or something like that. [Laughter] It's very tough.

The other thing is, I think you need to look carefully at paragraph 4' of alternative B. It is ugly; it is a lot of words. It is going to attract attention by the number of sentences, the length of it, all of that. I think we are going to hear quite a lot. The first blush reaction is, boy, this is ugly. In fact, I thought it was sort of a poison pill, too ugly to prefer this option, but eventually we could clarify it and get it into tighter language. Having said that, it does basically say the things that I can agree with, so I could support that.

I don't usually do this, but I am a little concerned in our statement on alternative B, paragraph 2. I'm concerned that we're not properly pointing out the inflation risk that we're facing. Inflation is lower now. We have this language where we say we think it's transitory, and I certainly do not disagree with that, but I almost think it is a reality check that we ought to include something in the last sentence of paragraph 2 such as, "Although the downside risk to the inflation outlook has risen, the Committee also anticipates," and the rest of the sentence reads as it did before. I think if we don't acknowledge that those risks are somewhat higher, we're going to hear about that in the reaction, in terms of the challenges that we're trying to face. I also think that that would help set up some balance for what we're talking about here.

I do think market reaction is a risk, but I don't think we can possibly know what the market reaction will be, overall, to all of this. The kinds of past behaviors that worry me a lot were when the Committee was more complacent. I think June 2003 was an example of that, when the Committee thought that they were on top of everything that was going on and didn't take an action that markets had really anticipated, and then there was a blowout reaction in July 2003. Here, we're being proactive if we do something like that, and I'm very positively supportive of that. So I can support whatever the consensus position is for alternative B or B'. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President George.

MS. GEORGE. Thank you, Mr. Chairman. Over the past few meetings, I have expressed my concerns about ongoing aggressive monetary stimulus in the face of a growing economy, and I continue to have those concerns. That said, my view of the appropriate path for the balance sheet is generally consistent with that of the Tealbook. With the assumption of \$750 billion in total purchases under the current program and a slowing in the pace of purchases over the second half of the year, the Tealbook is forecasting real GDP growth of 3.3 percent in Q4 of this year, with consumption growth projected to be at 3.6 percent. This would make it the second-strongest quarter for consumer demand since the end of the recession. From that point, growth is projected to only get stronger, as it is in the central tendency of the SEP. Given this backdrop, I see applying any accommodation beyond this baseline assumption as raising the risk that we will adjust the pace of purchases too late rather than too soon.

I thought Governor Yellen's analogy yesterday of the driving trip from San Francisco to New York was an interesting one. It seems to me our challenge today, though, is less about easing off the gas pedal in Denver than about understanding our destination. Last September, the Committee set its sights on speed and a northeasterly direction, so arriving in Denver understandably lacks clarity as to whether New York was, in fact, our destination [laughter] and how far we will continue in a northeasterly direction and at what speed.

Alternative B attempts to introduce a signal that the Committee is preparing to reduce the pace of purchases assuming sufficient further improvement in labor market conditions. Given the Chairman's recent comments about this possibility over the next few meetings and the market's heightened sensitivity to this prospect, I'm concerned that the signal in the statement as written may not be forceful enough. Simply acknowledging that downside risks have diminished

may not lead the public to believe that the Committee is prepared to act in the near term, especially with no change in purchases at this meeting. Accordingly, I could have supported alternative B if it were more deliberate in its attempt to signal an intention to begin reducing the pace of purchases as early as September. A clearer signal that the pace of purchases could be curtailed would help pull in market expectations in line with the Tealbook assumptions and lay the groundwork for such a reduction in the very near future. I do not find that the language in paragraph 4' of alternative B provides this kind of clarity, although I certainly support its intention to do so. I think this would be consistent with the Committee's previous statements, which have made clear that substantial improvement in the labor market outlook is needed to end the purchases, but not necessarily to reduce the pace of such purchases. Given the ongoing improvement in labor market conditions and the outlook, I view today as the appropriate time to deliberately signal that the pace of purchases will decrease in the very near future. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. First Vice President Stefani.

MR. STEFANI. Thank you, Mr. Chairman. While it was mentioned several times yesterday, the idea of what is substantial improvement in the labor market outlook seems to be one of the most important open questions facing this Committee. To me, the changes in the labor market conditions that we've seen over the past nine months constitute clear improvement, and I think it's important that we communicate this progress to the financial markets.

As President Pianaalto has described in past meetings, although the pace of job gains might seem slow relative to some norms of the past, research by the Cleveland staff has shown that the downward trends in job flows and labor force participation have reduced the trend rate of job growth. Relative to this slower trend, the current pace of job gains is substantial. And if this

trend continues, as I expect, my preference would be to start the reduction in asset purchases sooner and to proceed more quickly so that it might be finalized in the spring of 2014. This suggested path would result in a smaller total amount of asset purchases and not further contribute to the potential complications of a larger balance sheet.

Despite my preferences for a smaller overall balance sheet, I place a greater priority on clearer communications with the financial markets on the likely path of the Committee's asset purchase program. I think the press conference proposal that you put forward yesterday, Mr. Chairman, is a very positive step in providing greater clarity than exists today about the completion of asset purchases. There was discussion this morning about the 7 percent unemployment threshold, and I think this level is roughly consistent with our view of where substantial improvement would lie. But I don't feel it's necessarily a requirement to communicate this explicit threshold in our policy directive.

With respect to the policy options, I support alternative B and do not feel strongly that the communication needs to be incorporated into today's formal statement, as suggested in paragraph 4' of alternative B. I think getting the Committee to fully vet the statement language about the details provided in paragraph 4' will take some time and consideration, and I think we should take that time to ensure that we're all on the same page of what it means and what it says. So I support the original alternative B language as proposed. I'm also open to including the proposed language referencing "transitory influences" on inflation in paragraph 1. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. I would like to make absolutely clear that I am opposed to three-day meetings. [Laughter]

CHAIRMAN BERNANKE. Hear, hear.

MR. WILLIAMS. Although we have seen steady improvement in the labor market, we are still quite a way from meeting the “substantial improvement” test. Moreover, the surprisingly low inflation readings over the past year are a source of some angst. Therefore, the time has yet to come to adjust the pace of asset purchases lower, and I am comfortable with the policy actions described in alternative B for this meeting. I also support, since I sent it in, the suggested modification in paragraph 1 around inflation. I actually think this is an important point. Inflation is running roughly at 1 percent over the last 12 months; it is one of the lower readings we have seen in a long time. And I think making this change is actually important, both from an accuracy point of view and—remembering the discussion yesterday—because the low readings for inflation have been a big part of our discussion. So that is a change that I strongly support.

In terms of paragraph 4, I agree with, I guess, most of us that trying to come up with a good version of paragraph 4' is beyond our capabilities over the next hour and 40 minutes, and I am comfortable with paragraph 4 as is. And I am not only comfortable with but fully support the Chairman going through, as he discussed yesterday, the outline of the program, in terms of the forecast and in terms of the expected policy actions over the next year.

I think that in terms of the 7 percent target/threshold/trigger—I am not quite sure what it is—the way you describe that in the soft version of your language is actually a very good idea. I do have some concerns around it being a hard target because we actually haven't had much chance to digest and think through whether it is an appropriate setting for 7 percent to be the threshold, or maybe even the trigger—I guess that's the way I'm hearing it. But I think, in terms of the way you described it, Mr. Chairman, in terms of your soft version, that makes a lot of

sense. But I do think if we really were to say that 7 percent is the cutoff, we would really want to think that through. One of the things I am struck by, and I haven't had a chance to think about it hard, is, boy, there is not a lot of air between 7 percent and 6½ percent. So if we literally said we are going to keep buying until the unemployment rate gets to 7 percent, but then we will start raising rates after 6½ percent, there are certain scenarios where those seemed to be pretty close together.

The final point I want to make in terms of the communication around this is to reiterate something that a number of people have said. I do view the increase in volatility in markets, or the sense of some turbulence, as not wholly negative. I think that this is something that we had to go through. I'm just saying, I think, what I have written down from other people: that this was an inevitable part of the process. And I'm looking here at the Monday morning briefing; there is a nice chart on implied volatility from interest rate options. Yes, it has come up quite a bit, but it was at incredibly low levels. And I don't think we want to return to those incredibly low levels for 10-year Treasury volatility that we saw before.

I was, as we all were, I think, increasingly hearing stories of carry-trade-like, hot-money behavior a lot. What I have heard from my business contacts of late is that has come to an end. We also heard that story in terms of some international carry trade around foreign exchange yesterday. So I do think a goal is to provide greater clarity, greater understanding of our thinking, as the Chairman has laid out. But the goal shouldn't be to eliminate uncertainty in the markets about the future path of financial conditions and interest rates; it should be to get this back to more normal levels.

The last comment I will make is that there is no question that financial market participants have an insatiable demand for specifics. No matter what we do, they are going to

continue to ask for more and more specifics. They are going to clamor for dates. They are going to clamor for two decimal places for the unemployment rate, and things like that. And I think we just have to understand that is always going to be there. We can't give into that, in a sense. We want to just communicate our views on appropriate policy and what that entails. And, again, Mr. Chairman, I think your approach is exactly the right one for that. But I just want to say, we are going to all be asked next week and the week after, "Well, are you talking about a 7.23 percent unemployment rate?" or whatever. Because I don't think we are going to bring to an end that kind of demand from market participants. Thank you.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I am worried about these questions that President Williams was mentioning because I think I'm going to have to be answering them in Korean. My next speech will be in South Korea, so I think I will be trying to deal with this with Korean reporters.

I came to this meeting thinking that this is, in fact, I think, the most significant meeting that I have attended in three and a half years, and it is for the reasons President Lacker highlighted in his remarks. We are describing our willingness to remove a tool of accommodation when both the outlook for the unemployment rate and the outlook for the inflation rate are relatively low, two to three years away from our desired goals. It shows a lack of commitment to the goals. I think, to steal President George's analogy, I think the public and the market participants are going to be right to be questioning, exactly where are you going? Are you going to Omaha? Where exactly are you stopping off on I-80? So I think this is a big deal.

We are about to do alternative C. I mean, you know, I spent some of my time trying to campaign for alternative C. Boy, we are about to do alternative C. This is a big deal. It is a big

deal, and that's why markets are reacting to it. Because—President Lacker talked about it correctly—this is the turn, this is the pivot; this is the way markets are thinking about it. And they are thinking about our accommodation together because it is hard for them to parse it out, that we think really differently about the federal funds rate from the balance sheet. I'll talk about why I think it is hard for them to understand that because I don't think we have communicated effectively even among ourselves about that. But it is hard for them, so this is a really big deal.

Mr. Chairman, you are a wonderful communicator, but I think this has to get ownership from this Committee. If we are going to make this move, it has to be in the statement. Now, it can't be in the statement today—I agree with that, too. I thought President Bullard hit a lot of the right points. This is a big deal; we should be thinking about it for more than a weekend. It should be in the statement. I think we should take the time to get it right. I don't want to make reference to the time before I was on the Committee, but since October 2009, I think the times where we have had to rush to judgment have not led to the best possible outcomes in policy space. I think President Bullard referred to that, or someone else did. So I would advise waiting until the July meeting, and I will talk a little bit about exactly what communication can look like in the interim.

So, what are we thinking about, exactly? What am I talking about? A key driver for this decision is that there are costs to balance sheet expansion. I think it is very challenging, though, to spell out exactly what those costs are. It is just scary, I guess, but I think we have to be more serious about it. This is the Fed. I mean, we should be analytical and thoughtful about exactly what these costs are that we are balancing off against increased unemployment and lower inflation.

Are we worried that inflation expectations are too high? I think we have done a great job of communicating on an ongoing basis. Governor Yellen has talked about this at length; the Vice Chairman has talked about this. But to the point where I think we have convinced markets that just having a big balance sheet doesn't translate to high inflation expectations. In some sense, we are a victim of our own success. We are surprised inflation expectations haven't gone up more during this current period.

Are we afraid of low remittances? Are we afraid about the interest rate risks to the federal government? What is it, exactly, that we are worried about? And why do those costs register so high? Obviously, I am framing it in a way that foreshadows what my thinking is right now on this, but my point is simply that we have not had, I don't think, a serious conversation about those costs, and it is pretty important for us to have this conversation because it is the driver for this decision.

Okay. So what else? What is another point that I think we should discuss and have a clear understanding of? What exactly is the measure of labor market performance that tracks our success, or lack of it, on the employment mandate? This is a very big deal. The unemployment rate has fallen very sharply, but it is largely coming through the labor force participation margin. When I talk in public, I talk exclusively in terms of the unemployment rate. So here, I am truly agnostic.

But this is a very important decision, and I think that we are being drawn now to using 7 percent as our marker. We could get to 7 percent and see a decline in the employment–population ratio. Do we want that to be our measure of success? I think, again, maybe the answer is “yes” to that, but, boy, we should have a conversation about that before we go down that path. I think if we are reducing accommodation because of the cost of this tool, we should

be pivoting to other forms of accommodation, but I won't push that so hard right now. I still think that the outlook calls out for more accommodation, so I am drawn to some of the suggestions in alternative A. But I won't spend my time on that. I actually liked the idea of having a hard definition of what sustainable labor market—I'm forgetting the words—

VARIOUS. Substantial improvement.

MR. KOCHERLAKOTA. Yes, exactly. And I have been asked about that many times—what does it mean? And when I am asked about it in public, I say, boy, it would be nice to have a definition; I don't want to give you mine because that just confuses you—it adds to the other definitions that are out there. But it would be great to have a Committee definition. So the idea that we are going to get a Committee definition is really exciting. But I think we have to put some thought into what that is. Again, I mentioned the employment–population ratio point already, but isn't it really going to be true that if we had shocks—you know, shocks happen—that led unemployment to be above 7 percent for the next two and a half years, would we be comfortable still buying assets over that time frame? You know, I don't want to speak for President Fisher, but I think his willingness to go along with the 7 percent threshold might start to wane as we went along on that time path. And, again, you should speak for yourself, but I think that it would be challenging to hold this coalition together if that is really what we are looking at.

So, again, I don't want to prejudge. Maybe that is what we want, and I would be excited by that because I think that would give an automatic stabilizer effect that really could be quite powerful. But we have to talk and think about that, so I really would push for waiting until July. That is essentially the summary of all of that.

What do we do in the interim? Mr. Chairman, I don't envy your job, that's for sure. It's very challenging to address these questions. I think that the truth is the truth, and I think there is an ongoing conversation within the Committee about what our goals are for this program. I think it is fair to say that there is broad support for the idea that the labor markets have improved since September. I think, definitely, we have seen that, and I think most people have spoken to that. On the other hand, I think, again, there is also broad support for the idea that we haven't seen substantial improvement at this stage. So we are somewhere in between.

The Committee continues to think about what that means. I don't think that we can offer more clarity at this point in time beyond that. It is possible you could go so far as to say that a number of people on the Committee spoke approvingly of the idea of tapering purchases before the end of the year. I think that is a fair summary of the discussion as well. I think there are a number of ways to summarize the discussion without giving the sense that it really is where the Committee is likely to go, and I would advocate that instead. It is not going to kill all of the volatility in the markets, but, as some have suggested, this is a big deal, this is a big shift, and we should expect some volatility along the way.

So I don't think we should be rushing to judgment—especially, as I indicated earlier, because I think it is important for the Committee to take ownership of this. We make fun of the wording choices, at times, in some of the alternatives. But there is a discipline associated with all of us going through it, all of us checking off, and the Committee voting on and agreeing to it, that I think is very helpful. So thanks for indulging me for so long. I like the idea of a 7 percent target, but I think that we need to think about that more. I think we should put the time in, get it right, and come back in July and nail this down. And I think there are a number of ways to summarize the conversation, Mr. Chairman, that will assure markets that we are aware of this

issue and that we are going to be coming back to it relatively soon with additional clarity. If it really is an emergency situation, there are ways to have intermeeting meetings, and we can deal with it at that point. I don't see the situation as being an emergency at this stage. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Two-hander from Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. Narayana, you play into all of my predispositions about thinking stuff like this through. But I wanted to ask you more specifically—you kept referring to July. Jim made the point before about the absence of, at least, a scheduled press conference. Realistically, do you think we could do this without a press conference?

MR. KOCHERLAKOTA. I thought there was a reference at the last meeting to the possibility of doing a press conference. I agree that with a decision this large, we would want to have a press conference. So I think that it would be possible to schedule a press conference around this. To go further along these same lines, I would not be displeased with the idea of waiting until September to make the decision. It would depend on the market signals along the way, to a certain extent. I think there are gains to be had in terms of thinking and studying what is going on. Spending the time in July actually sorting through some of the questions I raised would be helpful.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. I think one thing you could do is say that we are thinking hard about these questions, we hope to come back with more guidance in July, and we will schedule a press conference at that time.

MR. TARULLO. There is no great answer here, but saying that puts a kind of weight and focus on July that will exceed that of any single FOMC meeting that I have been in, at least. Everybody will just ramp up—it will be six weeks of wild speculation, I think.

MR. FISHER. I concur. I think it would just—

VICE CHAIRMAN DUDLEY. Talk about scary.

MR. FISHER. —make things a lot more scary.

CHAIRMAN BERNANKE. Just a somewhat, but not totally irrelevant, comment: I have been talking to Michelle about this issue of press conferences at every meeting. One intermediate strategy would be to let it be known that there is a scheduled press call after the non-press-conference meetings that could be activated as needed. So we would have the option, always, of having a phone press conference after every meeting. We haven't, of course, put that into place, but that would be something to solve this problem. I absolutely agree with you that having only four active meetings a year is not a satisfactory situation. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I support alternative B. I agree with the analysis you laid out in your remarks yesterday concerning the issues that face us in connection with our asset purchase program, and I support the plan that you proposed for how we would vary our asset purchases over time in the scenario in which economic developments unfold along the lines of the Tealbook or our SEP central tendency. I think it will prove very helpful for you to lay out this plan in your comments at the press conference. Especially from a governance standpoint, I do see a very good reason to include something in the statement, but, for today, I absolutely agree with those who have said this is not ready for prime time and we need to think it through. So I am prepared to think it through, and I think it may make sense to put it in the statement, but just not today.

As I emphasized in the economic go-round, I see the risks for growth and inflation as weighted to the downside of the Tealbook forecast. The labor market has improved since we started our asset purchases, and by more than I anticipated at the time. But taking account of the decline we have seen in labor force participation, as well as the limited changes we have seen so far in other indicators—like the duration of unemployment, the quit rate, and the number of people working part time involuntarily—to my mind, the overall improvement still seems rather modest. Moreover, as I discussed yesterday, continuation of that progress is by no means guaranteed. Inflation has also surprised to the downside. I anticipate it will pick up over time, but that outcome, too, is by no means a sure thing.

With incoming data on growth during the intermeeting period having been mixed, the pace of job growth lower than earlier in the year, and inflation, along with some measures of inflation expectations, surprising to the downside, market participants would be stunned if we were to reduce the pace of purchases at today's meeting, and I couldn't support that decision. But I could support a reduction in the pace of purchases as soon as September if incoming evidence is consistent with the Tealbook and the SEP central tendency. I would expect to see continuing payroll gains at least at a pace in the same ballpark as we have seen in recent months and, importantly, evidence of a pickup in growth in the second half of this year that seems likely to strengthen into next year, including signs that the sort of virtuous circle that underpins the Tealbook's forecast is actually emerging.

I will be looking for evidence of a pickup in the growth of consumption and investment spending. Without that, I will remain concerned that the progress we have seen in the labor market thus far won't be sustainable. Going back to my road-trip analogy, I, for one, don't want to get stuck in Denver. [Laughter]

CHAIRMAN BERNANKE. President George, are you going to intervene on that?

MS. GEORGE. It's not bad.

MS. YELLEN. Well, it's nice that we have a Branch in Denver. I'll check in there if that happens.

The data will also need to suggest that core inflation is picking up gradually and that inflation expectations remain stable. Looking beyond the September meeting, if the economy continues to evolve in the fourth quarter and into 2014 in line with the Tealbook and the SEP central tendency, I expect to support further reductions in the pace of our purchases over time, with an expectation that they would conclude around the middle of next year.

The danger in setting out a plan along these lines is that markets may lose sight of the fact that it is contingent on incoming data and, instead, build in expectations that a cut in the pace of purchases in September and beyond is baked in the cake. Worse still, they may question our commitment to provide the accommodation that is needed to promote a full economic recovery and question our commitment to our forward guidance pertaining to the funds rate.

These concerns notwithstanding, we do need to communicate more clearly what it will take for the Committee to change the pace of its purchases and how we intend to proceed over time. Some volatility in long rates is inevitable and desirable, given that incoming news that alters the outlook should change the policy path. And I agree with President Williams that market developments, for the reasons he described, have not been all bad. But what is disturbing is that most market participants assign substantial blame to us for flawed communications and for the increased volatility we have seen. And to the extent that that contributes to higher risk premiums, it is undermining the effectiveness of our policy.

To minimize the downside risk from setting out a reasonably concrete plan, I consider it essential for our communications to emphasize that our decisions about the pace of our asset purchases at every stage are contingent and data-dependent. I think it would help market participants keep that in mind if you were to follow your suggestion that in your press conference you include some specifics about what the economy would look like when the program winds down, if things evolve according to the SEP central tendency. In particular, you could mention that at that time, unemployment would have declined to around 7 percent. I would also suggest noting that when the program winds down, we would expect to see growth in the neighborhood of around 3 percent and inflation moving up a little from present levels. I think adding these concrete details would emphasize that there is not a fixed calendar date that we have set for tapering the program and phasing it out over time.

In connection with the proposal of Eric and Jeremy and Dan about 7 percent, I am certainly open to considering it. But I would associate myself with Narayana's comments and Jim's and others' that we really need to think hard about this. To throw this in today as a condition, without having thought through whether it is something we really could live with—whether it is the right measure; whether it is a trigger; whether it is a threshold—we really need a lot of analysis. This is just something that it would be utterly rash, in my view, to jump into.

I hope in the next couple of months, all of us will strive in our external communications to avoid creating further confusion about the Committee's policy intentions. For my own part, I pledge to do so. On language, I support the amendment of President Williams to paragraph 1 of alternative B, and I would simply say "below" and not "somewhat below."

CHAIRMAN BERNANKE. All right. Thank you. Governor Tarullo.

MR. TARULLO. I think everybody is trying to do this navigation, and I just wanted to ask this: As I understood it from some quarters, the concern about the narrative as the Chairman described it yesterday was that, in the absence of something concrete in the data realm, the focus would be on the date, on later in the year, and that would overcome any sense that there is a bunch of data that underlie the forecasts in the SEP. I completely understand and sympathize with what Janet said, as Narayana did, about how it's always better to think through the potential consequences. But I just want to make sure I understand how you are thinking about it. You are not overly concerned that the focus would just be on, okay, the Chairman said later in the year, and that is when the reduction in the pace of purchases is going to start?

MS. YELLEN. Well, I am concerned. I absolutely am concerned about that. But on the other hand, I just think it is necessary to set something out. What we are really talking about—if you remember our consensus forecast idea—we need something like that. Unfortunately, we didn't succeed in making that work. But as the Chairman said yesterday, when you are thinking through your press conference remarks, it is completely legitimate to talk as if the world were to evolve in accordance with your forecast. Now, if we had succeeded with a consensus forecast, we wouldn't be saying the SEP central tendency, and we can't say the Tealbook. We would be saying, if things evolve in line with the Committee's consensus forecast, what do you have in mind for policy? And you recall that it was because we couldn't decide that question with respect to asset purchases that we threw the whole thing over, and that is really what we need. I mean, what most monetary policy committees that set out a path do is they have a policy path, and they have paths for the other variables, and then they have fan charts around it to show that it is all uncertain; it is not locked in. And I feel like if we had succeeded in that exercise, that is what the Chairman would refer to, and we would be in a better position. I do think there is

downside risk. We don't have fan charts. It is hard to make it contingent, but I still think, considering everything, to my mind, that is the best way to go.

CHAIRMAN BERNANKE. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I actually prefer alternative C. I like the emphasis on continued improvement in paragraph 1. I like the broader expression of confidence in paragraph 2, and I'd be in favor of the reduction in purchases outlined in paragraph 3. As I discussed during the economic go-round, there's been a noticeable improvement in the labor market outlook since last September—perhaps not substantial, but clear improvement relative to the September Tealbook forecast. Moreover, I've become more confident in that outlook.

My policy preference is to use adjustments in the pace of purchases to teach markets about the way that we will react to incoming data. I may be coming to it late, but I think the Chairman's admonition against using the term "taper" is exactly right. "Taper" implies a steady progression toward the end. I view a step-down when we still have plenty of runway as an opportunity to teach markets that we intend to move slowly, react to incoming information, and that we are even willing to back up a bit if necessary.

I see this as a foreshadowing of the way we will approach raising the fed funds rate when that time comes. Once we establish a clear pattern, whether it's a step-down at consecutive meetings or at every other meeting, Fed observers will draw a trend line through the dots and move to the finale. In fact, we should expect them to try to anticipate our pattern. Thus, the second move might be even more important than the first. A preestablished pattern in the face of uneven progress toward our objectives could run counter to the message we've tried to establish, that our policy actions will be sensitive to the evolving outlook. If we wait too long to be sure before we make the first move, our subsequent path could then be quite steep. Historically, the

Fed doesn't vary from a path or change direction once a direction has been established. Using this exercise as a way to break that tradition if positive signs reverse could actually buy us some flexibility on the path of short-term rates later. My mother always told me that people learn more about you from what you do than from what you say, and this gives us a chance to demonstrate by doing.

Finally, I'm concerned that the longer we wait to make any adjustment, the higher the perceived bar for doing so becomes. As I've said repeatedly, I do think there is significant cost to a growing balance sheet. I am willing to support, and have supported, adding to that balance sheet when conditions warrant, but I've come to see that citing cost as the reason for ending purchases is confidence reducing. So I'd like to avoid getting to a level where the costs are too great and, especially, to avoid adding more assets than conditions require.

For these reasons—the noticeable improvement in labor market conditions that we've seen so far, my growing confidence that these improvements will continue, and my concern about the cost of a growing balance sheet—I was prepared to vote for a reduction in purchases and against a statement that did not even open the door to reducing the pace very soon. I saw my vote as a vehicle to clarify the view that I've expressed repeatedly in this room and that has been reflected in the minutes. But markets were not prepared for the Committee to make any adjustments at this meeting. Market participants are hungrily seeking guidance about our plans and our reaction function, and while a dissenting vote might give me the opportunity to state my preferences publicly, it wouldn't provide any clarity about the future direction of the Committee. More telling is that as I prepared for this meeting, I realized that I wasn't even sure what I would be voting against. If the Committee was on a path to reduce purchases soon in response to accumulated progress and a brighter outlook, I really didn't want to quibble over a few months

or a few billion dollars. On the other hand, if the Committee's hurdle for reducing purchases was much higher than mine, I did want to register that disagreement.

My read from the last several meetings is that the 19 participants in the room are about evenly split between these two directions, but I think the 12 voters at this meeting are more tilted toward a higher bar. I suspect that may be why the Chairman was having so much difficulty when he started thinking about how he was going to explain policy. In the tradeoffs that are necessary to reach near-unanimity in our votes, we communicated a position that's somewhat muddled between the two. We saw over the intermeeting period how much price reaction there was when uncertainty was created. I think the reaction was manageable and that there might actually be some positives stemming from it, but that reaction also demonstrated how easy it would be to negate all the efficacy of purchases by botching the communication. And then we'd be left with only the cost.

I think the authority to vote in this Committee is an extraordinary responsibility, and it requires that each member vote in accordance with his or her best judgment, but I would also view it as a violation of the public trust to add to market confusion with my vote. So I'm going to vote for alternative B as a vote for clarity, and I wholeheartedly support having the Chairman outline a baseline path for purchases using the SEP as the baseline condition. In doing so, I do hope you will leave the door open for an adjustment to purchases in September so that if the data cooperate, we will not have to weigh that action against the cost of surprising markets.

The original staff memo about a flow-based purchase program emphasized the importance of deciding on and then communicating a stopping rule. Despite a series of 11-1 votes, I don't feel like we've ever really agreed on such a rule. Instead, our many disagreements have led to more and more qualifying statements being added to paragraph 4, and,

even now, if we could agree on 7 percent as the destination, we still need to agree on how we would determine when to step down. But if 7 percent was established as the destination, then maybe others would be more comfortable with a first step that came earlier. I would be very pleased if we could modify paragraph 4 into something more definitive, and I think including a statement that follows the contours of whatever statement is introduced by the Chairman at the press conference would be a logical, good governance, good communication way to do that.

But I suspect we could spend the next four meetings wordsmithing it, coming up with paragraph 4' of alternative B, paragraph 4", paragraph 4 "19 prime." Our communication is muddy because we haven't really reached agreement. We need to reach agreement on a destination, but we also need to agree on how we will make our decisions along the way. If the data come in strong, these disagreements won't matter. If disagreements persist, however, we might ultimately have to live with votes that are not nearly so unanimous, but with a statement that more definitively describes the intention of the majority. Such an outcome, I believe, would be more instructive and more transparent to the public than our current efforts to compromise. This isn't the last time we will face such a problem. As we get closer to our fed funds threshold, the same issues are likely to surface with respect to the first increase in the fed funds rate and the path thereafter. So spending time thinking more about how we handle our internal differences will have long-term, positive effects on our external communication.

To sum up, I support alternative B. I support the Chairman's planned explanation at the press conference. I would support further work to see if we could agree on a formulation that reflects his comments to be included in paragraph 4 at the next meeting. I would also echo President Bullard's suggestion that at some point we move to press conferences at every meeting. Otherwise, we will confine ourselves to only four opportunities a year for action.

And finally, I would ask that we instruct the staff to estimate the purchases implied by the Chairman's statement and use that as the baseline for future Tealbook assumptions. If our staff can't figure out what purchases are implied by the statement, markets won't be able to either. So perhaps we could view that exercise as a test of its clarity. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. I support alternative B as written. I see much evidence to suggest that substantial accommodation is still necessary. I think we need to wait for more improvement before we begin reducing the pace of purchases. And at this meeting, I'm not prepared to take any steps that would be perceived as reducing accommodation in a way not supported by changes in the real economy.

The proposed changes in paragraph 2 regarding the reduction in downside risks are at the edge of my comfort zone, and I think that this paragraph already communicates that we are beginning to lay the stage for a pullback. I think the statement in paragraph 1 should recognize the further decline in inflation, but understand the consensus view to be that the dip is transitory. I concur with both Presidents Williams and Evans in their reactions to the inflation language and would support their views.

I agree with the overall message in paragraph 4' of alternative B, but I'm concerned that we haven't done the groundwork yet for making such a huge change in the statement itself rather than laying the stage in the press conference. Just from a cosmetic perspective, I count 20 new lines of text in paragraph 4' and the removal of 6 lines of text. We should not do this without greater confidence—and I'm not saying perfect confidence—but some greater confidence that we will know, if not the magnitudes, then at least the direction that markets will take from this messaging. A little more certainty from our perspective might tell us, for example, whether a

message in the statement is going to lead financial markets to further tighten, precipitate earlier contraction, or possibly be mildly expansionary. I've just heard too much around this table this morning to know for sure. I also wonder how markets will take it that we're removing the sentence added to last meeting's statement so early. Do we really want to be appearing so uncommitted to such recently inserted language?

Also, communication only begs for more communication. In this regard, what would markets say about our silence on the next communication vacuum, which, to me, is the composition of purchases between Treasuries and agency MBS? And does this silence itself create additional uncertainty? But I appreciate the need to provide clarity. I think the press conference provides the opportunity to remind markets of some of the statement's existing messages, and there are plenty of existing messages we could hammer in on that haven't been fully appreciated by markets yet. Not just markets, but we also don't know definitively whether banks, while making substantial steps toward responding to interest rate risk through their risk management practices, have themselves fully appreciated the potential timing of a possible surge in interest rates.

So hearing the messages again will itself underscore their importance and maintain the Committee's steady course while signaling how we intend to move forward with reductions in the pace of purchases in the context of financial stability. So first, and I think you intend to do this, Mr. Chairman, we need to emphasize that there are a number of exits we have to manage. There are actually two exits, not just one. Markets and the public don't seem, though, to fully understand that there are purchases and then there's the federal funds rate. And each exit, as we've been discussing, has different criteria. If we permit markets to conflate the two exits, we will cause more confusion, and we will run the risk of a premature contraction. Beginning to

clarify the stopping rule for purchases is a good idea, and we should explore how it interacts with the perception of the second exit, which, again, is the liftoff of the federal funds rate. I think there's confusion about what happens when we hit the 6.5 percent unemployment threshold. I think the trigger–threshold distinction isn't fully grounded in the thinking of market participants. Some market participants continue to think that the 6.5 percent figure is our view of full employment. Others are ignoring the lower-for-longer language, and the decision by the Committee to look at other labor market indicators is not one that the markets have fully considered. So I think our projections, in fact, might raise the confusion factor because they show that we'll come to the threshold earlier than we had anticipated and perhaps earlier than markets had anticipated. So at the same time that we're contemplating an early reduction in purchases, we're also, by virtue of our forecasts, contemplating an early crossing of the threshold, which to many market-participant minds will entail an earlier liftoff of the federal funds rate.

Third, markets seem to think that the reduction in purchases will be on a predetermined path, but we want to slow our purchases according to how the economy progresses. This means that markets must learn that there's the potential for us to pause in engaging in reductions or to increase purchases. We need to communicate such possibilities so that it's the state of the economy that's the real driver.

Fourth, markets are confused about whether financial stability concerns would put an end to all monetary accommodation. Given our close eye on the reaction of term premiums and their potential to suddenly mushroom, we could begin to think about clarifying that financial stability concerns could halt purchases but may not halt the need for additional forms of stimulus, if necessary.

So it seems to me there are many aspects that we need to clarify: that there are two distinct exits, not one; that 6.5 percent unemployment is not full employment, and it's not a trigger; that other labor market indicators will be relevant to raising the fed funds rate; that a reduction in purchases will not happen on a predetermined path; and that if we begin to see dangerous threats to financial stability prior to the economy being self-sustaining, we would look for substantial forms of accommodation, if necessary. I'd like the press conference remarks to be used to lay the foundation of these messages to markets, so that our later tightening this year will occur if economic conditions warrant and will occur without triggering dangerous levels of instability. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. I will support alternative B today, and I would like to see the inflation reference included. I think it's an important point, and this represents our acknowledgement of that. I would have been ready to support a reduction in the pace of purchases today, but the market has, of course, no expectation of that, and I will not argue that we should spring a surprise at this sensitive time. If the economy continues roughly on its current path, I'll also be prepared to support a reduction of purchases at the September meeting. I'm happy to see this done in the press conference, although clearly there needs to be a statement, probably at the July meeting.

There are two reasons why I think it is time to provide the world with a road map of our thinking on reducing purchases. The first is that it's clear that we have accumulated a large stock of progress in growing payrolls and reducing unemployment since the September meeting, when the substantial improvement test was adopted. The second is that by not recognizing that progress, we're continually raising the stakes for the first reduction in purchases. The first

reduction should be seen as a calibration and an acknowledgement of material progress on the road to full employment. Instead, we have let the market see it as perhaps a signal that we're moving to end the program and raise rates. We've let it become too important.

I've been a doubter as to the efficacy of these purchases, but I nonetheless want this program to succeed and to end well, as we all do. In my mind, that requires two simple things. First, we need to tell the market in advance what we're going to do and be clear about it. Second, we need to be seen as reducing purchases in a way that is faithful to the test that we've set for ourselves: substantial improvement in the outlook for the labor market.

The approach that we're considering seems to me to meet those tests. I see this as a plan to bring purchases to a stop roughly around the time that we reach a 7 percent unemployment rate, and that seems to me to be a defensible path. I very much like the idea of declaring an end state for purchases, a series of steps, and letting the market do the math and work back from there. This is an idea that we talked about, and I'm glad to see us landing on it. So I'm supportive of this plan. I think we need to show strong leadership to the markets, and I believe this approach will accomplish that.

Going forward today, much rests on the shoulders of the Great Communicator. It's appropriate to give LeBron the ball at the end of the game, but as he goes into the game, I will go ahead and offer some thoughts on what I would like to see in the press conference. I would like the market to take away these things: first, that a reduction in purchases in the second half of the year is highly likely if the economy performs roughly as expected, and by that I mean 80 percent or more likely. Second, that under this approach, we will continue to add accommodation for several quarters after the first reduction in purchases. Third, that the Committee thinks there has been substantial progress toward our full employment objective since

the September meeting, and that our decision to reduce purchases in September or December is going to be based mainly on the accumulated stock of progress rather than the incoming interim data. The strength of the incoming data may steer us to September or December, but it won't steer us outside that band unless there's a real surprise. Fourth, the independence of our policy for the funds rate, as has been discussed. Finally, to me, it's very important that the decision to reduce purchases be characterized as good news, because it's grounded in real progress toward our full employment objective. I would urge the Chairman, and everyone else who speaks publicly, to avoid explaining this action on the grounds of increasing costs, the size of the balance sheet, or any other cost. It's crucial to me that this be tied to a path to achieving a substantial improvement in the outlook for the labor market, and I think any other explanation tastes and smells like an admission of failure, and I don't think that's appropriate. I think 7 percent unemployment is a good end state for this. It's just above the other threshold, so I think that works.

I'm not concerned about a little bit of volatility, but I have to say I am concerned that there may be more than that here. It's very, very hard to know, I have to say. The more time I've spent with markets, the less I believe in my own ability to predict them, and I think that's largely because when you talk to the people who actually matter for this, they always talk their book. It's just the way it is. The people who are willing to talk to you are not the ones who really matter, unfortunately, and that's just the way it is.

So I think we find ourselves in a situation here where we're on the roof, and there is no risk-free path. We've got to jump. The only question is, to which roof are we going to jump, across which alley? So there is no risk-free path. This is the best path, and I'm happy that we've landed on it. I would hope going forward—I'm not a big fan of roof jumping [Laughter]—we

can arrange our lives so that we don't face the choice that we do now. And, again, I do support this path. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Can I have a ladder, please? [Laughter] I favor alternative B. At the margin, though, I think the statement is a bit too optimistic sounding in mentioning the improvement in household spending, business fixed investment, and the housing sector, and omitting references to areas where the data have deteriorated, such as the weakness evident in manufacturing. I know I'm not going to get this, but I would actually prefer to have some of the language from paragraph 1 of alternative A referencing the slowdown in the manufacturing sector moved from alternative A to alternative B. I understand I'm not going to get it, but I really worry that alternative B by itself is going to be perceived as a bit hawkish relative to expectations. And then on top of that, we're going to impose this path for reducing purchases, so we're actually setting the stage for maybe a bigger market reaction and a greater tightening of financial market conditions than is, in fact, actually necessary. So I worry a little bit about that. In the same vein, and this may actually be more live, I would agree with others who want to strike the word "somewhat" from paragraph 1 in terms of the reference to inflation. I'm perfectly happy with the introductory phrase "partly reflecting transitory influences." I think that's, in fact, accurate.

In terms of giving guidance about how we might dial down purchases at some future date, I think that's very much best left to the press conference rather than the statement, particularly at this meeting, but I think even beyond that, potentially. First, our actions are supposed to be data-dependent. So overemphasizing a particular path in the statement is in opposition to that. Also, highlighting a detailed path in the statement creates a hurdle or

threshold to not following that path, which I think is inconsistent with the notion that our actions are supposed to be data-dependent. Second, if we were to put this in the statement, I worry about how we would alter the statement subsequently if the data weren't to conform with our expectations. What's the threshold for such changes? So we sort of get locked into a particular path, which, I think, then reduces the data dependency of our policy, which is what I think has made it so effective.

I certainly agree that giving the market more guidance about our reaction function is important, but I think we want to do it in a way that retains our flexibility to respond to the data, and do so in a way that's consistent with our earlier commitment, which is to follow an outcome-based policy, not a time-based policy. For this reason, I very much favor the Chairman explicitly referencing that our central tendency forecast anticipates an unemployment rate of about 7 percent around the middle of next year. To tie the stopping rule for purchases to an outcome rather than just to a date without highlighting the 7 percent unemployment rate—the market would just be focusing exclusively on two dates: the start of dialing down, this fall; and the end date, the middle of 2014.

I think we need to pull them away from that, back to data, because really the policy works on the fact that it is outcome based. The more you step away from an outcome-based, data-dependent program back to a time-based program, you're really moving away from the original conception of this program. That conception was whatever it takes, and the whatever-it-takes aspect of this program was really important because it really removed the downside risks to the economic outlook because the market participants understood that the Fed was going to be prepared to take away that risk. We want to do as much as possible to preserve that idea of taking away the downside risk.

I also agree with Governor Yellen that characterizing the forecast more broadly is important—not just referencing the 7 percent unemployment rate, but also referencing the growth path that we anticipate at the time. Remember, when we said this, this was about the labor market outlook. It wasn't about reaching a given destination in terms of the unemployment rate. It was about the fact that we thought that growth was picking up and the unemployment rate would continue to decline going forward. So I think that some notion of the growth momentum is also important to reference.

Finally, I promised yesterday that I would say something about communications. So I will say something about communications. There's no question that some of the backup in yields is just due to the fact that things are changing and the market is starting to anticipate a change in our policy, and that's unavoidable. But I think we did, as a Committee, contribute to the backup in yields by not being clear in terms of our communications, and I think we're relying too much on the Great Communicator to do all the work. I think the Committee has a responsibility in terms of how we communicate.

I think there are three things that we need to do on communication. Number one, I think we need to continue to communicate that our actions are dependent on the data, not on time. I think we need to just be very consistent with that. Second, I think we need to be clear that the outlook is uncertain. Even though we're laying out this baseline path, if things deviate from that baseline path, policy will be adjusted accordingly. We don't want to get the market locked into this particular path. Third, and most important, it's imperative, in terms of how we communicate, that we don't undercut the efficacy of our own policy. This goes to Governor Powell's comment about not talking about, well, we're dialing this back because the costs of purchases are so horrible—that's basically undercutting the efficacy of the policy. I think that

once a decision has been made by the Committee, we all should want the policy to be as effective as possible. And I think what that means is that you should argue vociferously within this venue for the policy that you want, but, once the policy is decided, you should speak in a way that actually makes that policy more likely to be effective and succeed rather than undercut it by telling people why this is the wrong policy, why the policy will result in disastrous outcomes. I just don't think that makes sense in terms of what the Committee is trying to accomplish. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Well, thank you, and thank you for an extremely informative discussion. Let me try to go sequentially here. I think there was a pretty clear majority for starting today with communicating these contingent plans through the press conference. So I propose to do that. I understand the desire to sort of temporize for another six weeks, but I just don't think it is feasible, and I think that whatever benefits we would get by slight improvements in the description of our plans would be offset by significant loss of confidence and miscommunication. This is why I ran this fire drill, which, again, I apologize for—to bring this subject up at this meeting because I thought that it is urgent, so that we take action on this today. So I propose to give some guidance today in the press conference, and I will come back to that in just a second.

If we are not going to put the full description in paragraph 4' into the statement this time, I guess what I would propose is—I think people were generally happy with alternative B as it stands. The one area of optionality was the sentence about inflation, the last sentence in paragraph 1 of alternative B. I think, given that the inflation rate is at a 53-year low or something, that is probably a good enough reason to strike “somewhat.” But at the same time, I think the sense of the meeting is that while there was a lot of concern about this, that at least

partly, there were transitory factors. I would propose that we just adopt President Williams's language. Most people didn't speak to this, so if you are opposed to doing that, please say so.

MS. RASKIN. Can you repeat the language?

CHAIRMAN BERNANKE. It is right on alternative B. It's in blue. "Partly reflecting transitory influences, inflation has been running below the Committee's longer-run objective." That would be the only change I propose for alternative B—and the red text as included. Is that acceptable?

MR. LACKER. And strike "somewhat"?

CHAIRMAN BERNANKE. Strike "somewhat," yes. On the press conference and on the guidance, I am going to come down with, I hope, a middle ground here. I have to say that the advocates of the "7 Percent Solution" certainly piqued my interest. I think the main concern about the guidance that is summarized, for example, in paragraph 4' of alternative B is that it may be interpreted as either too date contingent or simply deterministic. And I must say that President Kocherlakota put it very starkly when he said that we are basically choosing alternative C today, which I don't think most of us want to do. A solution to that is to have an economic target or an economic stopping rule, which would tie down the integral of purchases pretty well, if we are slowing purchases over time. I think that would provide some safety because, as I mentioned before, if it took longer than we expected, at least during that extra period, we would be purchasing at a lower rate.

The other comment I would make is that we could probably soften it up a little bit to say we would also be looking at other indicators, or something of that sort. That being said—and if I'm mistaken, I need to be corrected—but in counting noses and looking across the Committee, I saw quite a few folks who felt that this was sufficiently radical that it needs additional work. As

I say, I would be prepared, I think, and maybe without sufficient caution, to give this a shot this time. But given what I am hearing, there are enough people who are concerned about taking such a step without more preparation. And I have already imposed on your goodwill quite a bit.

VICE CHAIRMAN DUDLEY. I'm not sure that's necessarily true. I think you might have more support for this than you think.

CHAIRMAN BERNANKE. Well, Governor Yellen is opposed to action.

MS. YELLEN. Seven percent as a stopping rule today?

VICE CHAIRMAN DUDLEY. No, no, soft. The soft version.

CHAIRMAN BERNANKE. That's what I'm going to do.

MS. YELLEN. Yes, but you were asking about the hard version.

VICE CHAIRMAN DUDLEY. Okay. I was confused.

CHAIRMAN BERNANKE. I'm asking about the hard version now. I'm asking about saying—

MS. YELLEN. You're ready for the hard version?

VICE CHAIRMAN DUDLEY. No, no. Soft version.

CHAIRMAN BERNANKE. Let me finish. I think that it is certainly worth considering saying that we will continue purchases, adjusting as we make progress, but ending when labor market conditions have improved substantially, which will be consistent with about a 7 percent unemployment rate. Something like that. I think that would be a good place to go; I think it's at least worth looking at.

That being said, and I am happy to do any votes or whatever anybody wants to do. What I heard was a lot of concern that we not do that immediately. So the intermediate strategy, which I would propose—and I invite reactions—is what I called the “soft option,” in which I will say

that we expect to end by midyear. At midyear, unemployment would be around 7 percent, growth would be solid enough to provide additional job gains, and inflation would be returning to its target—so, a very soft indicator of what we are aiming for. And then, that could be hardened in July, if that’s where we want to go. Now, again, I am very open to doing the harder version, but I believe that there is too much opposition at this point. Vice Chairman.

VICE CHAIRMAN DUDLEY. I think that’s a good middle road for this meeting.

CHAIRMAN BERNANKE. Okay, all right. That’s what I’m hearing, so are there others who would like to argue the other side? President—I did it again—Governor Powell.

MR. POWELL. I would just say, I think if you use the number and suggest some softness around it, it doesn’t really matter whether you use the hard version or the soft version—the market is going to hear 7 percent.

CHAIRMAN BERNANKE. Well, if I use the soft version, we will at least have plenty of deniability. [Laughter]

MR. POWELL. There needs to be an answer to the question, “So, is this like a threshold?”

CHAIRMAN BERNANKE. Yes. And the answer to the question is, of course, we are looking at many indicators to try to judge substantial improvement in the outlook for the labor market; this is indicative of the kind of progress that we would hope to achieve. But very soft. Governor Raskin, you look worried. No?

MS. RASKIN. No.

CHAIRMAN BERNANKE. All right. If that’s acceptable, I will do that. I will also try to respond to Governor Powell’s comment about cumulative progress, about concerns about avoiding a too-predetermined or noncontingent type of strategy. Again, I realize this is not

optimal, and it is possible that markets may just focus on there being an endpoint. But I really do think I need to be able to give answers, and, for what it's worth, I think these answers are approximately where the Committee is—at least the center of the Committee—and, in the end, we have to be straightforward with the markets as best we can.

All right. Unless there are any further comments about any aspect of what I just said, we do need to take a vote on the statement. But are there any other comments? [No response] All right. Matt, if you could take a vote on alternative B with the changes in the blue.

MR. LUECKE. Yes. The vote today will be on alternative B with the language as described on pages 6 and 7, except without the word “somewhat.” And on—

CHAIRMAN BERNANKE. But including also—

MR. LUECKE. But including the blue and the red. And it will also be on the directive on page 12 of 13 in the package as well.

Chairman Bernanke	Yes
Vice Chairman Dudley	Yes
President Bullard	No
Governor Duke	Yes
President Evans	Yes
President George	No
Governor Powell	Yes
Governor Raskin	Yes
President Rosengren	Yes
Governor Stein	Yes
Governor Tarullo	Yes
Governor Yellen	Yes

CHAIRMAN BERNANKE. So, President Bullard, how are you going to explain your dissent in the statement that goes out?

MR. BULLARD. I am going to say that I think the Committee should show more of a signal that it wants to defend its inflation target from the low side.

CHAIRMAN BERNANKE. Thank you. All right. Lunch is ready as of 11:30 a.m. There is no business at lunch. The next meeting is Tuesday and Wednesday, July 30 and 31. And the press conference will be shown in the Special Library at 2:30 p.m. Thank you.

END OF MEETING