**Meeting of the Federal Open Market Committee on
April 24–25, 2012**

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, April 24, 2012, at 1:00 p.m., and continued on Wednesday, April 25, 2012, at 8:30 a.m. Those present were the following:

Ben Bernanke, Chairman
William C. Dudley, Vice Chairman
Elizabeth Duke
Jeffrey M. Lacker
Dennis P. Lockhart
Sandra Pianalto
Sarah Bloom Raskin
Daniel K. Tarullo
John C. Williams
Janet L. Yellen

James Bullard, Christine Cumming, Charles L. Evans, Esther L. George, and Eric Rosengren, Alternate Members of the Federal Open Market Committee

Richard W. Fisher, Narayana Kocherlakota, and Charles I. Plosser, Presidents of the Federal Reserve Banks of Dallas, Minneapolis, and Philadelphia, respectively

William B. English, Secretary and Economist
Deborah J. Danker, Deputy Secretary
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

David Altig, Thomas A. Connors, Michael P. Leahy, William Nelson, Simon Potter, David Reifschneider, and William Wascher, Associate Economists

Brian Sack, Manager, System Open Market Account

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

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

Jon W. Faust and Andrew T. Levin, Special Advisors to the Board, Office of Board Members, Board of Governors

James A. Clouse, Deputy Director, Division of Monetary Affairs, Board of Governors; Matthew J. Eichner, Deputy Director, Division of Research and Statistics, Board of Governors

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

Thomas Laubach, Senior Adviser, Division of Research and Statistics, Board of Governors; Ellen E. Meade, Senior Adviser, Division of Monetary Affairs, Board of Governors

Daniel M. Covitz and David E. Lebow, Associate Directors, Division of Research and Statistics, Board of Governors

David Bowman, Deputy Associate Director, Division of International Finance, Board of Governors; Gretchen C. Weinbach, Deputy Associate Director, Division of Monetary Affairs, Board of Governors

Jane E. Ihrig, Assistant Director, Division of Monetary Affairs, Board of Governors

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

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

Jeff Fuhrer, Loretta J. Mester, Harvey Rosenblum, and Daniel G. Sullivan, Executive Vice Presidents, Federal Reserve Banks of Boston, Philadelphia, Dallas, and Chicago, respectively

Troy Davig, Ron Feldman, Mark E. Schweitzer, Christopher J. Waller, Senior Vice Presidents, Federal Reserve Banks of Kansas City, Minneapolis, Cleveland, and St. Louis, respectively

John Fernald, Group Vice President, Federal Reserve Bank of San Francisco

Andreas L. Hornstein and Lorie K. Logan, Vice Presidents, Federal Reserve Banks of Richmond and New York, respectively

Transcript of the Federal Open Market Committee Meeting on April 24–25, 2012

April 24 Session

CHAIRMAN BERNANKE. Good afternoon, everybody. I'd like to briefly introduce our first agenda item with a few words about our communications efforts. As you know, we all have a considerable interest in trying to improve our communication—in particular, to do what we can to make our forward guidance more state-contingent, more explicit in terms of what the factors are that we will be looking at in making decisions about changing the stance of policy. I know we've been doing this for a while, but I think it's something we need to keep persisting at. So one way to do that would be to put out alternative scenarios, get Committee participants' reactions to those scenarios, and use that as a way to calibrate our reaction functions. I commend the staff for taking the initiative to put together these scenarios that we'll discuss today, and we'll see how that works.

An alternative approach to discovering our reaction function is through policy rules, and I want to make sure everybody knows that in the June meeting, we'll be having a presentation and discussion of policy rules and their use both for communication and for decisionmaking. I think it's important that we think about them in the presence of a zero lower bound and also in the absence of a zero lower bound. I would call to your attention a number of pieces of work that have already been circulated bearing on rules, including the nice effort you received recently that estimated Taylor rules based on the SEP results, which has also been done by three Reserve Banks that have done similar work. I think that work shows that while there are certainly important differences across participants, there are also some areas of commonality, and that's maybe something we can build on. We also had some interesting work before the prior meeting, including a couple of staff memos and President Kocherlakota's response to the memo on

LSAPs. So there's a lot already there, and we've had some good discussions, but again, I think this is an important direction. And I urge everybody to keep thinking about these issues and to participate actively in our discussion in June.

What I want to do now is turn to Thomas Laubach, whom we welcome back to the Federal Reserve after some absence. Thomas was a coauthor of mine, and we worked on a book on inflation targeting many years ago. Thomas is going to report on the scenarios exercise, and after he reports, we'll have a chance for Q&A. And then I would be interested to hear anyone who has any views on whether this is a constructive direction and, if it is, what further steps we might take. So—Thomas.

MR. LAUBACH.[1] Thank you, Mr. Chairman. I'll be referring to the handout in front of you called "Material for Alternative Scenarios for Contingency Planning." At the March meeting, several of you suggested that a discussion of alternative scenarios could provide a means for the Committee to consider how policy would respond to different contingencies—something that could both facilitate your internal policy discussion and possibly also be used to provide more information to the public about your thinking. To explore the potential of this idea, we sent you a memo that outlined four different scenarios for the evolution of the economy over the next six months, and then asked you a few questions intended to elicit your views on how policy might respond to these developments. You all joined the game, and your responses to our questions were, we think, quite informative. Before reviewing them, however, we should emphasize that this exercise was only an experiment and that the results should thus be interpreted cautiously. In addition, our categorization of your responses required, in some cases, a little judgment on our part, and others might score the results somewhat differently.

The main results from the survey are summarized in the top panel of the first page of the handout. As noted by the first bullet, most of you said that scenario 1—the scenario consistent with the March Tealbook forecast—was the one closest to your own modal outlook. Specifically, the middle-left panel shows that nine of you opted for scenario 1, while three of you thought the stronger activity of scenario 2 was more likely, and two of you chose the modest growth and somewhat higher inflation of scenario 4. Finally, three of you resisted our attempt to shoehorn you into one scenario or the other, and said that a mix of scenario 1 with either 2 or 3 was most likely.

[1] The materials used by Mr. Laubach are appended to this transcript (appendix 1).

Returning to the upper panel, most of you thought that the differences across scenarios were large enough to merit adjustments from scenario to scenario in your *individual* assessment of appropriate policy. This outcome was not obvious to us beforehand because the scenarios were not all that different relative to the uncertainty associated with forecasts six months ahead. In any event, the middle-right table summarizes how your assessments of appropriate policy in scenarios 2, 3, and 4 qualitatively differed from your own assessment of appropriate policy in scenario 1. Excluding four participants, for whom we were not able to infer their views on this issue, almost all of you thought that scenarios 2 and 4 would call for less accommodation relative to scenario 1, while scenario 3 would call for more accommodation. In defining a change in accommodation, we include changes in your own assessment of appropriate announcements about the projected date of liftoff as well as any changes to the portfolio.

Many of you also provided information on the appropriateness of additional balance sheet actions in the various scenarios. As noted in the third bullet of the top panel, 10 of you said that additional asset purchases or actions to increase the duration of the SOMA portfolio would be, or at least could be, appropriate in response to the relatively weak economic conditions of scenario 3. In addition, 4 of you mentioned that additional LSAPs or portfolio actions would be appropriate in scenario 1, and another 2 thought they could be appropriate, depending on the balance of risks.

As noted under the fourth bullet in the top panel, many of you provided enough information for us to infer your views on whether the current policy—defined as preserving the "at least through late 2014" language but initiating no additional asset purchases or a new MEP—should be maintained or modified in each scenario. For our purposes, we score advancing the expected date of liftoff as a tightening in policy and, conversely, delaying the date as an easing; additional asset purchases, a new MEP, or adopting "aggressive" thresholds for inflation and unemployment are also scored as easing. The results are summarized in the table at the bottom. As shown in the first column, 8 participants favor maintaining the status quo in scenario 1, while 3 of you favor easing policy further. In response to the stronger activity of scenario 2, however, 13 of you favored announcing a less accommodative policy than that now in place, generally by bringing forward the expected liftoff date for the funds rate. A very similar result holds for the somewhat higher inflation conditions of scenario 4. In contrast, 12 of you favored easing relative to current policy under the relatively weak conditions of scenario 3, primarily by purchasing additional assets or by lengthening the duration of the portfolio. In this context, 3 of you expressed doubts that pushing the date-related forward guidance beyond late 2014 would be credible.

Returning to the upper panel, the final bullet notes that several of you made it clear that your policy assessments depend not only on your modal outlooks for real activity and inflation, but also on your assessments of downside and upside risks. Among the downside risks mentioned was fiscal policy, which several of you thought could be particularly important later this year.

Turning to the second exhibit, we also asked whether you would have found additional information on the economy helpful in answering questions about the four scenarios. As indicated by the first bullet, many of you emphasized the difficulty of judging the appropriate response of monetary policy in the four scenarios without data for a broader array of indicators. As noted in the second bullet, you cited a number of examples; most frequently mentioned were additional measures of inflation and inflation expectations, house prices, a broader array of financial variables and indicators of financial stress, measures of foreign economic conditions and trade, additional labor market indicators such as initial claims, and survey data on business conditions such as the ISM. Five of you also highlighted the importance of anecdotal information from business contacts. Based on this feedback, any future exercise may therefore require more information—with the caveat that scenarios that are very complex and specific may be of limited help in advancing a general discussion about the appropriate policy response to changes in economic conditions.

As reported under the third major bullet, several of you questioned the general design of the exercise. In particular, some of you noted that the scenario descriptions did not identify the fundamental shocks hitting the economy, nor did they reveal how events might play out over time. Although we left out this information to preserve the "real time" spirit of the exercise, some of you suggested that these exercises would be more useful if we provided details on the longer-run implications, perhaps through model simulations that extended several years into the future.

Finally, several of you commented on how this sort of exercise might be used in the future should the Committee decide to repeat the experiment. Three of you suggested that such exercises could be useful for internal deliberations, but thought that the Committee would need to develop further the use of, and discussions about, alternative scenarios before they could be employed for communications purposes. In addition, two participants suggested that alternative scenarios could be used to develop a general description of the Committee's policy reaction function. Thank you; that concludes my prepared remarks. We would be happy to take your questions.

CHAIRMAN BERNANKE. Thank you. Are there any questions for Thomas?

MR. FISHER. Can I make a comment, Mr. Chairman?

CHAIRMAN BERNANKE. Certainly.

MR. FISHER. First, I want to thank Thomas for making some sense out of this exercise. I'm saying, how can you put socks on this octopus or, because there are 17, an octopus and a nonapus—or whatever 17 are? This is very helpful. Actually, Mr. Chairman, I found this exercise, plus the background material on LSAPs and MEP, to address what I raised in the last meeting. And just for the record, I was right when I said that with alternative scenarios, we didn't enumerate the balance sheet and income effects that might occur as a result of one of those alternative scenarios obtaining. I want to thank Bill English in front of the table for working with Evan Koenig and our staff in Dallas, and there's some of that in the LSAP and the MEP memo. But from the standpoint of just getting us to think, going through this exercise is useful. Whether or not it would be useful to the public or confuse the public is another question. So I was happy to hear Thomas say that it was experimental, and we might think about what we might do with this next, including addressing the design flaws that others felt were inherent in this exercise. I also want to thank Bill in front of the table for helping us get a sense, with that LSAP memo and the MEP memo, of the costs and possible downsides as well as some of the advantages of the different alternative scenarios we might envision. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. I'm still in question mode, if there are any questions. If not, we can certainly take comments. Vice Chairman.

VICE CHAIRMAN DUDLEY. Yes. I think I'm the outlier here in terms of how I reacted to the scenarios. It was a useful exercise, and the surprising thing was how much people actually adjusted their monetary policy forecasts in light of what were really relatively modest differences in the scenarios. So I thought I'd just explain why I ended up in a very different place than many of you. The first reason is, the differences in the scenarios had very small implications for what was going to happen in 2013 and 2014. Now, obviously, Thomas made the point that if you specified more about the financial variables, then you might be able to infer more about what would happen over the longer term. But I don't think the scenarios, as they were cast, had very strong implications for 2013 and 2014.

Second, I thought that even if the scenarios had been somewhat more divergent, it's not clear to me that it would actually have changed my outlook that much, because what's really driving my views for 2013 and 2014 are the downside risks. So you can have a scenario, but you still have this issue of how significant the downside risks are. And right now, with Europe, the U.S. "fiscal cliff"—those are downside risks that are large in terms of their mass and how I think about the outlook relative to whether GDP growth is two-tenths firmer or two-tenths weaker over the next six months.

And then finally, given the fact that we're at the zero lower bound, the consequences of the downside are not symmetric with the consequences of the upside. Again, until you actually see a scenario that demonstrably reduces the downside risk significantly, it wouldn't be likely that I would want to change my monetary policy outlook. So I was surprised by that.

In terms of recommendations on how I would take this forward, I think it was a useful exercise. We should continue to try to see where we can take this. Given my own personal preference, I'd prefer to have scenarios that have greater divergence. And, in addition, it would be very good to have the scenarios have a lot more information about what's happening to financial market variables, so you can see what the market is anticipating from the takeoff point in the fall of 2012, because that will, in a way, provide more color about how the market is assessing the scenarios. I think that will give us more context in terms of what you might want to do about monetary policy.

CHAIRMAN BERNANKE. Other questions, reactions, comments? President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I'm going to make a comment that I didn't send in anything as part of the last request for comments but it occurs to me on reflecting on this briefing. I think it's really interesting the way you ask questions 3 and 4. In 3, you asked, "In the scenario closest to your current modal outlook, what would be the outlook for the appropriate stance of monetary policy …?" and "… what do you think the scenario would imply for the forward guidance regarding the appropriate time to begin raising the funds rate …?" So you sort of ask, should we change the appropriate stance of policy? And, if so, should we change the forward guidance? You left out, it seems like, "What is your forecast? Is your forecast going to change?" Now, you may have done that under the presumption that, surely, we would change the forward guidance if our forecast changed, but our last discussions haven't left me with a lot of certainty that that's how we're thinking about our forward-guidance language. I'm assuming that if our collective forecast in some sort of median sense changed, we would change the forward guidance. And that's what I was suggesting. I was one of the ones at the last meeting who suggested contingency planning, and what I was thinking is that it would have been nice if, when we adopted the language, we had thought through, well, what happens if our forecast advances in time by four months? Are we going to change the language or not? And this doesn't quite get at that.

CHAIRMAN BERNANKE. Other comments? President Evans.

MR. EVANS. I want to thank President Lacker for that comment because it reminded me of something. At the last meeting, a number of people—I looked at the transcript from last time more carefully this time, and there were a number of comments—Jeff made them—about "late 2014" as a forecast. Is it a forecast, or is it a commitment? And as I went through this scenario analysis, I thought about that issue. It seems to me, as I think about this, that it's much more than just a forecast. Obviously, a date is a forecast, but it also takes into account what the policy response function is that everybody has in their mind. And so if I were asking a question, I'd ask the staff whether or not you gained any insights from this scenario analysis beyond just how a different economic scenario plays out—did you gain any insights on what our individual policy reaction functions are?—because I thought Governor Yellen gave a very insightful speech last week where she pointed out that on the basis of the same economic outlook from our SEPs, you could come out in different places in terms of when you thought liftoff was. If you're using a Taylor (1993) response function, you're much earlier than if you're using a Taylor (1999) response function, and both are earlier than if you're using an optimal control type of response. And so it's understanding that interplay between how the economy, downside risk, and that response function are playing out, plus how we're thinking about it, that's so fundamental to this. If you have any insights, that would be great.

MR. LAUBACH. I think the answer is, only to a very limited extent. Essentially, we provided four data points, if you want, or four alternative scenarios, and then, as the answers to question 1 revealed, we also did not necessarily include all of the information that several participants would find critically important for saying anything about that. My impression is that the closest we come to this is this particular result that, despite the fact that the scenarios, as Vice Chairman Dudley pointed out, were relatively close to each other, actually they did elicit from many of the participants responses that they would change their views. So you might see this as an indication that there is a fair degree of responsiveness to changes in economic conditions. But I'm afraid that that's about as far as you can go from what we have asked in these questions. In order to get a better view on individual response functions, I think we would have to ask questions that would be much more pointed in that direction.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I do have a few remarks on this exercise. First of all, I don't think that this exercise, as constructed, would do very much to foster transparency with the public regarding FOMC policy. And so let me just elaborate on that for a minute. This is 17 responses to four scenarios. That's a maze of 68 possibilities. I don't think that kind of information overload is very conducive to improving transparency. If we actually went ahead with something like this, the number of scenarios would have to be expanded to encompass the full range of outcome uncertainty, but that would add to the information overload. A lot of these comments actually echo Vice Chairman Dudley's comments. The information provided for each scenario is limited. Normally, the Committee makes decisions based on a wide range of data from a wide range of sources. In principle, one would need a separate Tealbook for each scenario. We would be saying, in effect, that we do not need all of that analysis to decide what to do in various states of the world. That would simplify our meetings considerably. I also think it's an odd time to put heavy emphasis on the nature of the Committee's interest rate feedback rule. Adjustment of the policy rate has not been the primary tool of the Committee for years and likely will not be for years into the future.

A better approach, I think, would be to get something like a monetary policy report. Financial markets and other interested observers crave a digestible Fed view of the many issues that face the U.S. economy. We could provide this by publishing a quarterly monetary policy report, as other central banks do. A key advantage of a full report is that all of the important issues and uncertainties can be commented on in some way in the text. This would provide a baseline both for members of this Committee and for outside observers. To the extent that there are differing interpretations of events, this could also be noted and discussed in such a text. The policy portion could be based on market expectations of policy at the time the report is produced. This is what's done at the Bank of England, for instance. Alternative scenarios could also be discussed in a monetary policy report. I think the United States is lagging behind other central banks in providing such an assessment. That would be a better way to go, in my view, as opposed to putting out this maze of information or core dump on what everybody is thinking about policy. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Bullard, how would you manage the input from the participants into the report?

MR. BULLARD. It would be a staff report, and I think the Committee could comment, if it wanted to, on whether all of the points of view or all of the issues had been represented in the report. But the report wouldn't try to necessarily come down on every issue. It could present different issues.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. I thought the exercise was quite interesting. I'm not sure it was clear to me how specific scenarios would help with communication, but it did raise two other thoughts as I was listening to your presentation. One is whether you could just directly ask us what would be the inflation–unemployment combinations that would get us to tighten and what would be the inflation–unemployment combinations that would get us to ease. Not so much for communication with the public but for communication with ourselves, it might be useful just to see the mappings that would get people to either tighten or ease.

And the second observation was how we would ease. We've mapped out in some detail how we would tighten. How we would ease is a little less clear. If you thought about something like a more severe scenario, like in the CCAR exercise or something like that, and made us think about what is the appropriate policy or combination of policies that we would think about and what the sequencing would be, that's something we haven't done yet—to address Vice Chairman Dudley's comment that there are some downside risks. So having some idea of what combination of changing language and changing actions we would take in the event that we had more downside risk than we're currently anticipating would be a second thing that I could imagine being useful—again, not so much as a communication tool, other than with people around the table.

CHAIRMAN BERNANKE. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I begin from the premise that we're going to need to do something about the SEP. My scanning of the second set of results has reinforced that view. I don't know whether this is the right alternative, but I wanted first to comment on what Jim had said. While I see the virtue of a monetary policy report, Jim, I'm not sure how much it's going to communicate to the public if the views of the 17 people around the table are actually not particularly incorporated in it, because presumably what the public is most interested in is what they think the future path of policy would be. And I was a bit surprised when you said you didn't think there was enough data in there, because I had heard you consistently over the last couple of years to be arguing in favor of a more crisply stated reaction function, which one might understand a somewhat stylized scenario to provide. So I don't know if you wanted to comment on either of what may have been my misperceptions of what you said.

MR. BULLARD. No, I'm definitely an advocate of state-contingent policy, but actually I was coming from your comment about not putting out too much information because it's just confusing to the public. But maybe people don't see this as a communications exercise—more as an internal document. So if you agree with Eric, he says, "Well, just ask everybody to write down a rule that most closely approximates what they would do." So you could definitely do that.

MR. TARULLO. I noted that Eric was moving in the direction of something that could be used for internal purposes. That may be a good thing to do. It wouldn't solve what I think is the problem with the SEP, and I don't know how broadly shared the view that the SEP is going to need some work will end up being. But I hope we don't—unless I'm a minority of one again—lose sight of the fact that we are putting this thing out now. And based on at least my discussions with people outside the Fed after the last SEP was released, I do think we need to work on it some, because I'm not sure at this point that it's clarifying as much as it is pushing more information out that's hard to absorb.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I thought there were a number of reasons why this kind of exercise could be helpful to us, and I was thinking about it largely for internal reasons, for fostering internal dialogue. It encourages all of us to contemplate scenarios other than that in the staff's outlook. There's a little bit of pushing in two different directions here. I like Eric's idea of how we would respond to different u's and π's. I also like what the staff did in terms of eliciting what we would do in these various scenarios. I thought it was interesting how sensitive people were to relatively small changes in scenarios. That was the interesting piece of information, so maybe we should have scenarios that are small deviations, because that does tell us something. At the same time, I'm sympathetic to what the Vice Chairman said—that maybe we should have one or two extreme scenarios as well to think about. So I would like to keep the small changes and then maybe add one or two that are the more extreme ones. The problem with the u and π idea, I guess, is that you want to have some notion of how some people are going to be responding to the outlook. It sounded like some people want to respond to a whole wide range of information beyond that. But I don't think these things are mutually exclusive. We just don't talk enough about any of this, and so maybe asking all of the participants, "What's your closest approximation to what a Taylor-like rule would look like?" and then also going through this kind of scenario analysis—again, to foster internal dialogue—would be useful. I personally would like to think that a high-level summary of this sort of discussion could eventually be part of the minutes—or maybe the ultimate dream of a monetary policy report, which President Bullard was offering. But even if we never share any of this with the public in any detail, it would be valuable for our own internal considerations.

To be more specific, one thing I think would be helpful is, when changes are taking place in a reaction function, doing this kind of scenario analysis would really help structure those kinds of changes more than we currently do. So what am I talking about here? If we go back and look at the Greenbook of January 2010, it was predicting the Committee would raise rates in late 2011, when unemployment was expected to be 8.2 percent and core inflation was expected to be 1.2 percent. That was the staff's forecast for what the Committee would do. And so the current Tealbook estimates of the conditions surrounding liftoff are quite different from those that existed just over two years ago. Now, this is not about whether this is a good thing or a bad thing. There may well be good reasons why our reaction function—or the staff's perception of our reaction, more correctly—should have changed in the last two years. And there may be good reasons to change our reaction function in the future. But I think we should be talking about these shifts when they're taking place, and having this kind of scenario analysis—and the suggestion Eric made—would make us be more thorough and systematic about the costs and benefits of these kinds of shifts, as opposed to what happens now, which is that, by making decisions meeting to meeting, we end up implementing changes in our reaction function. I would see this kind of scenario analysis taking place quarterly or semiannually, and it would really facilitate exactly the kind of discussion I have in mind about, are we happy with our reaction function, or do we want to change it? You don't want to be changing it, obviously, every meeting, but when the circumstances require it, you might want to. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. I was just surprised by the suggestion of more divergent scenarios rather than less. It seems to me that you would get more information if you kept narrowing the scenarios until you found that people didn't react to them in some way as far as a change. But that said, I thought it was really interesting. The results were really interesting—how closely everybody seemed to be aligned as far as when they would be inclined to shift policy. And then one caveat is that I will confess I didn't put nearly as much thought and angst into my answers to hypothetical scenarios as I do into making a real decision. Particularly if we were going to publicize it, it might not be quite so informative if we said what we would do, and then actually, when you get up to it, I'm not entirely sure that what we say we would do is actually what we would do.

CHAIRMAN BERNANKE. Other comments? President Evans.

MR. EVANS. I made a first intervention as a question, and I just want to be very clear that I certainly support the suggestion that we spend more time fleshing out what our individual policy reaction functions are. I think the proposal that President Rosengren made is a good one—and others around the table. How we come to some decision as to whether or not that's a common policy rule, as President Kocherlakota was suggesting—we'll have to talk about that a lot more, but I don't hold out much hope that we have a common policy rule. But understanding that would be important for many of the reasons that Janet Yellen's speech indicated. Thank you.

CHAIRMAN BERNANKE. Well, I think it's a good idea to follow different strategies or try different things to see what might work. I guess I found this most useful in giving me some sense of what the thresholds might be for changing our overall stance-planning going forward. In that respect, it was very useful that these were all pretty realistic, broadly speaking, scenarios that we might in fact confront. What I would suggest—and I didn't hear a consistent message from around the table—is to try to maybe work backward for a little bit to think about how it might now be used. And then perhaps the focus, it seems to me, would be on the internal deliberations first, and then work back and think about what using such things to inform the policy discussion might imply for the design of subsequent exercises. Perhaps you could report to us just your general thinking on this before we do another exercise. But I found it broadly useful. President Kocherlakota.

MR. KOCHERLAKOTA. Mr. Chairman, I want to counter President Evans's pessimism with some optimism of my own. One of the things I took away from this is that—and you can see this from one of the charts on exhibit 1, the one on the right—I saw more commonality in response functions than I might have thought. It's not the same as my reaction function, in particular, but I thought there was more commonality of responses.

CHAIRMAN BERNANKE. I had that impression, too, and I was going to add that the estimates using the SEP of the Taylor-type reaction function is one way to look at that type of rule. There were a lot of difficult econometric issues and so on—I understand that—but I thought that there was a reasonable amount of commonality there as well, and that some of the things we might discuss in June might give us a way to think about how to elicit that information from people and how to aggregate it. So there are multiple ways we can go about this. We can give some thought to an inflation report. We already do, of course, a semiannual *Monetary Policy Report*. It would be interesting—maybe, President Bullard, you might have some thoughts about how the quarterly report would differ from the existing MPR. It might be a useful thing to discuss.

Okay. Well, this was useful. I think most of us agree with Governor Tarullo that the SEP is still a work in progress, and we need to continue to figure out how best to use that vehicle, but I'm glad we're taking some steps. Let me move on now to the next agenda item, which is "Financial Developments and Open Market Operations," and I'll turn it over to Brian Sack.

> MR. SACK.[2] Thank you, Mr. Chairman. I'll be referring to the packet labeled "Financial Market Developments and Desk Operations." Investors' views on the economic outlook and policy prospects swung considerably over the intermeeting period, with most U.S. asset prices taking a round-trip excursion that left them back near their levels at the time of the last FOMC meeting. In contrast, asset prices in Europe took more of a one-way journey, as concerns about the sovereign debt and banking situation intensified once again.
>
> Let me start with developments for U.S. interest rates. As shown in the upper-left panel of your first exhibit, Treasury yields increased sharply early in the intermeeting period, with the 10-year yield at one point up more than 30 basis points. The increase was driven in part by the FOMC statement and FOMC minutes, which were seen as suggesting increased optimism about the U.S. economic outlook and less likelihood of additional balance sheet policy actions by the FOMC. However, that movement sharply reversed following the release of weaker-than-expected economic data, particularly the most recent employment report, and an increase in financial stress in Europe. On balance, the 10-year yield ended the period slightly lower, at just below 2 percent.
>
> A similar pattern was observed for interest rates at shorter horizons. As shown to the right, the path of the federal funds rate implied by futures contracts moved up significantly for a time, with the market pricing in meaningful odds that the federal funds rate would begin to rise well before the second half of 2014. However, as with longer-term Treasury yields, this increase more than fully reversed, leaving the implied policy path slightly below where it was ahead of the last FOMC meeting.

[2] The materials used by Mr. Sack are appended to this transcript (appendix 2).

The current pattern of futures rates implies that market participants see considerable odds that the federal funds rate will be held at its current level at least until the second half of 2014. This view is corroborated by the Desk's survey of primary dealers. As shown in the middle-left panel, dealers' views about the likely timing of the first increase in the federal funds target rate were little changed, on balance, over the intermeeting period, with the highest probability still assigned to the second half of 2014.

Of course, the view that short-term interest rates will remain low for a long period has been an important factor holding down Treasury yields. In addition, as I noted in my previous briefing, another important factor has been the behavior of the term premium. As shown in the middle-right panel, the Kim–Wright measure of the term premium has fallen significantly since last summer, moving well below its average level since the late 1990s.

The Tealbook presented some empirical estimates of the factors that might explain this pattern in the term premium. We can use those estimates, along with the change in the expected path of short-term interest rates, to assess the decline in the 10-year Treasury yield since last June. The results, reported in the bottom-left panel, show that Federal Reserve policies have played a meaningful role in two dimensions.

The first dimension is the guidance over the path of the federal funds rate. This guidance, including both the "mid-2013" language adopted last August and the "late 2014" language adopted in January, helped push down the expected path of the federal funds rate, accounting for 31 basis points of the decline in the 10-year yield under this model. In addition, the policy guidance appears to have contributed to a reduction in the amount of uncertainty about interest rates, and hence the amount of risk priced into the term premium. As shown in the table, the fall in interest rate uncertainty is estimated to have reduced the term premium by 22 basis points.

The second dimension has been the use of the Federal Reserve's balance sheet. Over this period, the implementation of the maturity extension program lengthened the duration of the SOMA portfolio. According to the empirical results, the resulting change in SOMA holdings narrowed the term premium another 22 basis points.

The table shows that additional factors also played a role over this period. Flight-to-quality flows associated with perceived risks in Europe appear to have had a meaningful effect, and a range of other factors mattered as well. However, these have been less important than the aggregate effect of the factors related to Federal Reserve policy.

Moreover, the empirical analysis only captures the effects from realized changes in the balance sheet. The term premium has likely also been affected by investors' views on future adjustments to the balance sheet. The chart to the right shows the expected change in SOMA asset holdings over the subsequent two years, as measured at each point in time from the Desk's primary dealer surveys. Perceptions about the path of the balance sheet swung considerably over the past year. As of last summer, market participants were expecting a meaningful contraction in the balance sheet over the two-year horizon. Those expectations moved toward zero in the second half of the year, in part because the FOMC's guidance on the federal funds rate was also seen as postponing the eventual balance sheet exit, given the linkage between these variables in the FOMC's exit principles. Late last year, respondents began to expect the balance sheet to expand, reflecting the perceived chances of an additional asset purchase program.

Overall, these results are intended to highlight that actual and anticipated FOMC policy appears to have played an important role in getting yields to their current levels, and hence meaningful changes to the policy outlook would be expected to exert a strong influence on yields going forward.

Your next exhibit turns to developments in Europe and in broader U.S. asset markets. The most significant development in European financial markets has been the reemergence of investors' concerns about the sovereign debt and banking situation. As shown in the upper-left panel, Spanish and Italian sovereign debt spreads increased significantly in recent weeks, with the 10-year spread for Spain nearly returning to the peak reached last fall. Market participants have been particularly focused on Spain, given setbacks to its planned austerity measures, weak results in some debt auctions, bleak prospects for economic growth, and deepening concerns about the capital needs of its banks.

The recent increase in sovereign debt spreads reversed a sizable portion of the improvements that were realized following the three-year LTROs offered by the ECB. The LTROs had prompted Spanish and Italian banks to sharply increase their holdings of European sovereign debt. As shown by the light-blue bars in the upper-right panel, the increase in bank holdings over those several months outstripped the net funding needs of the Spanish and Italian governments for the entire year, the dark-blue bars. Thus, the banks were not only covering the entirety of their governments' net issuance needs but were also soaking up bonds from other investors reducing their holdings.

However, the market has come to realize that there may be a limit to the degree of sovereign risk that the banks are willing to assume, even with ample provision of liquidity. The prospect of a slowing in bank purchases of sovereign debt, while other investors continue to shed these assets and sovereign borrowing continues, likely has contributed to the renewed upward pressure on the sovereign debt spreads.

Even if it proves to not be a lasting backstop for European sovereign debt, the LTRO was very important for reducing European bank funding risk. As shown in the middle-left panel, three-month LIBOR rates have come down substantially since late last year, particularly in euro-denominated transactions. Moreover, unlike the pattern in sovereign debt, there has been no meaningful backtracking in these measures.

Nevertheless, while the European banking sector may not face an imminent liquidity problem, investors have substantial concerns about the capital positions of the banks, particularly in jurisdictions with weak growth prospects. Reflecting those concerns, equity prices of European banks, shown to the right, have fallen sharply, returning to the levels observed late last year.

The recent behavior of U.S. bank equity prices has been quite different from that of European banks, as can be seen in the figure. The KBW bank index gained more than 5 percent over the intermeeting period, supported by the release of the CCAR results in March and well-received first-quarter earnings reports. Those factors outweighed the negative effects on the sector from uncertainty about economic growth prospects, European risks, and looming downgrades by Moody's.

Despite the favorable equity performance, the CDS market continues to indicate a cautious view of the sector. As shown in the bottom-left panel, CDS spreads generally moved higher in recent weeks, as investors focused on whether softer U.S. growth and greater European risks could have negative consequences for the sector. Of the major domestic financial firms, CDS spreads rose most notably for Morgan Stanley, but the recent increases have also been large for Goldman Sachs, Citigroup, and Bank of America. Nellie Liang will discuss the exposures and risks facing the domestic banking sector in more detail in her briefing.

The bottom-right panel looks at how recent developments have affected U.S. asset prices more broadly. U.S. equity prices showed the same pattern as interest rates, with increases early in the intermeeting period based on greater optimism about the economy, followed by a retracement as the growth optimism faltered and risk concerns reemerged. On balance, the S&P 500 index ended the period about unchanged. High-yield bond spreads moved higher, but only modestly. Spreads on CMBS (not shown in the chart) increased more substantially, particularly for lower-quality tranches. Some of the widening was attributed to the change in the stated investment objective for Maiden Lane III on April 3 to allow possible sales of assets in the portfolio, which was followed by an announcement on April 18 that the New York Fed would be soliciting bids for a portion of the portfolio holdings.

Your final exhibit turns to Desk operations and the perceived prospects for additional policy actions. The maturity extension program that the FOMC announced in September continues to move forward. As summarized in the upper-left panel, the Desk has purchased just over $300 billion of longer-term Treasury securities and has sold a similar amount of shorter-term securities. These operations have significantly affected SOMA holdings of Treasury securities in different maturity sectors, as shown in the panel to the right.

As the staff noted when the program was designed, this shift in the composition of SOMA holdings will leave the portfolio with a relatively high portion of the outstanding stock of longer-term Treasuries. As shown in the middle-left panel, SOMA holdings at the close of the MEP (the dark-blue bars) will stand at nearly 30 percent of all outstanding securities in the 6- to 30-year maturity sector, compared with the less than 20 percent share that was held before the crisis (the red bars).

The Desk has also continued the reinvestment program into agency MBS, which has kept SOMA holdings of those securities relatively steady at just under $1 trillion. As with longer-term Treasury securities, SOMA holdings of agency MBS represent a meaningful share of the outstanding market for fixed-rate agency MBS, standing at nearly 20 percent.

Despite the size of the Federal Reserve's presence in these markets, liquidity and market functioning appear to be holding up well. As shown in the middle-right panel, both the Treasury and the agency MBS markets continue to see trading volumes that are in line with historical norms, and other measures also suggest that levels of liquidity remain decent.

The bottom two panels report on market expectations of additional policy actions, as measured by the Desk's primary dealer survey. As shown to the left, market participants see no chance of policy actions taking place at this meeting. Over a horizon of one year, however, they see meaningful odds on the possibility that the FOMC will adjust the guidance for the federal funds rate, undertake another maturity extension program, or expand the SOMA through an asset purchase program. The chances assigned to another LSAP came down slightly over the intermeeting period but remained significant, at 45 percent. The chances assigned to another maturity extension program edged up but remained lower than those of an LSAP, at 20 percent.

The survey also gave us an opportunity to ask about the shifts in macroeconomic conditions that might lead to policy actions. These shifts were calibrated in terms of the midpoint of the central tendency projections from the SEP for the unemployment rate and inflation rate in 2014. We asked about the changes to these variables that would lead the FOMC to alter the policy guidance or to further expand the balance sheet.

As reported in the bottom-right panel, in order for the FOMC to shorten the policy guidance in the FOMC statement, market participants thought that there would have to be a ½ percentage point downward revision to the projected unemployment rate, if the projection for inflation were unchanged. Alternatively, if the projection for the unemployment rate were unchanged, it would take a ½ percentage point increase in the projected inflation rate to prompt a shortening of the policy guidance. The conditions for lengthening the policy guidance were seen as largely similar, only of opposite sign.

For additional asset purchases, respondents thought that such a step would be warranted if the projection for the unemployment rate were to increase by 0.4 percentage point or if the forecast for the inflation rate were to fall by 0.3 percentage point.

Overall, the results indicate that market participants understand that these policy measures are conditioned on the economic outlook, but they believe that fairly substantial changes to the projected path of the economy would be required to prompt action by the FOMC. In addition, in each case the range of responses to the survey question was relatively wide, suggesting some uncertainty about the policy reaction function.

Finally, on a topic unrelated to the earlier material, I would like to request a vote to renew our long-standing bilateral swap lines of $2 billion with Canada and $3 billion with Mexico. As you know, these swap lines were established under the North American Framework Agreement in 1994. Ahead of the meeting, Steve Kamin and I sent the Committee a memo recommending renewal of the lines at this time. Our proposal is to keep the swap lines in their current form. Thank you.

CHAIRMAN BERNANKE. Thank you very much. Brian, in figure 5 in exhibit 1, you attributed 50 to 70 basis points in the decline in 10-year yields to the rate guidance and, I think, to the maturity extension program. But if you look at figure 1 above, you see that essentially 100 percent of the decline occurred between July and October of last year, which was obviously before any of this was announced. How do those two things fit together?

MR. SACK. That's right. In the middle of last year, you had several important events. You had the "mid-2013" language implemented, and then in September, you had the maturity extension program and the reinvestment decision. I think a lot of the decline in the middle of 2011 was in response to—or, in some cases, in anticipation of—those events. What's a little more puzzling is that you don't see a big response, then, to the "late 2014" language that came in January, but of course, there were a lot of things going on at that time in terms of, perhaps, some reversal of flight-to-quality flows after the LTROs and so on. So, of course, the regression is trying to parse all of these things out, but it's not a perfect fit that gets every point of variation. But in general, the regression looks at these factors and finds a significant effect for each of them.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Yes. I'd like to follow up on that, Mr. Chairman. So SOMA holdings—presumably, you measure them in some way that lines up with when you expect the announcement effect, or do you measure them via the September meeting announcement? And the reason I ask is that I'm wondering how you identify separately the effect of a change in their anticipations of our SOMA holdings from that of a change in their anticipation of the path of the federal funds rate, which surely is influenced by an announcement that we deem the economy and the outlook would warrant a bunch of changes in our SOMA holdings.

MR. SACK. Right. This is the result that was put in the Tealbook based on Board staff work, so I'm kind of speaking for Board staff. We actually had a MarketSOURCE piece that presented similar material with a similar model, which I'll come back to. My understanding is that the SOMA holdings variable that was used is an actual measure of holdings in terms of 10-year equivalents. So it's intended to capture the amount of duration risk brought onto the Federal Reserve's balance sheet.

MR. LACKER. So when we buy them.

MR. SACK. When we buy them. So over time, it's going to capture the effects only when the actual balance sheet actions are realized. In practice, of course, what's going to happen is, the market is going to anticipate those effects and move earlier. So there's going to be some timing mismatch, but the regression should still be able to sort out the effect. In the MarketSOURCE piece that we did, we included the actual holdings, and we included a forward-looking variable about the path of the balance sheet based on what I show in panel 6, and found a significant effect also associated with the expected path of the balance sheet; if you include that in the regression, it actually has a meaningful effect. But of course, once it's included, it reshuffles all the other effects. So we end up with a story where policies overall are having the same magnitude of effect over this period, but it's just attributing more to the anticipation of the balance sheet rather than the actual balance sheet.

MR. LACKER. Fascinating.

VICE CHAIRMAN DUDLEY. Could I ask a follow-up question?

CHAIRMAN BERNANKE. Interjection—Vice Chairman.

VICE CHAIRMAN DUDLEY. How does the 45 percent probability of additional purchases fit into that regression? Is that in there?

MR. SACK. The panel to the right is an expected balance sheet path, and so the fact that those expectations have become positive is reflecting the anticipation of future policy actions. In our MarketSOURCE regression, it would be captured; in the regression presented in panel 5, it wouldn't be—it would be an additional effect.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. Still on the same panel. On July 29, a GDP report was issued. It revised down U.S. GDP dramatically. It showed that the recession was deeper than we thought and that the recovery was slower than we thought, and right after that, the Blue Chip forecast went down by about 1 percentage point, which is a huge thing in the Blue Chip. So that's one thing I often cite for this, both for panel 1 and for panel 5, but I don't see it on this list. There could be some difficulties in disentangling the Committee's response to that situation, as opposed to the actual deterioration in the outlook.

MR. SACK. Absolutely. I think that's a good point. What the panel says is that around 30 basis points came from the expected path of the federal funds rate. It actually does not specifically try to identify what came from the shift in guidance versus what came just from the evolution of the economy and the perceived response to that. So just to be clear, what we're saying here is that we believe the policy guidance and the balance sheet played some role in affecting the expected path of the federal funds rate, in affecting rate uncertainty, and of course, in affecting SOMA holdings. But for the first two of those, the policy actions aren't the complete story. There are other things going on that are affecting the expected path of interest rates and the uncertainty around it. So I don't want people to add up the first three numbers and say, "Well, that is precisely the effect of our policy actions." That would be, obviously, too precise and, as we just said, those numbers involve other things. What I'm trying to say is that I believe the guidance and the balance sheet actions have had a meaningful effect that is reflected in those first three numbers.

MR. BULLARD. Thank you.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. I was going to ask the same question that President Bullard did for exactly the same reasons. There was also the turmoil in Europe that was going on at the end of July, which was contributing to—and you've got that under flight to quality. But I did want to expand on that with just one more question. On the regression results, can you give me an idea of what the standard errors on these numbers are?

MR. SACK. I can give you a related piece of information, which is that the *R*-squared from the regression is 0.71. So it actually has a lot of explanatory power over this period.

MR. PLOSSER. The real question is the identification of some of these things, rather than the overall R-squared—so, identifying the standard errors of these individual coefficients.

MR. SACK. Oh, okay. And on that, another related piece of information.

MR. PLOSSER. It was a regression, wasn't it?

MR. SACK. The *t* statistics are very significant. To state the obvious, there's a lot of uncertainty surrounding the estimates, and again, I don't think we want to take the results reported in table 5 with too much precision. They're estimated imprecisely. There are a variety of factors going into each variable. Those points are all well understood. But I would still argue strongly that what the Committee has done over the past year has played a very meaningful role in getting the 10-year Treasury yield down below 2 percent. So that's all I want to say.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. A question regarding panel 14. I'd like to try to connect the dots between alternative A, which called for $400 billion of MEP in, I gather, maturities of four years or less. Panel 14 appears to show that the amount of three years or less is somewhat below $300 billion remaining, and then the amount of three to six years is quite substantial, actually. So the question is about the practicability of $400 billion as in alternative A. To what extent are we actually constrained if we were to consider another round of MEP, and what do you need to hold for normal open market operations in those maturity sectors?

MR. SACK. One of the points of the maturity extension program memo was to calibrate how much the staff feels could be done. Obviously, a program of that nature is constrained by our holdings of short-term securities. But the staff is comfortable with our ability to do another $400 billion program as long as the maturity of the securities sold is extended to four years. So the bottom line is, essentially, with that extension to four years, we pick up a lot of capacity. And of course, over time, we have securities marching down the yield curve so that some of what's in the blue line is moving into the red line in any case. Given the combination of those, we can get to $400 billion. We could not do much more in the time horizon that was specified in the memo. So there is a constraint there, but we could do the $400 billion. And I don't see any significant operational consequences of having reduced our holdings sharply at the short end of the yield curve. I think we always regarded the ability to sell short-term assets as a backup draining plan in some sense. If we were having trouble with the draining tools, of course, we could always sell assets, but if we sell shorter-term assets, we're having less duration effect and just more reserve effects. We always regarded it in that way. What these programs are doing is basically just taking advantage of that immediately rather than waiting to keep it as draining capacity in the future. So I would say that's the only operational consequence—that it reduces our ability later on to shrink the balance sheet through redemptions or through sales of the short-term securities.

MR. LOCKHART. Thank you.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. Brian, you'll be glad to know that I want to go back to panel 4. I have a question about statements like the one the Committee made in January, with the longer forward guidance. Outside observers have expressed a concern that those kinds of statements have two kinds of interpretations built into them. One is that the Committee now sees the economy as doing rather poorly, and the other interpretation is, really the Committee hasn't changed its views about what the economy is doing, but they just want to provide more stimulus. So those are going to be somewhat offsetting. Has the staff thought about how there might be a way to sort out between those two kinds of forces going on in that kind of forward guidance?

MR. SACK. First of all, I think it's, obviously, a very important distinction, and the extent to which that information can be communicated is very important. The piece of evidence that we have that addresses that, I think, is the dealer survey that we presented at the last briefing, where it showed the perceived thresholds for the liftoff in the federal funds rate. So you're asking, are we talking about movements along that schedule or a shift in that schedule?

And one thing I showed in that briefing is that after the longer guidance came in, actually that schedule shifted down. So there was some perception, at least partly, that the rate effect was coming from a shift in the reaction function.

MR. KOCHERLAKOTA. Okay. Thank you. That was very helpful.

CHAIRMAN BERNANKE. Governor Duke.

MS. DUKE. Brian, when you talk about the MarketSOURCE piece, I'm not sure I'm looking at the same one, but the one I'm looking at, if I'm reading it correctly, talks about the likely movement in response to changing the liftoff date to mid-2014 from late 2014. And the way I read that was that it would be expected to increase 10-year Treasury yields by 20 basis points, with half of that coming from the change in the liftoff date and the other half coming from a reduction in estimates of further balance sheet movement. So I'm trying to understand—because that ends up being more powerful than the estimate of an additional LSAP in the other memo—how much of it may be a reversal of some of the anticipation of additional LSAP that's already somehow priced into the markets. And would you expect that to be the same for the first two-quarter move versus another two-quarter move versus another two-quarter move?

MR. SACK. Just to be clear, in terms of the results that are comparable to panel 5, I was actually talking about a different MarketSOURCE piece called "Why Are Treasury Term Premia So Low?" which has a similar regression model to this. But the piece you brought up is another important one, I think. And that's right; that piece was, first of all, just trying to map financial conditions into this liftoff date to give us a metric for thinking about whether a one- or two-quarter increment—is that a big policy increment or not? But it ended up making this additional point that I think is very important, which is connected to what I was showing in panel 6: The liftoff date is going to have a larger effect on financial conditions because the exit guidance has tied the balance sheet timing to that date, to the pattern of the federal funds rate. And of course, the staff believes that the term premium effects are based on a forward-looking, anticipated path of the balance sheet. So that piece has an estimate in it that says, well, basically, changes in the liftoff date are essentially twice as powerful as you would have if the only consequence was the path of the federal funds rate. And of course, if that's true, policymakers would want to take that into consideration in adjusting that date. So it's interesting. That adjustment is very different than other adjustments, like the slope of the policy path after that, because that one, the timing to liftoff, has a lot attached to it.

MS. DUKE. There was a big "if" in your answer.

MR. SACK. Well, right. Following on our previous discussion, these are estimates, so there's a lot of uncertainty.

CHAIRMAN BERNANKE. Vice Chairman, do you have an interjection?

VICE CHAIRMAN DUDLEY. I have a question. I'll wait my turn.

CHAIRMAN BERNANKE. Okay. President Plosser.

MR. PLOSSER. I just want to follow up on this particular topic. And, Mr. Chairman, this goes back to your comment earlier. We moved the forward guidance out by 18 months in January. And I look at your chart, panel 1—I don't see anything that looks like what we did in August in terms of effects. Now you're telling me that if we pull it back by six months, we're going to get a much larger effect. I'm just trying to understand how this works, how we come up with these numbers.

MR. SACK. Here we're talking about a full surprise. So, first of all, the move by 18 months wasn't a full surprise. There was some expectation that it was going to be longer—not 18 months longer, but somewhat. There actually is a downward movement in response that you saw in financial markets. Clearly, implied volatility responded and Treasury yields responded, and you can see it on the chart. You just need a magnifying glass to see it. [Laughter] It's that little notch down in January. But I agree with the general sentiment that, given the way that was interpreted and the effects it seemed to have on expectations and volatility, especially effects on volatility and the balance sheet path, you would have expected to see a bigger effect. So I take that on board. But the move did affect markets, and I think what this says is that it just had a lot of effect through the expected funds rate path and maybe a little bit of effect through the term premium.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. Yes. On chart 18, you asked this question in the primary dealer survey about how much the unemployment rate and the inflation rate would have to change to induce a change in the forward guidance. These seem to be pretty large relative to what we showed in our scenario analysis or what the SEP results suggest. What should we draw from that distinction, if anything?

MR. SACK. I agree that they look large. Let me focus on the policy guidance piece. It certainly looks large relative to the idea that the Committee is, say, following Taylor (1999) and is willing to make one- or two-quarter adjustments in that date. So essentially, ½ percentage point on the unemployment rate, as everyone understands, would be worth 100 basis points on the level of the funds rate under Taylor (1999). The slope of the futures curve out there, and the slope of a lot of surveys, is less than 100 basis points. So that should actually be something like a four-quarter shift, which seems like a very large increment relative to a reasonable increment for adjusting this date. What I infer from that is that the market doesn't think that liftoff date is simply driven by a reaction function like Taylor (1999), that they're seeing some kind of additional stickiness for the liftoff date in the reaction function. Of course, we didn't ask about the reasons, but there are a variety of reasons that that could be the case, such as asymmetric risks or commitment strategy, and so on.

VICE CHAIRMAN DUDLEY. It does suggest, then, that the market will be somewhat surprised by the SEP results, because if you look at those results, the central tendency for 2014 really doesn't change at all. It changes so marginally relative to this. So taking this and combining with the SEP results, presumably the market would think that there was less stickiness. Is that a fair inference?

MR. SACK. Right—subject to the caveat that at the moment, it's very complicated how the market sees the SEP versus the statement.

VICE CHAIRMAN DUDLEY. No, I agree.

MR. SACK. If there was a change in the date in the statement given the change in the forecast presented in the SEP, it would be very surprising in light of the survey results.

VICE CHAIRMAN DUDLEY. Right. Thanks.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. My question is on panel 17. We've had several comments highlighting problems with standard errors and implications of a weaker economy when we try to look at the effects of various policy changes. But I was struck by how high the probabilities were for these, and I was wondering—to get a better sense of if we were to need to do further easing—when you asked this question, did they provide commentary on both the costs and benefits of each of these options? My own view is, I've been actually surprised by how effective using language has been. I don't know, when you talk about changing rate guidance here, whether that's moving a date, whether it's greater commitment—exactly what the question was on changing rate guidance. But I wonder whether they gave you any more qualitative information that would give you a sense of why they pick one or the other. And do I view these as independent or joint?

MR. SACK. We don't know their joint distribution. So we realized, among other things, that we can't answer the question "What's the perceived probability of no balance sheet action?" because some respondents could have expected increased duration and balance sheet expansion together. I think in the next survey, we'll try to correct that. And your other specific question—the rate guidance question is not specific about a date. It's just specific about a change to the guidance on the federal funds rate in the FOMC statement. I don't think we get a great sense from the responses of some of the qualitative considerations you raised. But my impression is that there are higher odds on balance sheet action than on rate guidance if further easing were warranted, because of how aggressive and far out the date has been pushed—that there is a sense that it's difficult to give guidance about 2015 or something.

VICE CHAIRMAN DUDLEY. Diminishing returns?

MR. ROSENGREN. But there are other options besides moving out the date. You could make it very firm guidance that says, absolutely under no circumstances will we do anything out to this date, which might be a date earlier than the other date, for example. You could think of a number of ways to increase the amount of commitment if we so chose.

MR. SACK. You could. You could have a stronger commitment, or you could have more information on the conditioning thresholds. However, the Committee hasn't done either of those and, I think, has emphasized some of the shortcomings of an absolute date commitment. So it doesn't seem as though market participants are looking for those changes. They're looking for more information over time about the reaction function, but I'm not sure they're so confident they're going to get it in the FOMC statement. My guess is, in general, that the question about changing rate guidance is mainly seen as a question about moving the date in and out in its current form.

CHAIRMAN BERNANKE. Other questions for Brian? [No response] If not, I need a vote to ratify domestic open market operations. Without objection.

The other thing that Brian proposed is the annual renewal of the swap agreements with Canada and Mexico. These are small swap agreements that we've renewed for quite a few years. We need to do this now if it's going to be effective for 2013. Are there questions or comments for Brian? President Lacker.

MR. LACKER. On the swap lines, consistent with long-standing principle, I oppose these swap lines. They represent, in both their origins and their rationale, supporting machinery for two purposes. One is foreign exchange operations, which, as I've said before, I believe are inappropriate. They're redundant, they have been abandoned by modern central banks around the globe, and they threaten our independence under our system of governance since they're always in conjunction with the U.S. Treasury. Moreover, the second purpose would be to channel intergovernmental assistance to our fine NAFTA partners. Deserving as they might be of that assistance, that's a fiscal policy function that I think is best left to fiscal authorities. So for those reasons, I would oppose the swap lines. I'd urge you and the staff to begin now to negotiate their dissolution. But barring that, I'll vote against them. [Laughter]

CHAIRMAN BERNANKE. I hope the Bank of Japan doesn't hear about this modernity issue that you've raised. Any other comments or questions? [No response] All right. Without objection, except for President Lacker? Okay? Yes? All right. Thank you.

Let's move on now to the "Economic and Financial Situation," and I'll turn to David Wilcox.

MR. WILCOX.[3] Thank you, Mr. Chairman. I have a handout that I've creatively chosen to title "Forecast Summary." For us, unlike for you, the news that we've received since posting our March forecast includes the last *two* labor market reports, including the relatively favorable one from six weeks ago. All told, the news about the labor market and spending that we folded into our forecast this time around has been a little stronger than we had expected. As shown in the upper-left panel of the "Forecast Summary" exhibit, we've essentially carried forward the further downside surprise in the level of the unemployment rate.

On the spending side, real PCE looks to have been noticeably stronger in the first quarter than we had projected in the March Tealbook, and there were also upside surprises to residential investment, inventory investment, and government spending last quarter. However, much of the additional strength in first-quarter spending—notably, the higher federal defense purchases and the stronger pace of inventory investment—looks likely to be transitory. Moreover, the latest reading on personal income disappointed once again.

Two measurement-related issues have attracted a good deal of speculation in recent weeks among macro forecasters. First, many commentators have guessed that the timing of the free fall in activity in 2008 and 2009 might have distorted the standard algorithm used to seasonally adjust macro time series. Second, many have noted the unprecedentedly warm weather during the months formerly known as winter and guessed that it might have boosted activity. We've looked into both stories and think there's probably something to both. Let me briefly summarize our views as follows: First, the distortions run in different directions in different series. For example, as we noted at the March meeting, warm weather clearly pushed single-family starts up around the turn of the year because builders were able to work much more easily in ground that normally would have been frozen. On the other hand, consumer spending for heating fuels clearly was held down relative to where it would have been in normal weather conditions. Second, some of the payback has already occurred. Starts in February and March came back in line with permits—a series that historically has been much less sensitive to weather anomalies. And part of the weakness in payrolls in March may reflect a down payment on unwinding those effects. Third, while we make no pretense of having a precise handle on these effects, we've taken a crack at adjusting for them in our forecast. On balance, though, these measurement considerations and the uncertainty that they add to the picture make us especially wary of taking too much signal from the recent data.

Turning to the medium-term outlook, the changes to our usual conditioning assumptions since the March Tealbook have been so small that they do not materially affect our outlook. Financial conditions are close to where they were at the time of

[3] The materials used by Mr. Wilcox are appended to this transcript (appendix 3).

the previous projection, indicating that, on balance, market participants haven't seen the recent news as especially surprising. Our assumptions regarding foreign activity, the dollar, and fiscal policy are also little changed from what we had assumed in March. Factoring all these considerations together, as shown in the upper-right panel, we left the trajectory of real GDP just a smidgeon stronger than before.

Despite the recent reduction in the unemployment rate, there remains, in our assessment, substantial resource slack in the economy that will only gradually diminish and will not have been eliminated by the end of 2014. To be sure, the staff projection has for some time been predicated on the view that the recent recession raised the NAIRU. Our baseline assumption is that the effective NAIRU is currently 6¼ percent, about 1¼ percentage points higher than at the beginning of the recession, with about ¼ percentage point of that amount reflecting the now-diminishing influence of the emergency unemployment program. The middle-right panel presents one factor that informs our calibration of the NAIRU. This variable is taken from research conducted by Andrew Figura and Regis Barnichon, current and former members of our staff, respectively. This variable represents an estimate of the influence on the unemployment rate of shifts in the efficiency with which workers are matched to jobs—the idea being that if the matching efficiency of the labor market deteriorates, the unemployment rate might rise, but monetary policy couldn't fix it. As you can see in the figure, this measure of matching efficiency fluctuated in a relatively narrow band prior to the most recent recession. But since 2009, according to this model, the reduction in matching efficiency has driven up the unemployment rate by a little more than 1 percentage point, on average, broadly consistent with our NAIRU assumption.

In the baseline forecast, we have the emergency unemployment benefit program expiring at the end of this year. With the end of that program, we have the effective NAIRU coming down to 6 percent by the middle of next year and then holding at that level through the end of 2014. In the longer term, as labor market functioning improves, we have the NAIRU ultimately moving back most of the way to its pre-recession level, reaching 5¼ percent by the end of 2017.

For today's purposes, the important point is that we think the unemployment gap remains at about 2 percentage points—still relatively wide by historical standards. A couple of shreds of evidence in support of that hypothesis are shown in the lower-left panel of your exhibit. Historically, our estimate of the unemployment gap has moved closely with the index of job availability from the Conference Board's survey of households, shown in inverted form here in green—almost disappearing green—and the index of "jobs hard to fill" from the NFIB's survey of small businesses, shown in red. Both of these measures remain at levels consistent with substantial slack remaining in the labor market.

Turning briefly to the spending side of our projection, the housing sector has been a bleak spot in the economy, and certainly in many areas of the country and for many households, it remains so. But in line with Governor Duke's remarks at the last FOMC meeting, based partly on Governor Yellen's aggressive bidding behavior, conditions in the sector may be becoming a little less bleak. To be sure, existing home sales were a little softer in March, but they've been trending up since about the middle of last year, as have starts and permits for both single-family and multifamily homes. In addition, house prices seem to have firmed recently. In particular, the January and February readings on the CoreLogic house price index showed increases on a seasonally adjusted basis, even including distressed sales. The firming in house prices is particularly surprising given that distressed sales, which have typically tended to drive prices lower, all else being equal, were at an all-time high of nearly 50 percent in February. And as you can see in the lower-right panel, the slightly brighter national picture is being felt in many metropolitan areas across the country. Indeed, as shown by the red line, the number of metro areas experiencing a housing price increase of more than 1 percent over the past three months has reached its highest level since 2006. Based on the upside surprises in national home prices in January and February, we rotated our forecast for house prices modestly, so it now shows a small increase over the next few years rather than a slight decrease. That said, we still see a long, slow crawl out of a very deep hole for this sector, particularly because the number of mortgages still in foreclosure or some degree of delinquency remains high and looks set to remain so for the foreseeable future.

Turning to inflation, recent readings on core inflation have come in somewhat higher than we had expected in the March Tealbook. Roughly half of the upward surprise was concentrated in the nonmarket component, from which we take little signal for future rates of inflation. The other half of the surprise mainly reflected some upward revisions to medical prices in January and February. With the first reading on core prices in March coming in very close to our expectation, we carried very little of the upward surprise to core price inflation forward into the projection period. As Steve 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. Accordingly, headline inflation is projected to fall back to below 2 percent at an annual rate in the second half of this year and to settle around 1½ percent in 2013 and 2014.

I noted earlier that our assumptions regarding fiscal policy are the same as in previous Tealbooks. We continue to assume that the tax cuts enacted in 2001 and 2003 as well as AMT relief will be extended, that the automatic sequestration procedures stipulated by the Budget Control Act will be replaced with deficit-closing actions that have a less abrupt effect but achieve approximately the same cumulative deficit reduction through 2021.

In the alternative scenario labeled "Fiscal Cliff" that's presented in the Tealbook, we contemplate a scarier possibility by assuming that the Congress allows the 2001 and 2003 tax cuts to expire and the spending cuts mandated under the automatic sequestration to apply in full force. In this scenario, which allows for some modest hits to consumer and business confidence, real GDP expands, on average, 1 percentage point per year slower in both 2013 and 2014 than in the baseline. As a result, the unemployment rate is still above 8 percent at the end of 2014, and the funds rate remains at the zero lower bound a year longer than in the baseline. For the diehard pessimists among you, I will point out that an even worse outcome is possible—namely, that the Congress might fail to address the debt ceiling—yet another issue coming on their agenda around the end of this year. But our dictionary didn't have any adjectives sufficiently dark to describe the outcomes that would ensue in this case, so we omitted it from the Tealbook. Steve Kamin will now continue our presentation.

MR. KAMIN. Over the spring break, as I drove my family to Miami and back, I had plenty of time to consider a critical question for the global outlook: If the European crisis were a movie, how would it end? Would it wind up like *Dr. Strangelove*, in a cataclysmic global meltdown? Would it trouble the world economy with bouts of financial stress for years to come, like the countless sequels to *Pirates of the Caribbean*? Or, after seemingly being lulled into submission, would the crisis come roaring back to life like Glenn Close in *Fatal Attraction*?

Certainly, the recent deterioration of European financial markets that Brian has described, coming after three months of progress toward financial normalization, has refocused attention on the downside risks in Europe. Indeed, some of the developments giving rise to this recent turbulence are worrisome. In Spain, the subject of particular market concern at present, property prices have slid further, nonperforming loans continue to mount, and the government has announced substantial slippage on its fiscal targets. Italy will also miss its fiscal targets and is struggling to pass a reform law aimed at making labor markets more flexible and improving the economy's competitiveness. Finally, European leaders missed an opportunity to reassure markets when they boosted the lending capacity of the region's financial rescue facilities, but by much less than some parties—including the European Commission itself—were calling for.

As of now, these developments have not led us to fundamentally rethink our baseline view that, after occasional episodes of market turbulence, financial conditions will eventually start to normalize as European authorities make progress toward meeting their policy goals. We had anticipated that fiscal slippages would occur, and incoming economic indicators have been no more bleak than we had expected in March. Sovereign Spanish and Italian bond yields remain below last year's peaks. Even with its higher deficits, Spain's ratio of public debt to GDP should remain reasonably low this year at 80 percent, about the same as in Germany, although if Spanish banks required considerable recapitalization, this figure would rise. Finally, the ECB's three-year LTROs have largely taken care of European banks' euro-denominated funding needs for this year, while the cost of dollar funding is down substantially. All that said, however, recent events have increased the risk that European financial conditions will snowball into a substantially more dire scenario. Accordingly, we will continue monitoring these markets very closely.

Even without assuming any further deterioration in financial conditions, the past month's increases in credit spreads and declines in stock prices will hurt the euro-area economy: We now are projecting a slightly deeper and longer recession so that, after contracting at a 1¼ percent rate in the fourth quarter, euro-area GDP falls almost

1 percent this year and grows quite anemically thereafter. Notably, economic activity in the region is restrained not only by financial stress, but also by the fiscal austerity prompted by that stress. We gauge that budget cutting will subtract more than 1½ percentage points from euro-area growth this year and next—this is a huge drag for an economy already under tremendous strain.

Outside of Europe, I'm happy to say, the global economy is doing much better. In fact, incoming data have been a touch stronger than we anticipated back in March, and we now estimate that total foreign economic growth jumped to a 3¼ percent rate in the first quarter from a meager 1½ percent in the fourth. Much of the rebound took place in emerging Asia and Japan, importantly reflecting the restoration of supply chains after the severe flooding in Thailand last year. The pace of expansion in Latin America also quickened as Mexico benefitted from a jump in U.S. manufacturing and monetary easing helped Brazil recover from its slump in the second half of last year. And even the United Kingdom appears to have started growing again after contracting in the fourth quarter, notwithstanding continued weakness in its main trading partner—the euro area—and substantial budget cutting of its own. Going forward, we are looking for total foreign GDP growth of a little below 3 percent for the remainder of this year, rising to 3½ percent by 2014, as Europe muddles its way into recovery, monetary policy remains supportive, and U.S. economic growth strengthens.

I've already discussed the principal threat to this outlook: a severe resurgence of financial stresses in Europe. Most lists of the top three risks to the global economy also include a hard landing in China. Since your March meeting, Chinese GDP growth for the fourth quarter was revised down to 7¾ percent, and growth in the first quarter apparently edged down further, to 7½ percent. Despite this news, we have boosted our forecast for second-quarter growth a touch—to 8½ percent—and left it unrevised at about 8¼ percent for the rest of the forecast period. Industrial production, the trade surplus, and bank lending all strengthened toward the end of the first quarter, pointing to an uptick in GDP growth thereafter. We cannot entirely discount the much-discussed scenario that a bust in the property sector pushes China into a hard landing. However, our sense at this point is that the recent slight decline in Chinese property prices mainly reflects government actions to cool the property market, and that the government has the fiscal and monetary scope to respond should there be a much steeper decline.

Rounding out the top three risks to the global economy is a further surge in oil prices. The same factors that were boosting prices earlier this year—concerns about the risks to oil supplies posed by Iran, as well as actual production disruptions in Nigeria, Syria, and South Sudan—are still around. However, market concerns about the risk to global oil demand posed by the recent slowing in China and the financial situation in Europe have led spot prices for crude oil to decline about 5 percent since mid-March. Consistent with future markets, we project oil prices to decline somewhat further going forward.

The run-up in oil prices that took place earlier this year was considerably smaller than that which occurred in early 2011, and appears to have had a smaller impact on inflation as well as growth. Foreign inflation has been declining from last year's peaks and, barring further shocks to the oil market, should move down to target ranges by later this year. This should provide central banks with the leeway to maintain accommodative policies for the next couple of years in advanced as well as emerging market economies.

In large part as a result of the stronger foreign economy, U.S. export growth is estimated to have picked up to 6¼ percent in the first quarter, and we expect exports to maintain something close to that solid pace in the remainder of the forecast period. Even so, we revised the estimated contribution of net exports to U.S. GDP growth down to ¼ percent in the first quarter, and we're projecting a close-to-neutral effect thereafter. Part of the relatively weak performance of net exports reflects the strengthening recovery of the U.S. economy, which contributed to higher-than-expected imports in the first quarter and will continue to buoy import growth going forward. Additionally, the path of the broad real dollar is a bit higher in our current outlook, and its pace of depreciation over the forecast period—at about 2¼ percent—is somewhat slower than it has been in recent years. Even so, it is enough to keep the current account deficit at about 3 percent of GDP through the forecast period. Nellie Liang will continue our presentation.

MS. LIANG.[4] Thank you. My remarks will focus on our assessment of financial stability. There are three exhibits with this presentation. Currently, two prominent financial risks to the United States are adverse developments in Europe and the possible additional loss of investor confidence in global capital markets businesses of some large banking firms. Such risks could be destabilizing if they are amplified, rather than absorbed, by vulnerabilities in financial institutions and markets. Despite significant progress in recent years, important vulnerabilities continue to be some large banking firms and money market funds. In addition, it is possible that persistently low interest rates could lead to an additional vulnerability—an excessive buildup in leverage to fund riskier investments—although signs of general excess currently are not visible.

Turning to the first risk, U.S. financial markets remain highly focused on European developments. As shown in the top panel of exhibit 1, the correlation of U.S. stock prices with CDS premiums for sovereign debt of France, Spain, and Italy has been sizable through most of the past two years, and it remained very large even in the first few months of this year, when pressures eased after the ECB's longer-term refinancing operations were introduced. As Steve Kamin discussed, we believe the medium-term challenges for Europe are still substantial, and this large correlation suggests that U.S. financial conditions could worsen if the European situation deteriorates further.

[4] The materials used by Ms. Liang are appended to this transcript (appendix 4).

Faced with this risk, U.S. financial institutions have taken steps to bolster their resilience. As shown in the middle-left panel, money market funds have substantially cut their holdings of European debt in the past year. Moreover, they have materially shortened the maturities of their holdings, shown by the shrinking yellow bars. Still, money funds remain a key vulnerability for the financial system because of their susceptibility to runs arising from their commitment to redeem shares at par. While the SEC chairman has acknowledged that more reform is needed, and her staff is evaluating a range of options that include floating net asset values, capital buffers, or redemption restrictions, specific proposals have not yet been published.

In addition, banking firms have increased their capital ratios and liquidity buffers and pared their European exposures, especially to the weaker countries. Moreover, as shown in the middle right, stock prices for the largest domestic bank holding companies have risen notably since the immediate pressures in Europe eased late last year. Bank stock prices also were boosted by the release of the results of the recent supervisory stress tests, which estimated that most firms would have capital above regulatory minimums under a scenario with steep price declines for European securities and a very severe U.S. recession.

Still, the largest banking firms appear to be viewed by market participants as susceptible to the risk of an additional loss of investor confidence. As shown in the lower-left panel, CDS premiums for four of the six largest bank holding companies remain elevated, and the premium for Morgan Stanley, the red line, has risen recently to nearly 400 basis points.

Moreover, as noted in the lower-right panel, in February, Moody's put five of the largest U.S. banking firms on watch for downgrade. The report emphasized structural challenges related to global capital markets businesses, which they view as heavily reliant on confidence even as the key lines of the business are opaque and interconnected. Notably, on watch for downgrade are the short-term ratings to P-2 and long-term ratings to Baa for Morgan Stanley and the bank subsidiaries of Bank of America and Citi. These downgrades raise questions about the longer-term outlook for earnings, and we have already seen evidence of increased concerns by counterparties and cost increases for borrowers in markets, such as for VRDOs and asset-backed commercial paper, that rely on liquidity support provided by these firms.

In the near term, the reduction in wholesale funding and the buildup of cash and of capital in recent years at the large banking firms substantially mitigate the risk of a near-term acute event. Your next exhibit illustrates the balance sheets of bank holding companies and dealer firms. As shown by the blue shaded areas in the fourth bar, the share of wholesale funding is substantial for the dealer firms, but so too is the share of liquid assets, shown by the green shaded areas. Also, dealers recently have demonstrated the ability to quickly shrink both sides of the balance sheet if needed. However, the still-high share of wholesale funds at the dealers is a vulnerability that increases the potential systemic effects of lost investor confidence, especially if multiple firms were to try to shrink at the same time.

The large bank holding companies, depicted in the left set of bars, are currently flush with deposits but could also be susceptible to lost investor confidence. As shown by the two large red shaded areas in the middle of the second bar, the deposit share at these firms is high, but the share in large noninterest-bearing or uninsured deposits, the darker red area, is not insubstantial. Lower-rated firms with elevated risk premiums could face pressures as sizable amounts of debt come due this year and as the unlimited FDIC guarantee of noninterest-bearing deposits expires at year-end.

In sum, some large firms active in global capital markets face the risk of a self-reinforcing dynamic, in which concerns about the viability of their business model prompt ratings downgrades, which in turn limit their ability to conduct certain businesses, undermining revenues and prompting even greater concerns. That said, reduced wholesale funding and higher cash buffers mitigate the likelihood of an acute disruptive funding event. The staff is continuing to monitor developments and assess the potential effects of an additional loss of confidence on earnings and longer-term viability.

Turning to your next exhibit, the current environment of low interest rates, discussed by Brian, is often cited as a potential threat to financial stability because it could lead to excessive leverage and asset price bubbles, which could unwind in destabilizing ways. That said, our review of asset values and leverage does not currently suggest such concerns are especially prominent.

Prices of risky assets have risen notably in recent months as investors have exhibited increased willingness to hold them. As shown in the top-left panel, issuance of high-yield bonds and leveraged loans shot up in the first quarter but remains below the pace in the first half of 2011. Further, credit spreads across the term structure for high-yield corporate bonds, shown to the right, are not unusually tight relative to historical levels.

Moreover, leverage in secured financing markets has not shown notable increases in recent months. As plotted in the middle left, activity in the triparty repo market has risen only moderately this year, mostly secured by Treasuries and agencies (the darker-blue area), and haircuts have been roughly unchanged (not shown). Further, securities lending volume, shown in the middle right, has changed little of late. Conversations with market participants suggest that while some fund managers may be feeling pressure to put capital to work, they generally remain cautious about employing additional leverage.

As noted in the bottom panel, low interest rates could also be one impetus for new financial products and innovations as investors look to boost returns. We have highlighted several trends in recent months, including the increased issuance of exchange traded notes (ETNs) that offer leveraged returns. Because of their limited aggregate size, ETNs do not currently appear to present important systemic concerns, but we will continue to monitor these and other products for further growth and increasing complexity.

In addition, sustained low interest rates could create additional vulnerabilities as financial institutions look to enhance returns. For example, underfunded pension funds with target nominal returns, or life insurance companies that offer products with guaranteed minimum returns, may take on excessive risk or loosen securities lending practices in order to obtain higher returns. Alternatively, depository institutions could mismanage the risks of unexpected shifts in the yield curve, including a rise in the short end should inflation concerns force up deposit rates sharply. The staff currently is working on these issues, and we will report on our findings in the future. Gretchen Weinbach will continue our presentation.

MS. WEINBACH.[5] I will be referring to the packet labeled "Material for Briefing on the Summary of Economic Projections." As shown in the top panel of exhibit 1, based on your individual assessments of appropriate monetary policy, you generally project real GDP to expand at a moderate rate this year—one that is only a bit above its projected longer-run rate, shown in the right-hand side of the panel. Most of you anticipate somewhat stronger economic growth in the second half of this year relative to the first half. Over the remainder of the projection period, you generally anticipate that GDP will accelerate gradually to rates of growth that are somewhat above your projections of its longer-run pace. Looking at the second panel, your projections of the unemployment rate at the end of this year mainly reflect the decline that has already occurred. In 2013 and 2014, you see the unemployment rate gradually moving lower but remaining above its longer-run normal level. Your projections for inflation, shown in the bottom two panels, are generally at or a bit below your 2 percent longer-term objective over the projection period. The narratives you supplied describing the key considerations shaping your outlooks generally indicate that you see the recovery as being on a somewhat firmer footing now relative to January, but that economic activity will nonetheless be restrained by several factors going forward, including contractionary fiscal policy, a weak housing sector, still-low levels of business and consumer confidence, lingering pressures on household balance sheets, and headwinds from the euro zone.

Your next exhibit illustrates your assessments of the appropriate path for the federal funds rate—that is, the future path of the funds rate that each of you deems most likely to foster outcomes for economic activity and inflation that best satisfy your interpretations of the Committee's statutory objectives. As shown in the top panel, 11 Committee participants currently anticipate that it will be appropriate to begin raising the target federal funds rate in 2014 or later, the same number as in January. However, none of you now anticipate that it will be appropriate to first raise the federal funds rate in 2016, and 2 more of you now judge that liftoff will occur in 2014. As was the case in January, 6 of you see the appropriate time of liftoff to be in 2012 or 2013.

The middle panel indicates each participant's individual judgment of the appropriate year-end level of the target federal funds rate over the projection period and in the longer run; for comparison, the bottom panel shows your January

[5] The materials used by Ms. Weinbach are appended to this transcript (appendix 5).

assessments. Since January, your assessments of the funds rate for the next few years have moved a bit higher, which would seem to accord with the slightly lower central tendency of your projections for the unemployment rate, which I'll describe shortly. Even so, over the 2012 to 2014 period, all of you continue to place the funds rate substantially below its longer-run level, shown to the far right. Most of you also see a gradual pace of increase in the funds rate once liftoff occurs, with the median value of the funds rate at the end of 2014 equal to 1 percent. The four participants who judge that liftoff will not be appropriate until 2015, not shown, place the funds rate at either 1 percent or 1½ percent at the end of that year. By contrast, the Tealbook has liftoff in the first quarter of 2014, with the federal funds rate rising to 1¼ percent at the end of that year and to 4¼ percent in the longer run. However, I should add that, unlike your assessments of the funds rate, the Tealbook path is not an assessment of appropriate policy, but instead is designed to embody a "neutral" assumption about policy-setting, which we obtain by using the estimated outcome-based policy rule to set the funds rate.

Regarding balance sheet policies (not shown), 11 participants reported having a different view of the appropriate path for balance sheet normalization than the Tealbook, in which the timing of exit is keyed to the date of liftoff prescribed by the outcome-based rule. All of these participants reported that their preferred start dates for the normalization process differ from the Tealbook, reflecting their views for the appropriate timing of liftoff. However, they still saw normalization proceeding in a manner consistent with the exit principles that the Committee agreed upon last June. Two of these participants judged that the reduction in the size of the balance sheet should proceed at least somewhat more quickly than assumed in the Tealbook. One participant believed that appropriate policy would involve the implementation of an expanded maturity extension program in the near term in order to mitigate downside risks to economic growth.

Exhibit 3 updates the scatterplot that was introduced in January to show the combination of unemployment and inflation rates that each participant expects will prevail in the year that liftoff is appropriate. Expectations for the unemployment rate at the end of the year of liftoff range from 6¼ percent to 8 percent, with a median rate of about 7 percent. Projections of inflation in the liftoff year are clustered between 1½ percent and 2¼ percent, with a median rate of 2 percent. Most of you who judge that liftoff will be appropriate in 2014 or 2015, represented in the chart by the black circles and the blue squares, respectively, anticipate an unemployment rate of 7 percent or less in the year of liftoff. In their narratives, most of these participants cited a willingness to allow inflation to run close to or a bit above 2 percent for a time, an assessment that it would be appropriate to maintain a very low level of the federal funds rate for longer than in a typical recovery in light of the constraint that the zero lower bound has placed on monetary policy, or both. All of the participants that expect an unemployment rate above 7 percent in the year of liftoff judged that liftoff would be appropriate in 2014 or sooner. Many in this group of participants cited the need to preempt inflation pressures or to prevent inflation from rising above 2 percent. However, a couple of these participants, who anticipate liftoff in 2014, reported that their liftoff date incorporates a delay in order to compensate for the effects of persistent large resource gaps or the zero lower bound.

Exhibit 4 shows the central tendency and range of your economic projections and compares them with those in the January SEP as well as with the staff forecast. As shown in the top panel, the central tendency of your projected growth rates for real GDP in 2012 moved up about ¼ percentage point and remains similar to the central tendency of your assessments of the longer-run growth rate of real GDP. In contrast, the central tendency of your projections of real growth in 2013 and 2014 moved down somewhat, although you continue to expect real growth to rise above its longer-run rate over that period. As shown in the second panel, the central tendencies of your projections for the unemployment rate were generally revised down, particularly in the near term. For 2014, the central tendency was marked down only a little, leaving it at 6.7 percent to 7.4 percent. Most of you indicated that the revisions to your projections of real GDP and unemployment reflect your assessments of the incoming data since January. Indeed, most of you submitted narratives that characterized the incoming data on consumer spending—especially for motor vehicles—or on employment, or both, as being at least somewhat stronger than you had anticipated in January. However, several of you expressed caution in extrapolating the recent stronger data out of concern that it might reflect temporary factors—including recent levels of spending, such as by the federal government or by consumers on autos, that are not likely to be sustained—and a couple of you also pointed to the unseasonably warm winter weather as a possible contributor. The Tealbook forecasts for real GDP growth are within the corresponding central tendencies, while the Tealbook forecasts for the unemployment rate are at the top end of your central tendencies. By contrast, the January Tealbook forecasts were generally weaker than the central tendencies of your projections at that time.

Moving to the bottom two panels, the central tendencies of your projections for both top-line and core PCE inflation this year have moved up since January, while in 2013 and 2014, the lower ends of these tendencies rose a little. Overall, your projections continue to show inflation running at levels of 2 percent or a bit less over the projection period. A majority of your narratives noted that the incoming readings on inflation had been a little higher than you anticipated in January. However, many of you indicated that declines in commodity prices, sluggish wage gains, and stable inflation expectations would likely keep inflation pressures subdued over the projection period. As was the case in January, the Tealbook forecast has inflation coming in at or a little below the lower end of your central tendencies.

The central tendencies of your assessments of the longer-run rates of real GDP growth, unemployment, and inflation—shown in the right-hand column—are unchanged since January. Most of you expect the economy to converge to these longer-run rates in five to six years, although a couple of you expect the process may be shorter, especially for inflation.

Your final exhibit summarizes your judgments of the uncertainty and balance of risks that you attach to your projections. Beginning with the top two panels in the column on the left, most of you continue to see the uncertainty associated with your projections for real GDP growth and the unemployment rate as higher than the average level of uncertainty over the past 20 years. However, likely reflecting the more favorable incoming data on economic activity, somewhat fewer of you see elevated uncertainty than did so in January. As shown to the right, more of you judge the risks to your projections of GDP growth and the unemployment rate to be broadly balanced than did so in January. Nonetheless, about half of you still see downside risks to growth and upside risks to unemployment predominating. These risks were attributed to potential spillovers from the European debt crisis, including the possibility of a prolonged European recession; the impact of fiscal consolidation in the U.S.; and the possible effects of the tensions in the Middle East. One participant noted that adverse shocks to aggregate demand could have particularly severe effects in light of the limited scope for fiscal or monetary policy to respond in the current circumstances. Another indicated that the risk of such negative shocks was about balanced by the recent signs of improvement in labor markets and consumer sentiment.

As shown in the bottom two panels on the left, about half of you view the uncertainty attending your projections of headline and core PCE inflation to be on the high side, down slightly from January. As shown to the right, almost all of you now judge the risks to both measures of inflation to be broadly balanced. Those who see the risks to inflation as weighted to the upside pointed to risks emanating from disruptions in oil markets or from the highly accommodative stance of monetary policy. With regard to the latter, some worry about the Federal Reserve's ability to withdraw accommodation when the time comes, and the possibility of upward pressure on inflation expectations should exit prove more difficult than expected. Thank you. That concludes our staff presentation. We'd be happy to take your questions.

CHAIRMAN BERNANKE. Thank you very much. We'll now have questions for any or all of our four presenters; all of you were very good. Following that, consistent with our past practice, there will be an opportunity for anybody who wants to dig deeper into any of the financial stability issues or to raise any financial stability issues that have not been covered and that we should be discussing. So let me start first with Qs and As. Any questions for our staff? President Fisher.

MR. FISHER. Let me ask Steve Kamin—you mentioned a number on exports, which was higher than I expected. What did you say our exports are year-to-date?

MR. KAMIN. Well, the exports number that I cited in my discussion was the first-quarter annual growth rate of 6.3 percent. That's a solid number. It's actually well up from the much lower 2¾ percent rate at which our exports were growing in the fourth quarter. The first-quarter number is a little bit downward revised from what we had earlier. And then, going forward, we're looking at growth that's in that same neighborhood.

MR. FISHER. And, second, I noticed you didn't talk about the French election. I have a question, which is, as we saw in Brazil, isn't it possible that if we have what some people consider an adverse outcome, we might end up with a Lula who actually happens to be a positive? Do you have any thoughts on that?

MR. KAMIN. Well, I think it's certainly an important consideration. Just to fill in the background, as is well understood, François Hollande, who basically was the top vote getter in the runoff election in France after Sarkozy, is well favored to win the regular elections that are coming down the pike. He's been quite critical of the austerity policies, both those in France and those that are contained in the fiscal pact, and, in principle, could be expected, if he were to significantly water down the French commitment to its own fiscal consolidation and to the multilateral EU-wide fiscal disciplines. That might be understood as something that could undermine investor confidence in the region and could be very problematic. So, clearly, the political situation in France poses additional uncertainty. But that said, looking at the specifics, what Hollande has been apparently most focused on is the fact that one needs growth-promoting measures, in addition to just austerity, and that's hardly an unwelcome message; that's actually appropriate. And as you've pointed out, we've had situations in the past where politicians who were seen as problematic, once they come into power, adopt more-prudent policies and actually are quite supportive. So I think the situation is more uncertain, but we're definitely taking a wait-and-see approach.

MR. FISHER. Thank you.

CHAIRMAN BERNANKE. The Federal Reserve is officially neutral, however.

MR. FISHER. I noticed that. Can we comment on Nellie now, or do we wait?

CHAIRMAN BERNANKE. Let's wait. Let's have the questions first.

MR. FISHER. Okay.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I'd like to ask the staff about inflation forecasts and economic capacity measures. The Tealbook has had a string of misses on inflation over the last year or so. In December of 2010, you were forecasting 1.1 percent for overall for 2011. The latest estimate is 2.7. And it's not just energy prices. On core, you were forecasting 0.9 percent, and it came in at 1.8. So I raise this with all due sympathy for anyone asked to forecast on a regular basis. People like that deserve our sympathy and our support. But I ask because, as you know, around the table, many of us bring very different frameworks to bear on the relationship between inflation and capacity. So the view—I'll call it view 1—is that the natural rate or measure of capacity is a very smooth variable. And as a result, the gap is quite large now, and the gap has large effects on your inflation forecast, as is clear from your text. This is illustrated very nicely in the box on pages 24 and 25 of the Tealbook A. And there it shows your estimate of potential output, which has been revised downward over the last several years, at least the projection of it going forward, but it's still a very smooth time series. You also present NAIRU as an alternative estimate of economic capacity, and it, too, is very smooth. View 2, you might call it, is that the natural rate responds to all of the shocks that affect economic production and economic demand and ought to be expected to vary at high frequencies. This is a point that's been argued forcefully by Professor Michael Woodford. It's a point that's embodied in all of the DSGE models that we use in the DSGE exercise that's conducted for periodic meetings.

So I have a two-part question. One is, on what do you rest your a priori weight you give to the smoothness of capacity measures? And the second is, have your misses been leading you to move at all from view 1 in the direction of view 2?

MR. WILCOX. I guess I'd feel more compelled to express an opinion about our moving away from view 1 if I thought that we had adhered to view 1 before. I'm not quite sure—let me begin by referring you to page 32 in the Tealbook A, which shows the evolution of the forecasts. And as you quite rightly point out, the trend in our inflation projection has been upward over the last more than a year. I would, however, draw the contrast between the top panel and the middle panel. The top panel shows that our estimates of GDP growth have been trending downward over that same period. But the unemployment rate projections shown in the middle panel have been roughly trendless. And, in particular, for us, a pretty important date is late 2010, which is the time when we last adjusted our assumptions about the long-run NAIRU and the supply parameters of the labor market. On net, the adjustments that we've made to the supply side and, in particular, to our gap measure have been to potential GDP—and, broadly speaking, have brought that measure into line with our assessment of resource slack as calibrated by the difference between the unemployment rate and the NAIRU. We put in place our NAIRU assumptions in late 2010. Thus far, we haven't seen any evidence that compels us to move off of those assumptions. That could emerge. For example, as I mentioned in my text, we've got the long-run NAIRU at some point coming back down to something like its pre-crisis level. We have 5¼ percent penciled in for the moment. I don't know what the timing of that return of labor market functioning is. We pushed it off into the reasonably distant future. That gets under way in our projection in 2015. If you were going to take one measure of resource slack to the proverbial desert island, I would recommend that you take the difference between the unemployment rate and the NAIRU. And as you can see there, whether it's by luck—I happen to think, on behalf of my colleagues, that there is a modicum of skill involved—those have been roughly trendless over that period.

Now, the relevance of this to the inflation projection: This resource utilization, or slack, is one critical component by which this policymaking body exerts influence over inflation. But if I did a variance decomposition for you of inflation, it does not figure very prominently in inflation outcomes. It's just simply a misconception that this is a primary determinant of inflation outcomes. And I think Bob Tetlow did a variance decomposition some years ago that suggested that resource utilization accounts for something in the neighborhood of 15 or 20 percent of the forward variance of inflation outcomes—something like that. So inflation is difficult to forecast for sure, but this is one variable among many that are important in determining inflation outcomes. That's why I wanted to draw that point out—for the sake of clarity about our analytical framework and the degree to which we think resource utilization plays a role in inflation determination. We think it has a tremendously important role in Committee thinking and policymaking, partly through inflation but also by dint of the other leg of the mandate. So, obviously, it has tremendous importance to all of you quite aside from its role in inflation determination.

MR. LACKER. If I could follow up, Mr. Chairman. I intended to try to draw you out on the observation that in many Tealbooks, you've said you expected—over this period I cite—

slack to be large and to hold down inflation. Inflation wasn't held down by as much as you expected, and I wondered if that led you to question the economic relevance of your measure of slack or whether slack was as large. That was what I was trying to get at. So you can be unrepentant—that's fine.

MR. WILCOX. That statement remains an accurate characterization. We still think slack is significant, roughly 2 percentage points as measured by the unemployment rate. We still think that's playing an important role against a backdrop of stable inflation expectations. We still think that slack is playing an important role in holding down inflation outcomes. As that slack diminishes, we think that that's going to release some of that downward pressure on inflation. So that has been our narrative. It probably is the case that we have adjusted the slope of our Phillips curve from several years ago and made that even flatter. I suspect that's probably true, although I don't have that empirical fact at my fingertips.

MR. LACKER. Thank you.

MR. WILCOX. But let me just add—we, too, have a DSGE model that we follow, among other empirical frameworks. At times, it's had really strikingly divergent points of view. We have a coherent empirical framework. DSGE models are an alternative approach. I have not seen credible evidence in real time that there is an alternative empirical framework that offers superior forecasting performance.

MR. LACKER. Can I comment on that?

MR. REIFSCHNEIDER. Just one thing—this is building on what David said. There's the DSGE models update that was distributed to the Committee that Mike Dotsey did.

MR. LACKER. Yes. It doesn't have the natural rate.

MR. REIFSCHNEIDER. Well, there are four DSGE models. They all have—

MR. LACKER. Yes, I know, but they don't publish the natural rate. The natural rate is not in there in these.

MR. REIFSCHNEIDER. But the inflation forecast is in all of those published DSGE projections—the median for 2014 is 1.5 percent. The highest, Philly's, is 1.7 percent. You're correct, but the point is that they can have—I assume all of them do; I know EDO does—different measures of what slack is. EDO's is less than the staff's estimate of slack. Even if you put it on the same conceptual basis, it's less. But the models have inflation forecasts, all four of them, that are very, very mild. I'm saying that this is just to underscore David's point, which is that there is a loose connection, shall we say, between various measures of slack and what the inflation forecast might be.

MR. LACKER. I'd point out that the DSGE models—as I understand those exercises, we run those models clean, right? We take the data that we have, and then we run them out. You couldn't do that, I would guess, with FRB/US. And you don't report to us forecasts that represent taking FRB/US through current data and just running it with no adjustments. What you give us—and this is what we expect from you—is a combination of information gleaned from various sources, including model projections, but it's a judgmental forecast. And that's not what we get from the DSGE exercises. We get a mechanical projection that's devoid of any of the judgmental inputs you provide. So it's not quite an apples-to-apples comparison there.

CHAIRMAN BERNANKE. Maybe we could go to President Rosengren. Did you have a question?

MR. ROSENGREN. I was actually going to make the same point—that the DSGE models have tended to be actually lower than the Tealbook forecast.

CHAIRMAN BERNANKE. President Evans, you had an interjection?

MR. EVANS. Yes. What I got out of Jeff's point was, there have been a lot of surprises in terms of what the inflation projections have been. I think if we went back to earlier in this cycle, we'd say we were surprised on the downside in 2009 as well. But I'm reminded of one of the strong contributions from the Minneapolis Fed research department several years ago where they—I'm blanking on who did this—

MR. KOCHERLAKOTA. Atkeson–Ohanian.

MR. EVANS. —Atkeson–Ohanian, who said inflation is just very difficult to forecast, and it tends to be a surprise. I have always thought that it would be fascinating if we went around the table and described a little better all of our methods for inflation determination, what we bring to bear in thinking about this. But as I've looked at the Tealbook forecasts, I've always thought that they were about as good as anything I could write down, although I usually write down something a little bit different. [Laughter]

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Two-hander there.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Just to follow up on this—David, you might have said, "Well, statistically there hasn't been a surprise." So I don't know if inflation has been a surprise, but maybe not in the context of the total amount of uncertainty that surrounds all of these variables.

MR. WILCOX. I don't know for sure. Consistent with much of the earlier discussion surrounding Brian Sack's briefing, boy, the confidence intervals are really, really wide. So I don't know whether we've had a statistically significant deviation from prediction. It looks to me as though we're up about a percentage point, and that looks to me as though that's probably going to be within any reasonable confidence error.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Dave, again to you—I need a little help in grasping the inference from the discussion in the Tealbook and your discussion of the fiscal drag and the "Fiscal Cliff" scenario. If I read correctly, the Tealbook 2013 real GDP projection is 2¾ percent, and that involves an assumption of some fiscal drag. And then I think the "Fiscal Cliff" discussion of an alternative scenario says it could equal as much as a 1 percent reduction in GDP. So am I right to think that the underlying strength of the economy, if you assumed heroically that the Congress acted, would be as much as 3¾ percent in 2013, which is quite a steep improvement in GDP growth? Help me understand all of that, if you would.

MR. WILCOX. Okay. As I mentioned yesterday at the Board briefing, we operate under the tyranny of having to write something down. But, boy, if macroeconomic forecasting is a shot in the dark, then I don't know what political forecasting is. So, broadly, the spirit of what we tried to do was to get fiscal policy one step down the road toward a sustainable area. Now, even in our baseline assumption, fiscal policy is not yet sustainable, even with that substantial tightening. That said, in the baseline, we assumed that the 2001and 2003 tax cuts are extended and that the stimulus measures are allowed to expire—the payroll tax cuts and the emergency unemployment benefits. With that set of assumptions, our measure of fiscal impetus, which is the direct effect of discretionary fiscal policy on GDP growth, has a contractionary impulse of about 1 percentage point. Implicit in that is an assumption, maybe a hope—I don't know, perhaps a prayer—that the Congress won't allow every contractionary action to go into force that might go into force. And, in particular, what they forestall in our baseline assumption is, they prevent the automatic sequestration budget cuts to spending from taking full effect, and they extend the 2001 and 2003 tax cuts, which, under current law, are scheduled to expire. If they can’t get themselves organized to do that, then there would be additional tax payments to the U.S. Treasury amounting to about 2 percentage points of GDP—additional, incremental, to our baseline forecast. We’ve assumed that GDP growth won’t slow to the full extent of that 2 percentage points of GDP, only by about half of that amount, because households, we think, will react as they usually do by smoothing through what they are likely to perceive as, certainly, a sudden change in their cash flow. So we think that the additional decrement to GDP growth is likely to be about 1 percentage point in that case. But surrounding all of that, boy, there would sure be a lot of Sturm und Drang about whether our political system can get its act together and that sort of thing. And we’ve seen in recent episodes in the past that that can have quite significant effects on household and business confidence. We wanted to put this “Fiscal Cliff” scenario in the Tealbook to elevate it for your attention. But, gee, whether we’ve got the numbers right or not is really anybody’s guess. I think that probably what I’d bank my wallet on is, I’d take a line through the numbers and just write in the words “consequences likely to be very significant.”

MR. LOCKHART. Thank you.

CHAIRMAN BERNANKE. David, I heard a different question. Maybe you can correct me. The drag in 2013 is 1 percentage point, right? And in 2012, it’s about what?

MR. WILCOX. Zero, because in the “Fiscal Cliff,” we haven’t assumed any—

CHAIRMAN BERNANKE. No, but the overall fiscal drag.

MR. WILCOX. Oh, it’s about ¼ percentage point for consolidated government at all levels.

CHAIRMAN BERNANKE. Right. So if we abstract from all the fiscal influence, then your estimate of GDP growth in 2012 is 2.5 plus 0.25, or 2.75, and in 2013 it’s 2.8 plus 1.0, or

3.8. So I think what I thought I heard, and maybe I misunderstood, was that, ignoring fiscal conditions for a minute, the underlying private sector seems to be accelerating by 1 full percentage point between 2012 and 2013.

MR. LOCKHART. That was my question.

CHAIRMAN BERNANKE. I thought the sense of the question was, what's happening in the private sector that is that powerful?

MR. WILCOX. I think what's happening in the private sector is—well, this is a little bit of a difficult conceptual experiment to imagine because we're going to take away a big source of fiscal drag, which is probably one of the motivations why you all, for example, have adopted as accommodative a stance of monetary policy as you have. But if we grant that, then what we're seeing is, sure, 3.8 looks like a pretty significant, substantial step-up from what we've had, but we think the economy is progressing. We think we're moving through some of the issues that have presented substantial headwinds in the past, and if you can conceive of financial conditions, including monetary policy, remaining as accommodative as what we have in the baseline despite the absence of that huge amount of fiscal drag, then we think that, at that point, yes, we're making progress. Consumer sentiment is not yet robust by anybody's description, but it has come up. We think we're beginning to see some signs of progress in housing markets. It's early, tentative, and reversible thus far, but it's pretty eye-catching that we've had some house price increases. We think that financial conditions otherwise are pretty accommodative, that credit outside the mortgage credit area is pretty well available, especially to creditworthy borrowers. And so without this additional fiscal drag of 1 percentage point, I don't know how strong it would be, but a pretty substantial improvement in the economy, I think, would ensue.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. My question was for Nellie on exhibit 3, about the vulnerabilities associated with low interest rates with financial institutions. I see that our portfolio banks may be taking on maturity risk, but for pension funds and insurance companies, do you have a sense of the types of risk assets they may be moving into at this stage?

MS. LIANG. I should start by saying that we're at the front end of this work and we're drawing on lots of people and expertise around the System and outside the Fed System. So insurance companies—the key would be the life insurance companies that might have some type of annuity product with a minimum-guaranteed kind of return that they can't alter. Some of those institutions have incentives to take on assets to produce returns. We haven't seen a lot yet. One reason is that the assets they hold are long term. So they tend to hold lots of corporate bonds and lots of equities. And those corporate bonds that they have on their balance sheets are still paying relatively high returns. But their spreads are starting to compress. So over the last 10 years, they earned a spread of about 1½ percent, and it's contracting down to 1 percent. A Moody's study suggested that many of the large institutions wouldn't get really pushed for about five years based on asset turnover. But we are trying to do a little work on that. Some firms can add a little bit of return with securities lending. That's one concern people are worried about. But the aggregates aren't showing very much pickup there. We will come back to this—it's a high priority.

MS. GEORGE. Thank you.

CHAIRMAN BERNANKE. Well, maybe this is a good point to have any interjections or comments on financial stability. President Lockhart.

MR. LOCKHART. I was just going to follow up. I'm under the impression that the insurance companies are quite constrained in taking on new risk by state regulation. Most of them are state regulated, and most of them have a pretty heavy constraint on what they can do in terms of, at least, securities that involve more risk. Is that correct?

MS. LIANG. I think that's correct, yes.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. I had two questions on financial stability. First of all, thank you for the very comprehensive, 149-page document. [Laughter] I did find that quite useful—

MR. TARULLO. Careful what you ask for.

MR. ROSENGREN. —and quite wide ranging. And I also appreciate getting it a little bit earlier than all of the other documents so we actually had time to read it. So thank you for the report and the memo. The first question relates to the very last thing you had in that 149-page report, which focused on broker–dealers and, I thought, was an exceptional presentation. And a couple of things that I took from that—when I look at the list of the largest broker–dealers, they're also on the list of the Moody's downgrades, by and large. Moody's seems to be onto the same thing that this presentation is—that the broker–dealers have a funding model that, under duress, could be potentially troubling. The memo also highlighted that the options we have are limited. The dealer subs can't go to the discount window. Section 23A options are more difficult, and Dodd–Frank makes 13(3) more difficult. So the memo does a nice job of highlighting that. If we try to think about how we mitigate broker–dealer funding problems, particularly should Europe worsen, one option would be to get the primary dealer credit facility up and running again, with all of the potential political implications that that would have. But if we want to mitigate it more than waiting and doing a 13(3) facility, I was just wondering what you thought the mitigation options were. What I came up with was a larger SIFI surcharge for broker–dealers. So if we think their funding model is different, it would be potentially that. I note in your exhibit 2 that there is a big difference in long-term debt. Another option would be to alter the amount of long-term debt that you would expect broker–dealers to have so that resolution would be easier. And the third would be to advocate for SIFIs to get discount window access so that once you became a SIFI and were under Federal Reserve supervision, you can access the discount window. There are obviously problems with moral hazard and other things with that, but I was just wondering, as you think about what other mitigation we can do to a problem that was highlighted in the memo and your exhibit 2, do you have any other things that we should think about?

MS. LIANG. You've gone through the key, and probably the easy, options—at least the first couple, which would be higher capital, which could include a surcharge. I think the Dodd–Frank enhanced standards would apply higher capital standards to Goldman and Morgan for their interconnectedness. Liquidity management—or cash and liquidity, work which is ongoing—would help. And these institutions, as I mentioned, have really increased their capital and their cash holdings and their liquidity profiles over the past few years. So, those options, along with supervision, can help the two largest dealers. One consideration that we did raise was the broker–dealers of foreign banking institutions. That issue needs some careful thought, and that's a discussion that is ongoing, because, as this presentation had mentioned, many of the largest U.S. broker–dealers are subs of foreign banking firms, and we don't necessarily have the same holding company structure over them as we have over a Morgan Stanley and Goldman Sachs. Because their risks are largely counterparty and funding, another option would be to think about whether more centralization of derivatives would reduce some of the risks—we're moving in that direction. Work in the triparty market could help reduce risks—what you want to do is to reduce risks in their funding models, such as in the triparty. That would be another area to move forward on. So there are a number of areas. I have not considered discount window access for SIFIs. FSOC has not yet designated any systemically important institutions. It currently does not consider that access to the discount window would be part of the package of being considered systemically important. That's just an entirely different line to go down.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. I just wanted to make a very short interjection here. I think one issue with requiring more capital or requiring more long-term debt is that it just comes around and then undermines profitability. So it's not clear that pushing on those two particular levers really gets you very far. Obviously, the other thing you could do is, the firms could be forced to exit their trading businesses, which are the things that really require the wholesale funding. And so if they exited their trading businesses, they'd be much smaller entities, they'd need much less capital, and they would need much less wholesale funding. The last thing is that it's feasible conceptually to find a higher-rated parent—in other words, find some way of actually being rated more highly. In the case of at least one firm that there is some question about, is there a firm that could come in and actually lend them their credit rating? And that could be significant. But it's a very difficult problem, and you highlighted one key piece—that at the end of day, this really comes about, in part, because they don't have clear access to the lender-of-last-resort facility. I think the Moody's ratings on these firms would be higher if they did have an explicit access to a lender of last resort. So that's one of the anomalies of our system, basically. We allowed the growth of these very large broker–dealers, but we didn't do anything to modify the lender-of-last-resort framework that we have, and so you could argue that that, at the end of the day, is really the contradiction or the tension.

CHAIRMAN BERNANKE. Governor Tarullo.

MR. TARULLO. Just to amplify what Bill said—Eric asked the question about the options, but it's interesting to note that the option already taken by some of the continental Europeans is to reaffirm their willingness to stand behind their institutions. So there's that irony in the fact that the downgrade considerations that Nellie was alluding to applied to the very banks that Moody's has concluded are less likely to be saved by the United States government as a result of all of these changes. And it now looks as though the downgrades to French and German banks will be substantially less, even though they've raised no capital and their liquidity positions are not as strong, precisely because the governments of those countries have basically said that they are too big to fail and we're going to stand behind them. So there is this paradox of financial reform running into asymmetries in how governments are implementing it.

CHAIRMAN BERNANKE. Did you have a question?

VICE CHAIRMAN DUDLEY. No, I was going to make a comment on financial stability. Is this the time?

CHAIRMAN BERNANKE. Yes.

VICE CHAIRMAN DUDLEY. Okay. Let me just follow up a little bit more on the Moody's thing. I think where I come out on the whole issue of the Moody's downgrade—it's not that on the day, there's going to be any great catastrophe, because the banks do have lots of capital, they have very large liquidity buffers, and the event is highly anticipated. There will be a little bit of a surprise in the sense that something that you think is likely to happen is different than something that actually does happen. And there is some question about some of the firms—how big the downgrade will be and how idiosyncratic it will look. If all the firms are taken down the same number of rating steps, that will be less severe to particular firms than if certain firms are taken down by more. So that's the good news. Nothing will probably happen really quickly.

The bad news, though, is that this could really provoke a pretty vicious circle where liquidity flows out; profitability goes down; other rating agencies join in with their own downgrades, so the companies are no longer split-rated, but everybody rates some of these firms P-2; and then it really becomes a question of whether the broker–dealer trading operations are viable, because some customers will say, “I can’t do business with a broker–dealer that’s rated this way.” And then the question is, can you actually have a viable trading operation if you can’t access the full range of customers? So at that point, the whole trading operation’s viability may be impaired, and then profitability continues to head down, and the whole thing spirals on itself. Now, I don’t know that it has to go that way; probably in part, it will depend on what the market environment is. If you have a very good market environment and profitability of this activity is very high, then presumably the firms could do okay, and maybe their ratings could get upgraded over time. But if you’ve got a less benign environment where profitability of the whole sector is under pressure, then I think the thing would tend to culminate in an adverse way over time.

Just generally speaking about the QS effort, Nellie, I thought it was terrific. It was a really good report, a good presentation. You covered all the right things. And relative to Steve’s view on Europe, I would be a little bit more cautious or a little bit more pessimistic than what you expressed. I don’t think it’s a big difference, but I do think it’s a difference. And I want to explain why. The important thing about Europe is that we’re still very much in an adverse feedback world. What are those adverse feedbacks? Well, one bad loop is the fact that it’s the relationship between the performance of the countries’ economies in a world of fiscal restraint that then has consequences for housing prices; that in turn has consequences for the health of the banking system; and then finally, the deterioration in the banking system increases the claims on the fiscal capacity of the country. So that’s a very bad adverse feedback loop that hasn’t been corrected in any meaningful way that I can see. Another one is the fact, of course, that the fiscal austerity depresses economic activity, which causes quite a bit of slippage between the amount of fiscal adjustment that you undertake and how much actual improvement that generates in your outturn in terms of your budget balance. And the third adverse loop that I think is really important with respect to how the Europeans have done this is that if there is official support forthcoming in a package of the EFSF or from the ECB bond purchases, that effectively subordinates the sovereign debt held by private entities, and so that makes it more difficult for the country to maintain or regain market access. You could argue that the second adverse feedback loop is political. The political support for more austerity lessens as this process continues. So I'm pretty cautious about how this is all going to unfold. At the end of the day, I guess I think we're going to go the way we have been going—that you get temporary improvement, then things get worse, and then that provokes more action. But I worry that each time we undertake the next chapter, the political support for monetary union shrinks or gets strained, and that at some point, the political support for this starts to give way.

That's a comment, but you can also take it as a question, and I'll allow you to comment on that.

MR. KAMIN. We're very much aware of all of these considerations, and we very much agree with them. The question is basically, how do we factor all of these issues together as we develop our forecast? And I think it might be helpful to go back to late November. At that point, the situation was very adverse in Europe, and it looked at that time that the situation would get worse, would deteriorate further until very substantial policy actions were taken—for example, an IMF program for Italy—in order to really stop short this slide in investor expectations. In the event, we were surprised by how effective the LTROs were, along with the changed pricing of the Fed's swaps and the fiscal compact, at improving the tone of investor confidence, and we had some period of normalization thereafter.

Now, there are different ways to interpret what happened. One of the ways that we interpret what happened was that there were two factors that were taking place simultaneously. One of them was this deep fiscal hole and concerns about fiscal sustainability, and the other factor interacting with that was deep weakness, both liquidity and solvency, in the banking sector. And after the LTROs, when the funding situation of the banks got so much better, and when that coincided with the substantial reduction in sovereign spreads and improvement in sovereigns' fiscal sustainability, we put a certain amount of weight on the possibility that the banking stability aspect of the problem had been more important in the previous deterioration than we might have judged, and therefore there might be more hope that investors weren't judging the fiscal situation to be as bad as many people possibly could have.

So that's the way things transpired for a few months. Then we've had this more recent slide in the financial situation, and now we're left with trying to explain, well, why is that? Now, part of it is probably just that financial markets got ahead of themselves a little bit in the first few months, and that's standard. Another factor that Brian has alluded to is that a lot of the LTROs' takedown was being used to buy sovereign bonds, and with that having played out, there's no more support. And then finally, there were some adverse indicators that we've seen in terms of fiscal slippages in Spain and Italy. So those are all the factors that we are confronted with now.

We are very aware of, and place a pretty high weight on, the possibility that, basically, fiscal unsustainability is indeed looming larger in investors' minds than we had anticipated. But it's very hard to prejudge exactly how these financial developments will go. So for the time being, we've taken a fairly restrained approach toward revising our outlook, where we have indeed taken on board the increased financial stresses in terms of now writing down a more adverse economic outlook for Europe. But at the same time, we have not at this point assumed that financial conditions will keep on getting worse and worse and worse. That's the part we haven't built in, because it's a little bit premature. We have to see how these things will play out. But certainly, we're looking at this carefully, and certainly, if we see more deterioration by the June forecast, you can expect that we will react probably much more forcefully.

VICE CHAIRMAN DUDLEY. I think the interesting thing just over the last few weeks is that the political process does seem to have really deteriorated quite significantly.

MR. KAMIN. Well, that is absolutely true, and I will say that this can be thought of in both a positive and a negative sense. Certainly from the negative sense, obviously, the fatigue that many countries are having with fiscal consolidation could be very damaging for investor confidence. At the same time, it's true that many people's view is that in fact they're overdoing it fiscally, and in fact, some countries that have fiscal space ought to use it. So the results of this could be an agreement among the countries to allow those countries with more fiscal space to use it and maybe even—and this is, admittedly, a little farfetched—to provide a few more resources to those that don't have. Understand, that could be a felicitous outcome from an economic standpoint, even if not so likely.

CHAIRMAN BERNANKE. Let me turn to President Plosser

MR. PLOSSER. I just have one very quick question for Nellie. Nellie, a factual question. I look at your exhibit 2, on the wholesale funding of the dealer firms. Refresh my memory—that looks like a little over 60 percent, right?

MS. LIANG. The wholesale funding? Yes.

MR. PLOSSER. So what did that look like in 2007?

MS. LIANG. It was a little over 70.

VICE CHAIRMAN DUDLEY. It was higher.

MS. LIANG. It's been coming down.

MR. PLOSSER. It was higher, right? I was just wondering by how much.

MS. LIANG. It's not dramatic. The firms have shrunk, too.

VICE CHAIRMAN DUDLEY. They've shrunk. They've issued more long-term debt.

MS. LIANG. That's right.

MR. PLOSSER. That was my question. So it's changed about 10 percentage points, maybe, and it's mostly been substituted with long-term debt?

VICE CHAIRMAN DUDLEY. Yes, and their banks are probably a little bit bigger.

MS. LIANG. And capital. They've issued some capital. Oh, it's actually 80 percent in 2004.

MR. PLOSSER. Oh, okay. So it's down a fair amount, then. Thank you.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Just to follow up, do you have a sense of the magnitude of the daylight exposure to the clearing banks?

MS. LIANG. The intraday exposure?

MR. LACKER. I'm guessing it's about the size of the bar labeled "Repo" since the repo is unwound with intraday credit extension from the two clearing banks. Is that right, or is that rough, or do you want to get back to me?

MS. LIANG. I think we should get back.

MR. EICHNER. It would be about $1.4 trillion.

MS. LIANG. I think the triparty repo volumes on exhibit 3 give you—sorry, this is all through triparty.

MR. LACKER. So that's about it.

MS. LIANG. This is the triparty, so this is it. But you're asking about these particular firms. There are more than those firms in this exhibit.

VICE CHAIRMAN DUDLEY. But there are a number of changes under way to try to reduce that.

MS. LIANG. Yes, and they'll have repo that's bilateral as well that's not in the intraday. So I don't have data here.

MR. LACKER. Okay. Thanks.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. First, excuse me, Mr. Chairman—President Rosengren had two points. Are you done, Eric?

MR. ROSENGREN. I'll ask after you. Go ahead.

MR. FISHER. Well, first, I want to thank Nellie for this work. It's 148 pages because 149 is blank, by the way [laughter]—plus exhibits. I think this is extremely helpful. It's important for us to track this, and I wanted to thank you for that. You also wrote the memo of March 9 about pension funds in answer to a question I had. My first question is about pension funds. If I remember that memo correctly, your real concern was state and local pension funds. And you had some large numbers in there in terms of being underfunded.

MS. LIANG. Yes.

MR. FISHER. Because we are worried about fiscal drag from all sources, I wonder if you could give us a quick summary of that concern and how that might be treated. And then I have some other suggestions for you, but let's start there.

MS. LIANG. I'm going to sound like a broken record. This is an area where we're starting again. We just don't have as much information as we would like.

MR. FISHER. Even though you're starting, could you give us some insight?

MS. LIANG. The large state and local pensions, as you know, are underfunded and have probably been so, though, for most of the past decade. So this is not fully, totally new. As the liabilities are coming closer, some of these issues are getting more prominent as the funds have to start paying out. On corporate, I have here—I apologize; I don't have all of the numbers with me—that the underfunding is about $300 billion, and on the state and local, the funding ratio is roughly the same. But some of that's bringing forward projected liabilities by discounting at current interest rates and by lower, depressed equity values. So some of this underfunding will close naturally as the economy improves. The actual drag on their current spending may not be as big because they're not required to close their funding gaps each year. For example, in the corporate sector, if they're $300 billion underfunded, I think the actual cash contribution is on the order of $50 billion. It's not a very big number. That said, there are probably some that look very weak. One concern is that the funds reach for yield on investments or they just go for a little bit more of a levered return or something else that could cause problems. For state and local, in the end they can tax. They have a taxing authority, but that raises all kinds of issues that sound like Europe. But the current underfunding isn't one of those acute problems, at least not in the immediate term.

MR. TARULLO. You asked about fiscal drag.

MR. FISHER. Yes, that's what I was concerned about.

MR. TARULLO. You're asking how it may get pulled forward. I thought President Fisher was asking how the concerns about funding might pull forward either some of the tax policies or other policies that you were talking about, which themselves would have a depressing effect on economic growth.

MS. LIANG. That's right. It's the cash contributions or pulling forward the taxes. There are many states that have tried to implement cuts to benefits, and it varies state by state, so it's a little difficult to come up with a view on whether that is a successful strategy. But currently it, clearly, could be a drag for some. I guess one point, though, is that the underfunding does not have to get covered immediately, and some of it, we think, naturally will close if the economy improves.

MR. FISHER. And then just a comment in terms of your asset valuation—I continue to be worried, and maybe I'm alone. But if you look at longer-term trends—you commented in the paper, basically going back two decades; some of the charts you have go back to 1985. From an equity market standpoint, those are not very long trends. For example, if you go back pre-1968, current S&P market values are one standard deviation above the trend; if you go back to 1990, they're right on trend. So I think we have to be mindful of that fact, particularly given your last point of reaching for returns. It would be helpful, at least to me as one reader of this who reads it very, very carefully, all 148 pages, that we have, perhaps, some longer-term time frames in terms of asset valuation to establish the trend lines.

MS. LIANG. Right.

MR. FISHER. And then, second, I would suggest we do it in deflated rather than nominal terms, and I'd be happy to talk to you about that separately. But I want to endorse the concept that this is a valuable exercise, and thank you for doing it.

MS. LIANG. Okay.

MR. FISHER. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. I agree that looking at things like the effects of low interest rates on financial institutions is very important, and that's why we're doing it. President Rosengren.

MR. ROSENGREN. My second question is on page 64 of your big thing. It's on the farmland prices. And I know I'm an odd person to ask about farmland prices. Unlike President Fisher, I don't buy anything with horns. [Laughter] But as I was looking at the set of charts that you had there, the cropland prices have been going up, the price-to-rent ratio is dramatically higher than it was at any time in the last 50 years, and the debt is mostly to banks and the Farm Credit System. Now, unlike some people, I might not do anything with interest rates in order to affect that, but I might want to think about doing something with supervisory policy, particularly if we had an ability to have a capital ratio that was more focused on agricultural loans. So it's a two-part question. The write-up seems to be not as worried about this set of charts, so my question is, what would these charts have to look like for you to start getting worried? And then the follow-on is, if you start getting worried, what would you do about it?

MS. LIANG. I think what you might view as less of a concern relates to the amount of debt outstanding in this sector, which would be the lower part. And including the Farm Credit System, there is $150 billion of this debt outstanding. So it's fairly small. I'm always worried about saying that anymore, but, nonetheless, it is. I think if it were larger and we thought the loss rates on it were bigger, then we would be more concerned. If we thought it was more privately held and distributed in complex ways, we'd be more concerned. I believe, actually, that the supervisors did issue some guidance last year on this. The FDIC and the Federal Reserve—they were quite concerned about these loans, and they did have some interagency conferences and discussed issuing guidance on this.

MR. ROSENGREN. I think you're right, but the trend lines didn't change.

MS. LIANG. I just don't exactly remember, but I think guidance was issued. It was discussed about a year ago. Does that sound right? Yes, I thought so.

MR. ROSENGREN. Thank you.

CHAIRMAN BERNANKE. All right. I understand that coffee has been ready for some time. Why don't we come back at 4:15, and then we'll do the economic go-round?

[Coffee break]

CHAIRMAN BERNANKE. Okay. Welcome back, everybody. We're going to now do the economic go-round. I would very much like to get this done today so that we will be able to have sufficient time to discuss the policy issues tomorrow. So please keep time in mind if at all possible. I'll start with President Rosengren, who is a model of terse excellence.

MR. ROSENGREN. Thank you, Mr. Chairman. Going into the March meeting, we were confronted with labor market data that had been stronger than expected, but spending data that had been weaker than expected. Since that meeting, we have been confronted with the opposite. Labor market data were weaker than expected, but spending data were stronger. What does this imply for the forecast? The Tealbook seems to split the difference and ends up with an unemployment rate at the end of 2013 at 7.7 percent, only ½ percentage point lower than the current unemployment rate, a modest improvement over the next year and a half. I, unfortunately, concur with this forecast and expect growth that makes only plodding improvements in a dismal employment situation despite an inflation rate that undershoots our 2 percent inflation target.

I see a strange dichotomy between my modal and mean forecasts. The forecast to which I assign the highest probability looks like many others around the table, with relatively subdued growth, modest progress toward full employment, and contained inflation. After such a long period of stagnant growth, there should be significant pockets of pent-up demand. Consumers are again purchasing cars, and they're showing some signs of life in other areas. In some regions of the country, like New England, we are again seeing cranes and help-wanted signs, harbingers of a better future that have not been present for most of the past five years. However, my modal forecast is not equal to my mean forecast. The mean is much lower. The modal forecast assumes that downside risks do not materialize. Unfortunately, fiscal sanity seems more a hope than a forecast; the willingness to address nuclearization of the Middle East seems postponed rather than addressed; and the recent spate of articles on Spain only highlights that holding together Europe will get more difficult with time, particularly if there's not the political will to directly address fiscal transfers and consolidation without taking their collective economies to the edge, a process that surely has economic consequences. Thus, I am worried that a variety of risks look as though they may deliver coal in our stocking at the end of the year. Given the uncertainty in the current economic environment, it is important that we do not contribute to the uncertainty. Unfortunately, I am afraid that we have.

As I talk to business people around New England, I am struck by how different people have interpreted our statement. Some seem to view our statement as a firm commitment and thus have been willing to take positions assuming no immediate risk of rate increases. Others seem to view it as a forecast, which may be proven wrong, and view more immediate rate increases as quite likely. Others treat it like a date announced for troop withdrawal—the date will hold unless conditions on the ground change dramatically. Thus, despite our work on communications and transparency, we need to move to simple and unambiguous language if we want to prevent disappointment and anger from whatever actions or inactions we choose. I will leave that discussion of how best to do that to our meeting tomorrow. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Mr. Chairman, I arrived yesterday, and I was wondering if the reception I got from the weather was not a meteorological metaphor for what's happening with the economy. Just as spring was springing, we get hit with a storm, hailstorms, rain, and cold weather, and then we wake up this morning, and everything seems to be light and better. Or, as P. G. Wodehouse would say, the birds are in their trees, God is in his place, and things are almost near right. It seems to me that from what I see in my own region and what I'm hearing from my corporate interlocutors, March was a bit of a setback. But still, the pace of the economy, as it regards the private sector in particular, and the numbers that came forward in interpreting the question that was asked by President Lockhart, I think, of Dave Wilcox are verified by what I'm hearing in the economy. So I'd like to summarize very quickly what's happened in our District; talk in truncated form about what I've picked up from the 34 in-depth discussions I had with CEOs around the country in all of the different sectors; make a quick comment about housing and inflation; and then conclude.

In summary, in terms of our region, we've seen an acceleration in job and output growth in the first quarter of the year, with a slight damping of that in the March figure with the numbers that just came out. Our unemployment rate has come down. Our job growth has continued to surge. All of the surveys we conduct are posting strong readings for production and revenue. Retail sales are increasing. Exports are rising further. And I would submit, in terms of our discussion previously on exports, that if you subtract Texas from the United States, you'll see that the U.S. numbers are significantly lower, because we have a boom taking place, in part driven by the low cost of natural gas and the amount of petrochemical exports, which gives the United States an advantage because it is gas driven. Our housing and commercial real estate markets have improved, and our leading index that we calculate for Texas increased in February for the fifth consecutive month. So in the region, things are proceeding as usual, and we continue to perform strongly, growing our employment at a pace that exceeds two times that of the nation.

With regard to the anecdotal soundings, again, I always preface it with "for what it's worth," because it's anecdotal. But I do find some things that are indicative of stronger growth than I had expected. For example, as you know, I like to look at the rails, and I like to look at trucks and those industries involved in the movement of goods. If you remove coal from rails, the U.S. rail sector performance in volumes was up—this is through the middle of April—3.6 percent year to year. With respect to truck miles, I reported last time that the truckers I speak to, which I think encompass the largest trucking companies in the country, are reporting significantly more miles in terms of the shipments that they were putting on their trucks. Through April 20, the truckers are reporting volume increases of 3 percent year over year. January and February were strong, March was a little bit slower, and April seems to have snapped back. Regarding the dry bulk shippers, those that move things by sea, if you parse the data carefully—because you have to be careful in terms of what's reported—volume increases are 5½ percent year over year. And then from the standpoint of another indicator that I like to look at—semiconductors—in terms of the activity that that portends, in almost all markets, semiconductor sales have increased, and, very importantly, the inventory cycle has been stretched out where it's no longer just-in-time delivery but increasing confidence in all sectors, from consumer electronics all the way out to what's needed and worked by large business and the servers that they use. I note that reports from the telecoms indicate that's one sector where, again, every business sector they serve, has positive performance. And I am amazed that they were able—I think this has been publicly reported, but if not, we'll excise it from the minutes: In one case, a large carrier, AT&T, raised its data prices 33 percent in January and received no pushback. That indicates a fairly robust use of its product lines.

With regard to the mass retailers, they seem to still be under stress, but there continues to be this bifurcation between the high-quality consumers, who are expressing robust demand; what are known as the value consumers, which is a euphemism for those who are on food stamps and other public support systems, who are experiencing less robust demand; and the fallow or difficult middle-income markets sector, where the J. C. Penneys and stores like that are experiencing greater hardship. I like to look at the MasterCard SpendingPulse data, and I want to give our table an update through the end of March, because retail sales ex. autos, ex. gas was up 6.6 percent through March. All 11 sectors that are tracked by that survey, which I find to be quite useful, have come in positive for the second month in a row, and that's the first time since before the crisis. So there seems to be some activity that is much more positive with respect to demand for goods and retail sales activity. I should add that the logistics companies—there are two very large ones that will remain unnamed—are reporting the best first quarter in six years, up 4 percent in terms of volume of shipments.

With regard to housing, because we talked about that with Dave Wilcox, I think we need to take into account that the market has indeed improved. We've seen prices on nondistressed home sales—which I think you referred to, David—tick up for two months straight. And prices inclusive of distressed sales ticked up last month. You mentioned the CoreLogic numbers. The supply of existing homes on the market has trended down toward a more normal six-month pace of sales. Inventories are now below six and a half months for four straight months. Existing home sales are up year over year in every big census division except for the West, where they're down 0.9 percent March over March. So I would say that, while great weather has boosted housing sales early this year, housing activity in March is higher than in December. It's well above a year earlier and last summer. House prices appear to be stabilizing in many parts of the country. Existing home sales have picked up. And this reinforces the appeal, perhaps, of owning for those who can qualify for a mortgage. I'm anxious to find out what the Yellen indicator is going to tell us when she has her intervention, given that house affordability has risen to record levels relative to rents and how household formation, which I spoke of in the last meeting, is reviving with job growth. Last time, we decided not to acknowledge the fact that, while housing is still distressed, conditions have somewhat improved, and when we get to the policy round, I'm going to suggest that we do acknowledge some improvement, although the markets are clearly still distressed.

And finally, with regard to inflation, as you know, we are very Dallas Fed–centric on a lot of what we do. We have great faith in our trimmed mean calculations. We won't get the new PCE numbers until the end of the month, but our current work indicates that the 12-month rate has held pretty steady at 1.9 percent for four months. I regard that as a useful indicator of where inflation is trending, particularly given a slight correction in oil prices and the assistance we're getting from low natural gas prices in terms of the cost to the consumer, and I continue to adhere to my view that we're going to trend toward 2 percent. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Incoming information suggests that the economic recovery in both the Third District and the economy as a whole is on a somewhat firmer footing, and I'm more confident that the recovery will be self-sustaining. I've made no change to my forecast for the economy, which I predict will grow at a roughly 3 percent rate both this year and next, and the unemployment rate will continue to be reduced gradually and be down nearly 2 percentage points by the end of 2014. I expect inflation to return to about the 2 percent target, but I believe that is predicated on the Committee beginning to firm policy well before the late 2014 date.

Both the anecdotal information we've received from our business contacts and the data indicate that economic activity across most sectors in the Third District continues to gradually improve. Our staff state-level coincident indicators have risen in each of our three states so far this year, and our leading indexes point to continued growth over the next six months. The outlook from our business contacts is noticeably more optimistic. Indeed, some are telling us that conditions are the best they've seen in three years. The real estate sector, both regionally and nationally, has stabilized and, hopefully, will begin to improve. A national homebuilder says that construction has picked up. A large cable company headquartered in Philadelphia says that orders to lay new cable in new housing developments have significantly increased this year after being severely depressed over the last three years. Orders for paint and gypsum board have risen, according to manufacturers in our area. This suggests that the mild winter may not have been the only factor underlying the emerging upward trend in housing starts, and that it may have some staying power.

Labor markets conditions continue to improve. Although moderation in the March employment report disappointed the markets, it comes on the heels of very strong reports in December, January, and February. Some of the pattern may be weather related, but I prefer to average through the monthly numbers, and that still suggests a positive trend in hiring, which is consistent with the employment indexes in our Business Outlook Survey in Philadelphia. Aggregate hours worked are rising. The unemployment rate, though still very elevated at 8.2 percent, is at its lowest level in three years. In the Third District, employment is also rising, but at a somewhat slower pace than in the nation, which is not that unusual. And indeed, the unemployment rates in our District are below national averages. Our manufacturers tell us that even as they expand hiring, however, they are not hiring the same sorts of workers they let go. Improved productivity they've achieved in these firms means they're looking for more highly skilled workers, more tech-savvy workers, and it's taking more time to find those types of workers than they anticipated.

Household spending continues to advance, coming in stronger than the March Tealbook had forecast; March retail sales expanded at a solid rate and broadly across goods. The improvement in labor markets and pickup in equity wealth will help sustain consumer spending, I think. I expect that the drag of deleveraging will lessen over time gradually as households' balance sheets continue to improve.

Inflation developments are less encouraging. Inflation remains above our target and has been more stubborn than many anticipated. The Tealbook continues to expect inflation to move back toward our target and even below it, but has, once again, had to increase its forecast based on incoming data. There's a risk that oil price increases we've seen so far this year will not reverse as anticipated, and they may remain elevated, which could put additional pressure on prices and perhaps inflationary expectations. I note that the Bank of England has been forecasting that inflation will return to its 2 percent target for nearly three and a half years. It's failed to do so, even though many perceive the level of slack in their economy as large and increasing.

I, too, am projecting that inflation will return to target, as I indicated, but I believe that outcome will necessitate our beginning to reduce policy accommodation considerably sooner than our current forward guidance suggests, if we are to keep inflation in acceptable ranges. I'm increasingly uncomfortable with the idea that our accommodative monetary policy will have little or no consequences for inflation over the next several years, as it does in the Tealbook baseline. Certainly, there is some risk of a fiscal crisis, and problems in Europe or a U.S. fiscal contraction or some other shock could change the outlook. But given the indications that the recovery is broadening and strengthening, and if that trend continues, I think it's prudent for us to begin preparing ourselves and the markets for an eventual reversal of policy accommodation. Specifically, we'll need to get away from the "2014" language. It's confusing, potentially misleading, and my contacts, like President Rosengren's, find that most people don't know what it means. Of course, we've had "false dawns" before as external events have thrown the economy off track. That could happen again. But the nature of our market economy is to rebound and recover. I fear that we've created an atmosphere where many in the financial markets, in particular, are more interested in taking positions that reflect their bets on what monetary policy will do—that is, to QE3 or not to QE3. This can distort market allocations and decisionmaking by investors, resulting in the misallocations of capital and credit, and will have ramifications for our economy down the road. As much as we take signals from the markets and market participants, we need to remember that we have a broader constituency when setting policy.

In thinking about the outlook for monetary policy, I find it helpful to look at the prescriptions of various policy rules. As we've discussed before, there are significant measurement issues surrounding output gaps and other measures of slack, which is one reason I am partial to growth rate rules. Indeed, the potential danger of relying on forecasts of the output gap is well illustrated by looking at how much the staff's forecast of the gap has changed since last summer. Since August, the staff has cut its forecast for the output gap by more than 1 percentage point for 2011 and just shy of 1 percentage point for 2012. The unemployment forecasts have been revised down by ½ percentage point, while inflation has been revised up by 0.3 percentage point in 2011 and 0.4 percentage point in 2012. This means that the revisions to the output gap for 2011 alone meant that the Taylor rule—whether the 1993 version or 1999 version—prescriptions in August were understated by somewhere between 50 and 100 basis points. These changes illustrate the dangers of relying on real-time estimates of output gaps for conducting our policies. With estimated slack down and inflation up, this suggests that the appropriate degree of policy accommodation has fallen since August. Yet, if anything, we've become more accommodative as we've added calendar dates, forward guidance, and then pushed the time of liftoff further out. That might be appropriate to the extent that policy was not well calibrated last August. But that was not a uniform conclusion across our policy rules in August. If we look at the rules in the current Tealbook, on page 2 of Tealbook B, what is striking is that the rules are becoming much more consistent in suggesting that the time for policy firming may be quite a bit sooner than 2014. Indeed, the Taylor (1993) rule suggests that we are already well behind the curve. So let's ask how much improvement in the economy would have to occur by the end of this year before the Taylor (1999) rule, which puts twice as much weight on the output gap, would indicate that rates might need to rise, and then further ask whether that forecast is reasonable. According to the staff's current forecast, in 2012:Q4, the output gap is narrowed from 4.7 to 4.3 percent. Core inflation will be running at 1.7 percent. And at that point, Taylor (1999) would say that the funds rate should be minus 0.5. But if that gap shrinks by just three-tenths more, from minus 4.3 to minus 4.0, and PCE inflation is running at 2 percent, then Taylor (1999) would indicate we should be on the verge of raising rates late this year. Using an Okun's law adjustment of 2.3, such a narrowing of the gap would suggest that an unemployment rate of about 7.8 percent would turn the Taylor (1999) rule into a positive number by year-end.

Both of those forecasts look a lot like scenario 3 in our scenario planning, with about 3 percent GDP growth and a 7.8 percent unemployment rate. If that forecast is reasonable—and certainly, it's very close to my actual forecast—then even Taylor (1999) rules would suggest we should be very close to thinking about raising the funds rate, according to that rule. Other robust rules, similar to those proposed by Orphanides and Williams, also suggest that rates may need to rise, likely by the end of the year or early next year, even under the baseline scenario. Given the degree to which the baseline forecasts have underestimated output growth, overestimated the gap, and underestimated inflation, perhaps we should recognize the possibility that raising rates late in 2012 or early 2013 may not be quite as far-fetched as our forward guidance is indicating. I might add that all of this is without making any adjustments for the LSAPs. So I think we have to consider that policy rules are important. People have different policy rules, so I think our discussion this morning was quite helpful, and I encourage us to continue those discussions.

And I'll have more to say about the language on forward guidance tomorrow. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. The April Tealbook has, again, permanently downsized the level of potential output. In the assessment of the staff, the events of the past four-plus years have lowered the productive capacity of the United States' economy by 4 percent. I think that the Tealbook has moved in the right direction. Indeed, I will argue that there's a possibility that it should lower its measure of potential output still further. I will make that point, Mr. Chairman, in three ways: using evidence from the Ninth District, using evidence from the economic history of Scandinavia, and using evidence from prices.

To start with the District, it is much further along the recovery path than much of the country. The unemployment rate in the District is under 6 percent, but in the Ninth District, "recovery" certainly does not mean "return to 2007." For example, the fraction of people with a job remains well below 2007 levels, and personal income is well below a trend line that one would initiate from 2007. Why is recovery not the same as getting back to 2007? I talked to a number of business contacts over the intermeeting period. I heard three themes in those conversations. First, businesses feel uncertain about the arc of consumer demand, about taxes, about regulations, and about Europe. Second, small and young businesses are finding credit hard to obtain. Third, businesses consistently mention that it is surprisingly challenging to find qualified candidates for job openings. To me, all three of these issues have connections to another, even deeper problem that recurs in our conversations with business contacts. The risk tolerance of businesses and their funders remains low relative to what it was five years ago. I believe this lowered risk tolerance is likely to persist for some time. After one of my speeches, I got the following question: Is the country prepared for another recession like 2008? That question came from a ninth grader, which suggests to me that the impact of 2008 on risk tolerance may persist for decades rather than years. All forms of economic activity involve some amount of risk. So I see a permanent reduction in risk tolerance as likely to translate into a persistent lower level of economic activity.

I now want to move from the Ninth District to what one might call the old Ninth District, Scandinavia. [Laughter] The recent McKinsey Global Institute white paper on debt and deleveraging treats the recoveries of Sweden and Finland from their crises in the early 1990s as being appropriate exemplars for the United States and others in the current period. So my staff and I decided to follow up on the report by looking at the behavior of the two countries' labor markets, with a particular focus on Sweden. The conclusion of that follow-up work is disturbing. Basically, even 20 years after the 1990s crisis, measures of labor market performance like the employment-to-population ratio—even if one focuses on the 25-to-54 group—the unemployment rate, and the labor force participation rate—again, for the 25-to-54 group—are all noticeably worse than they were in the decade before the crisis. These persistent changes in labor market function seem to have happened surprisingly rapidly. For example, in Sweden, the Beveridge curve shifted outward from 1990 to 1995. That new and worse Beveridge curve has described the evolution of unemployment and vacancies for the last 15 years. As well, the Riksbank publishes a quarterly monetary policy report, and there we can read their assessment of the Swedish economy in early 1995, which is about four-plus years into their crisis. They gauge that the NAIRU had risen from 2 to 3 percent, to 6 percent, in four years. And this assessment has proved roughly accurate. Over the last 10 to 15 years, inflation has stayed near the Riksbank's target of 2 percent even though unemployment has remained above 6 percent.

It would be a mistake, of course, to argue that what has happened in Sweden and Finland must happen here. They have very different labor market institutions from ours. But it does seem to me that their experience after a banking and housing crisis has to be seen as at least somewhat informative. I would say that Sweden and Finland indicate that we must prepare for the possibility that labor market performance in the United States may be considerably degraded for many years to come. This possibility means that labor market quantities alone may be an unreliable guide as to how close we are to maximum employment. We must turn to auxiliary sources of information. A natural one—which has its defects, as has been emphasized already earlier today—is to look at inflation. And here I see the recent data on inflation changes and inflation levels as signaling that we may be closer to maximum employment than labor market data indicate. In terms of changes, after bottoming out in late 2010, year-over-year core inflation and headline inflation have both risen sharply in the past 15 months. In terms of levels, headline inflation is above target, and core inflation is close to target. These data on inflation do not seem consistent with the existence of large amounts of labor market slack.

Let me close with a few words about a risk-management approach to monetary policy. In my view, such an approach should take account of the possibility that U.S. labor markets will be significantly impaired for years to come. In this scenario, we might well see rapid increases in inflation and inflation expectations when labor markets seem weak by historical standards. Given such an increase in inflation and inflation expectations, we or some future Committee might feel compelled to remove accommodation in a dramatic and striking fashion. This would lead to potentially large increases in unemployment above a NAIRU that is already high by historical standards. This does not strike me as a risk that we should ignore. To sum up, Mr. Chairman, I believe, like the Tealbook, that the events of the past four years have diminished the productive capacity of our country in a permanent fashion. This damage means that we will need to begin our exit strategy when economic conditions seem subpar by historical norms, and we should be preparing ourselves and the public for this eventuality. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I have been seeing gradual but steady signs of improvement in my District economy and in the national economy. At this point, I view the recent good news as evidence of a recovery on firmer footing, but not as evidence of a significant pickup in the pace of recovery. I am now projecting GDP growth of 3 percent this year, which is up just a couple of tenths since March but up ½ percentage point since January. My projections for GDP growth in 2013 and 2014 are largely unchanged at around 3 percent. Given the first quarter's employment reports, I have also lowered my unemployment rate path throughout the forecast horizon so that the unemployment rate reaches 7.2 percent in the fourth quarter of 2014. And my inflation projection stays very near our longer-run inflation objective through 2014.

I will comment on some of the key factors that I see supporting my outlook. My confidence in the durability of the recovery has been boosted not only by the stronger incoming data, but also by comments from my business contacts. Their recent reports have given me some assurance that not all of the good news in the first quarter was driven by warmer-than-usual weather. One such comment came from a major paint retailer. He noted that while exterior paint sales have been boosted by warm weather, interior paint sales, which are hardly seasonal at all, have also been strong. Survey results also show a broad-based improvement in sentiment and conditions for small and medium-sized businesses. Despite ongoing uncertainty about economic and regulatory policy and the international economic weakness, small business sentiment as reported in the NFIB survey has moved higher over the last few months. Another sign of improvement comes from the ADP data on employment. The ADP estimates show that employment in firms with less than 500 workers has been rising solidly after many months of sluggish growth. While the NFIB and the ADP indicators are not as reliable as the less timely data from the BLS, comments from my business contacts align with the NFIB and the ADP reports. For example, a CEO of a company that provides accounting, payroll, and insurance services to more than 50,000 small and medium-sized businesses reported notably higher demand for his firm's services in the first quarter. An increase in his billings typically means small businesses are contemplating expansion or strategic moves. And yet another piece of evidence that conditions for small and medium-sized businesses are improving is that banks in my District have reported a significant pickup in lending to small and medium-sized businesses.

Turning to inflation, the recent news on consumer prices has led me to edge up my inflation projections throughout the forecast horizon. The median CPI and the trimmed mean CPI have both risen 2.3 percent over the last three months. Core PCE inflation is likely to rise at a similar rate in the first quarter, quite a bit faster than I had expected back in January. Despite these surprises, my forecast of core PCE inflation remains very close to 2 percent. There are two forces that I expect will keep inflation in check. The first is the continued low growth of compensation costs evident in the employment cost index. The second is the stability of longer-term inflation expectations. Despite the recent pickup in inflation rates, measures of inflation expectations based on financial market indicators have remained anchored. The Cleveland Fed's expectation measures are below some of the financial-market-based measures of inflation expectations, but adjustment of these other measures for the inflation risk premium results in estimates that are quite consistent with our longer-run inflation objective.

Turning to the uncertainty surrounding the outlook, my staff conducted some research on the current level of uncertainty compared with historical norms in a forecasting model, and this analysis showed that the uncertainty surrounding the GDP and unemployment forecast now falls within historical norms throughout the forecast horizon, while uncertainty around inflation generally remains higher than normal. So given the statistical evidence and my judgment that the recovery seems to be on a firmer footing, I think the uncertainty surrounding the forecast for GDP growth is now back down to a level consistent with the uncertainty of the past 20 years. Despite the model results, I continue to see the outlook for unemployment as more uncertain than normal because of the questions surrounding the durability of the decline in the unemployment rate. And in the case of the inflation outlook, drawing both on the model-based evidence and judgment, I continue to see uncertainty as higher than normal.

As to the balance of risks, I think the risks are broadly balanced for GDP, unemployment, and inflation. While headwinds like the problems in Europe do pose important downside risks, the recently improved news on the economy suggests that we could be underestimating the recovery's momentum. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. The data received since our last meeting give me hope that the expansion is gaining momentum. Now, I say "hope" because I still fear that this could prove to be another false start. Or, as one of my business contacts put it, "It feels like riding a bicycle where, every time you take a few solid pedal strokes, the chain slips." Despite this concern, the signs are mostly positive. Credit conditions continue to improve, and the housing sector is looking better. A major homebuilder in my District is notably upbeat on the prospects of a robust housing recovery. He reports that existing real estate is picked over, so builders are getting started on new lots. But even with the better data, I still expect only a moderate pace of real GDP growth of about 2½ percent this year and 2¾ percent next year. Importantly, some of the economy's headwinds are not receding. In particular, fiscal contraction is occurring at all levels of government. But what does this forecast of moderate growth mean for the trajectory of the unemployment rate? Normally, I would rely on Okun's law for this calculation and call it a day. However, unfortunately, the apparent breakdown in Okun's law over the past few years gives me pause. A key issue is the behavior of the labor force participation rate, which has declined by 2¼ percentage points since the start of the recession. The forecast for unemployment hinges on whether this decline is mostly structural or cyclical, like most of the issues we talk about around this table. If it's mostly structural, then the unemployment rate should decline steadily over the next few years. If, instead, the decline in participation is in large part cyclical in nature, then the decline in the unemployment rate should be more modest as job gains are partly filled by workers rejoining the labor force.

My staff took a closer look at the evidence regarding the decline in the participation rate and what it means going forward. They examined which demographic groups are driving the recent declines and whether they are likely to return as labor market conditions improve. They found that about half of the recent participation drop came from aging workers, some of whom may be retiring early in the face of a bad job market. The remaining half came from abnormally high labor force withdrawals among two groups: youth; and adults between the ages of 25 and 54—I call them "the young." [Laughter] They conclude that most of these people are likely to return to the labor force when times get better. Now, a possible counterargument to this conclusion is that these labor force withdrawals reflect a hoard of mismatched workers whose future employment prospects are bleak. But that seems improbable for a couple of reasons.

First, is it really likely that a large number of young people, or “the real young”—aged between 16 and 24—will permanently leave the labor force? After all, they can go back to school and get the skills that they need. Second, surveys find that many prime-aged workers, 25 to 54, who are not currently in the labor force say that they want or are available for work. And indeed, as the labor market has improved over recent months, this group of workers has started to reenter the labor force in considerable numbers. My staff’s conclusion that much of the decline in participation is cyclical in nature is given additional support from aggregate statistical analysis of labor force participation trends. For example, the Kalman filter estimates of trend participation using the FRB/US model imply that about half of the 2¼ percentage point decline in participation over the past four years is trend and the rest is cyclical.

So in sum, my staff concludes that the trend rate of participation has declined significantly over the past four years, but this explains only about one-half of the overall decline in the participation rate since the beginning of the recession. They estimate that as economic conditions improve over the next few years, up to 2 million sidelined individuals may return to the labor market. All else being equal, that would add about 1¼ percentage points to the unemployment rate. Of course, it’s hard to know just when these workers will return. My best guess is that the unemployment rate will remain above 8 percent this year and slowly decline to about 7 percent at the end of 2014.

Needless to say, there are countless risks to my forecast for economic activity besides the uncertainty regarding the participation rate and unemployment. Most are to the downside: The European situation remains perilous, the looming U.S. fiscal cliff is approaching, and events in the Mideast could send oil prices soaring.

Turning to inflation, increases in oil prices to date are likely to push inflation a bit above 2 percent in the first half of the year, but oil prices appear to have stabilized, and futures markets point to a downward trend in oil prices. I expect the still-subdued growth in most measures of labor compensation to constrain inflation, and as my contacts consistently say, apart from workers with specialized IT or engineering skills, labor is plentiful and wage pressures are minimal. With considerable slack remaining in labor markets for the next few years, I expect inflation to run somewhat below our 2 percent objective. Thank you.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. The Eighth District economy continues to grow at a modest pace. Most business contacts continue to be moderately optimistic concerning the prospects for the remainder of 2012. District agribusiness continues to be strong, and weather has so far been a positive factor. District land prices continue to increase, and equipment demand remains robust. Manufacturers in the District continue to report strong demand. Automobile manufacturing and sales are robust. Labor markets in the District are slightly better than in the nation as a whole, according to key metrics, but only slightly. District real estate markets have improved modestly. Year-to-date home sales are mostly higher than they have been in the last three years. Reports concerning commercial real estate are more mixed. Energy producers in the District noted that coal mining business is down sharply, in part in response to extraordinarily low natural gas prices. Large District retailers reported relatively good retail sales in recent weeks. Consumers in lower-income groups continue to cite as major concerns job availability and potentially rising food and energy prices.

Nationally, the data have continued to come in about as I expected, and so I have not changed the contours of my outlook appreciably. I continue to expect real GDP to grow about

3 percent for all of 2012 and growth to improve further in 2013. I continue to expect the unemployment rate to fall to 7.8 percent by the end of this year and to continue to decline throughout 2013. I expect PCE inflation measured from one year earlier to fall from 2.3 percent this year toward the target of 2 percent under an appropriate policy choice by this Committee. I characterize the appropriate policy as a liftoff in the policy rate during the fourth quarter of 2013. As with any forecast, considerable uncertainty surrounds the date of the first rate increase.

The main risks to the forecasts I've just outlined continue to come from Europe. However, I think the U.S. economy can fare well even with key countries in Europe in recession. The ECB's LTRO program has diminished the probability of financial meltdown in Europe—that is, a generalized panic among financial institutions—which has been the primary risk from the perspective of the United States. Indeed, measures of U.S. financial stress, such as the St. Louis Financial Stress Index, remain low. In general, significant problems remain in Europe and will remain into the foreseeable future. However, with the probability of panic reduced, prospects for the U.S. are brighter than they were before the LTRO—say, in October, November of last year. Another risk to the U.S. economy is a more marked Asian slowdown, especially in China. I was in China recently. The data I've seen concerning the Chinese economy definitely indicate slower growth rates. My sense is that many in China may not be as concerned about this slowdown, seeing it as mostly intentional and likely to be reversed once the political transition is completed later this year. I'm a little less sanguine. I see the slowdown as partly a necessary housing correction and partly a decreased pace of exports, especially to recessionary Europe. Still, several factors suggest that China will not encounter a hard landing and therefore poses less of a risk for the U.S. Among these are that China is mostly growing because of investment and government spending, not because of consumption; that small firms and households tend not to rely on leveraged financing; and finally, that recession in Europe will likely lead Europeans to trade down to exactly the goods China is better at producing.

These are some of the key reasons I remain relatively optimistic concerning U.S. near-term economic prospects. I think the implications for policy are clear. We should wait for additional confirmation of strength in the economy at this juncture. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. My views on the economy and monetary policy have not changed materially over the last several meetings. Resource slack remains unacceptably high. Of course, our uncertainty over the size of the output gap is substantial. The output gap could be smaller, or it could be larger. Nevertheless, a large portion of the probability distribution seems to cover assessments that resource slack is large. For example, the Board staff has a conservative number, which has been mentioned several times already today. They've not been shy about marking down their estimates of potential hours and structural productivity, but still, the latest Tealbook assessment today has the output gap at 4¾ percent.

By the way, I just want to mention that in reviewing the March transcript, I noticed that there were a few comments from some participants as we talked about our mandate suggesting that our policy framework that we had adopted implied that maybe we shouldn't use the term "dual mandate." I just want to associate myself with the viewpoint that there's nothing that we said in that policy statement that spoke to the dual mandate—other than that "dual mandate" is important. So I think it's critical to continue to refer to it in those types of terms.

By comparison, price pressures currently are well contained. Indeed, even in the scenarios with upside inflation risks, such as those in the Tealbook, inflation rates remain within tolerable levels under our balanced-approach policy framework, which we adopted in January.

Looking ahead, my outlook for economic growth has improved modestly over the last several months. With appropriate monetary policy, we project real GDP will grow at about a 2¾ to 3 percent rate over the next 18 months. I interpret my many business contact reports of continued moderate growth as being in line with these projections. In my opinion, our current forward guidance is easily justified by the large resource gaps, contained inflation pressures over the medium term, and lack of a clear, substantial acceleration in growth that are features of this baseline forecast. However, this projection feels fragile given the exceedingly cautious behavior I still hear on the part of businesses. I can't recall any conversations where someone reported to me expectations of a major acceleration in their business. One telling report came from my director who runs Manpower employment services. His customers are not talking about any anticipatory hiring from him or on their own. They are concentrating on the current demand for their products, and they're following a just-in-time staffing policy. As a result, his business has been trending sideways for the past nine months.

In this environment, the only alternative scenarios mentioned are downside events that would lead to another round of retrenchment in spending by cautious businesses and, ultimately, by consumers. This doesn't sound like an economy poised to achieve escape velocity. Indeed, if we stop and consider the sweeping list of downside risks we face today, I personally find it difficult to avoid clinical depression. In Europe, the ECB's post-LTRO high has worn off, and markets are once again jittery. I have trouble seeing a benign outcome for Europe over the next few years. Maybe they can find a way to muddle through from time to time, but longer term, there are big issues. At root, the problem is largely a collection of significant trade account imbalances within the euro zone. These country imbalances would typically be best addressed with financial market adjustments under a flexible exchange rate system. The European

Monetary Union, without a political union, is instead forcing a slow, agonizing, and perhaps fruitless internal wage–price adjustment process across much of the continent. As Milton Friedman said, changing one price, the exchange rate, is easier than changing thousands of prices.

In the United States, as you've said so many times, Mr. Chairman, the table is set for a fiscal disaster at the end of this year. The budgetary process will certainly throw one form or another of fiscal restraint at the economic recovery, and judging by last year's brinkmanship and debt ceiling debacle, we are going to get a close-up view of the cliff's staggering dangers before we achieve any resolution, whether it's a good resolution or not. So unless the private sector is truly accelerating over the next few months and has enough momentum to withstand these events, we could be in for extremely unpleasant developments late in the year.

My bottom line is, we should not be complacent with our economic outlook in a world that is awash in downside risks. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MR. KOCHERLAKOTA. A two-hander.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. Thank you, Mr. Chairman. I just wanted to briefly clarify President Evans's remarks on the dual mandate. You were expressing your comfort with retaining the language "dual mandate" in the statement? I wasn't sure what you were saying. Sorry.

MR. EVANS. Oh, I'm sorry. When I looked at the March transcript, I noticed that there were a number of people who commented that they thought that, from our policy statement that we adopted in January, there wasn't any need to refer to things as a "dual mandate" or whatever—we should maybe use "statutory mandate" or something like that. I just don't recall any type of consensus agreement from that discussion process where we would change that language. Thank you very much for asking for it to be clarified.

MR. KOCHERLAKOTA. Okay. Thanks.

CHAIRMAN BERNANKE. President George.

MS. GEORGE. Thank you, Mr. Chairman. Economic activity in the 10th District has continued to expand since the last meeting. Consumer spending has been relatively strong despite high gasoline prices, and housing activity is showing more-convincing signs of improvement. In particular, optimism in the housing sector grew as home sales rose and the supply of homes tightened. Job growth is also progressing. Many business contacts report difficulties in finding workers, although the share of contacts reporting labor shortages and wage pressures remains lower than before the recession. Businesses remain confident of continued economic expansion, although some firms have tempered their expectations compared with a few months ago. The energy sector remains robust, and farmland values in the District continue to rise rapidly. Price gains also are extending to portions of the region that have strong oil-related revenue growth.

Turning to the national economy, I continue to expect a moderate pace of growth going forward that slowly builds over time. The unemployment rate over the last several months has fallen more rapidly than I previously expected, causing me to revise down my path for unemployment. Looking ahead, though, I expect that future improvements in the unemployment rate will be more closely tied to economic growth. As such, I anticipate modest improvement in the unemployment rate this year and larger declines in the years to come. Factors that I see supporting economic growth over the forecast horizon include the inherent resilience of the U.S.

economy, recovering demand, accommodative monetary policy, and improving labor markets. That said, it will take some time, I think, for household debt levels, reductions in federal government spending, and the slow healing of the housing market to play out. Of course, several factors continue to pose downside risks to this outlook. There is considerable uncertainty about Europe; geopolitical tensions continue to pose the risk of higher oil prices leading to higher headline inflation and lower economic growth; and finally, the potential of falling off the fiscal cliff presents a significant source of uncertainty as the year progresses and a possible risk to the outlook.

Turning to inflation, I expect that a gradually improving economy and stable inflation expectations will keep inflation near 2 percent over the forecast horizon. Over the medium term, though, a highly accommodative monetary policy and large long-run fiscal imbalances pose upside risks to inflation. Thank you.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. The Fifth District economy continues to improve. Overall, the reports from our directors and other contacts have an increasingly positive tone, although there are a couple of exceptions that I'll touch on.

Manufacturing is a bright spot. Our April survey was released just this morning, and it showed the composite index increasing from 7 in March to 14 in April. Nonretail services continue to expand as well in April, but our retail index took an abrupt and steep nosedive. We had a real strong report for March, and it looks as though there might have been some payback in April from the unseasonably strong foot traffic and sales in March.

We continue to hear that economic activity in the Washington area is being affected by the uncertainty surrounding the federal budget outlook. This comes after a stretch of a couple years in which the District and the economy around Washington did much better than the rest of the country. Multiple contacts report significant anxiety regarding federal spending, and defense contractors, in particular, are said to be quite gloomy. According to one contact, commercial real estate in Washington in the first quarter felt like a recession, and most lease renewals are coming in at about 20 percent less space than previously. One exception to the gloom around D.C. is cybersecurity. There's been a huge amount of activity getting under way around Fort Meade in Maryland driven by some significant federal investments in consolidating and expanding federal capabilities. In addition, we're told that the shredding business picked up after the GSA revelation.

In West Virginia, drilling activity is falling off somewhat due to the decline in natural gas prices, similar to the report we just heard, but our contacts say that some drilling is continuing just to retain the leasing rights, and moreover, they say there's about two years' worth of infrastructure construction ahead for things like pipelines and processing facilities. Outside of energy and the D.C. commercial real estate market—I won't go into the details—the news from the rest of the District has been pretty encouraging.

Turning to the national economy, the staff have taken a cautious approach to marking up the economic growth outlook in response to the stronger data flow that we saw last quarter; that caution seems wise to me, and I agree with their reasoning. They rightly note that activity is likely to have been overstated, perhaps due to an unseasonably mild winter. While the staff has tweaked the forecast a little bit, the contour is basically the same. The prediction I submitted is a tad stronger than theirs for real GDP growth—2.7 percent this year, 3.0 next year, 3.5 for our centennial year.

I don't think of my GDP growth projection, though, as that much different than the Tealbook's. The inflation projection is another story, however, and we discussed this a little bit earlier. The Tealbook has inflation falling below 2 percent later this year and to around 1½ percent next year and the year after, and it explicitly attributes this to the projected low level of resource utilization that will help hold the average pace of inflation below the Committee's objective. My sense is that the forecast misses have reflected an overly great a priori weight on the smoothness of the natural rate. In my submission, I penciled in 2.0 percent for this year and next year. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. In preparing for this meeting, we asked our directors and contacts in the Sixth District about three concerns. First, we asked about their sense of growth prospects based on their most recent readings of the economy. Specifically, we asked if there were indications of acceleration given the recent stronger-than-expected numbers, or, alternatively, slowing that may augur a mid-year swoon similar to that experienced in 2010 and 2011. Second, we asked about their reading of employer thinking regarding ongoing and future hiring. We tried to get at the question of how to reconcile the rate of job creation before the March payroll report with the apparent strength of the economy. More specifically, we asked if the catch-up explanation rang true. And, third, we asked about their views on price pressures, specifically their sense of pricing power broadly among their contacts and intentions to raise prices.

Regarding economic growth, our business contacts generally see no basis for predicting either market acceleration or a slowdown. The majority of our directors remain firm in the view that activity will continue to grow near the pace of the past six months. We heard little that would suggest a pullback in consumer spending. The expectation is for continued modest growth of consumer activity. Auto sales remain strong, as others have noted, and our contacts at various points in the chain are pretty uniform in their belief that sales will remain strong for the foreseeable future. Interestingly, one contact who represents the largest auto retailer in the country argued that high gasoline prices are actually encouraging sales as consumers unload old cars for much more efficient new models. A director representing a home-improvement retailer with national coverage supported the view that mild weather had brought forward some sales and expects some payback in the current quarter. As regards business investment spending, we heard that capital investments continue to be aimed at productivity gains and cost savings or, in some cases, share capture. Investment for actual business expansion remains considerably more subdued.

Turning to the employment picture, the idea that recent job gains related to firms restaffing or catching up from prior deep cuts was supported by many of our contacts. Most saw the mindset of businesses as quite cautious about ongoing and future hiring. We also continue to hear anecdotes about shortages of qualified applicants for available jobs. We asked about wage pressures in light of reported shortages of qualified applicants and detected little evidence of this.

Lastly, we asked our contacts to assess any emerging threat of inflation. A few firms indicated that they expect to try to push through price increases in an effort to improve margins, but most doubted their pricing power in the current economic environment. We did not hear a lot of concern about near-term inflationary pressures. We did detect some heightened concern about longer-term inflation risks in our survey work. In synthesizing all of the data and anecdotes, I have not made any material changes to my outlook since the March FOMC meeting.

Because the first-quarter tracking estimates have been coming in a little above our earlier assumptions, we took on board a slightly stronger first quarter in our full-year estimate of GDP growth. But my growth forecast hasn't really changed much, and it is relatively close to 3 percent and is very similar to the Tealbook baseline. Regarding the balance of risks to GDP growth and inflation, I have adjusted my views slightly and now see the risks reasonably balanced for both. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. My views of the U.S. economy haven't changed much since the March meeting. On balance, as President Lockhart noted, activity for Q1 seems slightly firmer, but I don't take much signal from this. First, we have seen these types of mild pickups in the pace of GDP growth before without it being the start of sustained, vigorous expansion. And, second, the downside risks to the outlook don't appear to have diminished. In fact, the European outlook appears to have deteriorated again as the temporary euphoria of the ECB LTROs has worn off. Third, as I mentioned at the last meeting, the weather may be playing some tricks with the data. January and February were very mild, but March was even milder, relative to the seasonal trends, than January and February. In fact, the first three months of the year together were the warmest for any year on record. As I mentioned at the last meeting, while this undoubtedly depressed the consumption of housing-related energy services, it probably raised many other categories of activities, such as construction, production, as well as hiring. We have done some analysis that looks at warm weather events, and it does tend to boost economic activity, with a lot of variability. I think it is going to take a few months to assess how important these weather effects were.

More importantly, even if I took the improvement in the economy at face value in Q1, it wouldn't have much impact on my views on what we should do in terms of monetary policy going forward for three reasons. First, what matters is not that the economy is better, but by how much it is better than my own expectations. I was expecting the economy to do somewhat better this year. When I look at the economy's performance, it exceeds my expectations only marginally.

Second, what matters is not whether the economy is better now, but how much this affects where we will be in 2013 and 2014. I thought the SEP exercise was interesting in that regard because it really didn't change where people think we are actually going to end up in 2014. I don't think what we have seen changes the outlook at all in any meaningful way for the next few years. The improvement in the economy is very small relative to the uncertainty about the longer-term outlook.

And the third point I would make is that in the current circumstances, it is very important to stress that the risk of policy errors is not symmetric. If we tighten prematurely and push the economy into a ditch—get stuck in a debt-deflation trap—that would be far worse than a stronger economy than we expect. If the economy surprises me on the upside, I am going to be delighted by that, and I know how to respond to that. In addition, I would underscore that while the economy has improved a bit, the downside risks to the economy have not. As I noted, the European situation has taken a turn for the worse. We have some uncertainty about the sustainability of growth in China, and the U.S. fiscal cliff is really quite important in terms of thinking about the outlook this year.

When we talk to business people, they say that—as President Evans noted—even if the fiscal cliff does get resolved in a good way rather than a bad way, there is going to be a lot of uncertainty in the run-up to that as we go into the fall election. A lot of business people think that this really will put a chill on investment and hiring in the second half of the year relative to the first half of the year.

I also think it is important that we don't overreact to 3 percent real GDP growth. We do want acceleration in the growth pace. In fact, it would be better if it was an even stronger acceleration, so I am a little bit perplexed by whenever this happens, then we turn around and conclude that policy must be too easy and we need to start thinking about exit. In this regard, I am very skeptical about how a lot of people use the Taylor rule as a guide to policy. As I said to Governor Tarullo yesterday, the Taylor rule gives me a headache. He promised to give me a dollar if I said that. [Laughter]

I want to talk a little bit about the Taylor rule, because the Taylor rule is fine as a benchmark of policy if you use it properly, but I think we use it way too mechanically. There is a real question about whether the Taylor rule really works in an environment where we are very far away from historical experience. The thing that particularly bothers me about the Taylor rule is, who would want to use it with the equilibrium real rate of 2¼ percent as part of their rule, as the Tealbook does? I don't think there is any evidence that the equilibrium real rate is anywhere close to 2¼ percent today, because if it were—and given the very sharply negative real rates we have today—I am sure we would be growing quite a bit faster than 3 percent. I take a real signal from the lack of forward momentum of the economy in terms of revising my views about what the equilibrium real rate in the economy is. And, of course, even if the equilibrium real rate were 2¼ percent, I would argue that policy should be easier than the Taylor rule implies because the cost of policy errors on one side are considerably higher than on the other.

On inflation, we have to admit that there has been a little bit of stickiness, a little uptick in both headline and core inflation. The headline inflation uptick doesn't really bother me too much because it looks like it is oil and gasoline prices. And if you look at the futures market, it suggests that those prices should come off.

The core could be potentially more bothersome, depending on how persistent you thought this was going to be. But it looks like it is mostly due to things that are not going to have a lot of persistence. Apparel prices is one area where we have actually had some upward pressure for many months, but cotton prices, in particular, have come off quite sharply. Talking to a major retailer that sits on our board of directors, he tells me that he really does expect to see apparel price pressures moderate once we get into the late spring and summer.

While we are seeing higher inflation, does that tell us that the output gap has diminished a lot and we have a lot to worry about? I think that is not the right way to look at it. If the output gap is supposedly narrowing, then it should show up in terms of increased compensation cost pressures for labor, and we see no uptrend whatsoever in any measure of compensation costs. The employment cost index is flat, and average hourly earnings has been flat to trending downward over the past 18 months. If it is an output gap story, then why isn't it showing up in the labor compensation costs? Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. At the previous FOMC meeting, my esteemed colleague, Governor Duke, noted that I was facing a key housing decision. My family needs to vacate the townhouse that we have been renting for the past 18 months. And, as Governor Duke described, it looked in March like we might well become homeowners here in D.C., perhaps suggestive of a broader trend of renters starting to come back into the housing market. Now, I realize that all of you have been waiting with bated breath [laughter] to hear the outcome of our decisionmaking process, so I would like to finally bring to an end that suspense by letting you know that we decided not to buy. Instead, we will be moving to another rental unit a mile or so away.

MR. FISHER. The market will be down 300 points. [Laughter]

MS. YELLEN. Needless to say, I hope that you won't interpret my family's decision as conveying any sort of broader significance about the housing market or the national economy. Rather, if there is any useful lesson from our experience, it is simply to underscore the difficulties of predicting idiosyncratic events, and the importance of not jumping the gun in interpreting any single piece of news.

I consider such an approach prudent in sifting through the economic and financial information we have received over the latest intermeeting period, as well as over the three-month interval since our previous SEP. There have indeed been some tentative signs of improvement. For example, the housing market is finally starting to turn upwards in many parts of the country. Readings on retail spending have been a bit stronger than I anticipated, and the latest SLOOS points to a pickup in demand for consumer credit, as well as further easing of spreads on C&I loans. Most notably, the unemployment rate has declined in recent months rather than leveling off or even edging up as I had expected in January. I am certainly heartened by these bits of good news, but it is essential to keep things in perspective. After all, the U.S. economy is still recovering from the steepest and most prolonged downturn since the 1930s. Even with the last few months of job gains, we are still far short of where we need to be. Private payrolls remain nearly 5 million below their pre-recession peak. The unemployment rate stands well above my estimate of its longer-run normal level. And even with a highly accommodative monetary policy, I still don't project that the unemployment rate will be back to normal at the end of our forecast period.

We also need to be cautious not to jump the gun by attaching too much significance to the latest data readings. In preparing these remarks, I took a look back at my FOMC remarks from April 2010 and April 2011. In our economic go-round two years ago, I began my remarks as follows: "I, too, have been heartened by recent data indicating that the recovery has picked up steam and that the labor market may finally have turned the corner." Unfortunately, within a few months, it became evident that the recovery was sputtering and that additional monetary accommodation would be warranted. With that experience in mind, I endeavored to be more cautious in my remarks last April. But even at that meeting, I referred to "heartening signs of improvement in the labor market." And, again, it was only a few months before concerns about a double-dip recession reemerged. Thus, I sincerely hope that over the course of this spring we can be firmly resolved to avoid yet another spell of "déjà vu all over again."

Indeed, in sifting through the recent data, I have seen compelling reasons to hold off on any marked upward revision to my assessment of the modal outlook. For example, in the process of settling our family's housing situation, I spent quite a bit of time looking at the Zillow website, which is chock-full of valuable information regarding developments and prospects for the housing market. Of course, many of you may already be familiar with Zillow's capability of providing a real-time estimate of the current market value of your home, and, in fact, of practically every residential property in the entire country. But you may not have realized that Zillow also produces national and regional house-price indexes that provide distinct but complementary information relative to the Case-Shiller and CoreLogic indexes that have garnered lots of attention in recent years. In particular, Zillow's hedonic methodology encompasses virtually all existing records on real estate transactions apart from sales of foreclosed properties, whereas Case-Shiller and CoreLogic rely on the repeat-sales methodology that only utilizes about half as many transactions. Despite these methodological differences, all three indexes track fairly closely for the 20 metropolitan areas covered by the Case-Shiller composite index. In gauging nationwide trends over the past decade, however, the Zillow index shows a less dramatic boom and bust than either Case-Shiller or CoreLogic because the Zillow index incorporates more information about smaller markets outside the large coastal metropolitan areas that typified the housing boom.

In gauging recent developments, both Zillow and CoreLogic point to the stabilization of house prices in certain localities, such as Los Angeles, Miami, and Philadelphia. Nonetheless, there are many other cities and regions where Zillow points to ongoing and fairly steady deterioration, including Baltimore, Chicago, and San Francisco. At the national level, the Zillow index declined at an annual rate of about 2 percent over the first three months of this year, roughly half the pace of its decline during 2011. In effect, the Zillow price index shows tentative signs of stabilization but does not yet point to a broad-based turnaround in the housing market. It is also worth noting that Zillow conducts a quarterly survey of about 100 housing analysts, including economists, real estate experts, and investment and market strategists. And in the latest survey that was released a few weeks ago, the consensus outlook was for U.S. house prices to continue edging down further over the course of this year. The headline for those results was, “House-Price Bottom Always Just around the Corner but Never Quite Here.”

Similarly, while I have been heartened by the improvement in the labor market conditions over recent months, I can also see abundant reason for caution in extrapolating that trend forward. According to the NFIB survey, the net fraction of small business owners who are planning to create new jobs has fallen by 7 percentage points over recent months and now stands at exactly zero, hardly a harbinger of a booming labor market. As President Williams noted, we have difficulties in resolving the Okun's law puzzle as well as in interpreting the extent to which unusually warm weather may have boosted job gains over the course of this winter.

Finally, like many of you, I continue to be concerned about factors that pose significant downside risks, particularly the fiscal situation. It seems all too plausible we could end up stumbling into the Tealbook's "Fiscal Cliff" scenario. I am also worried about the potential for fiscal policy to weigh on business hiring and spending decisions in the second half of the year. I am as concerned as many of you are about the European situation, and the discussions we had with European colleagues this past weekend at the IMF–World Bank meetings simply heightened my concern.

In summary, my modal outlook still involves a moderate pace of recovery that is likely to be damped by the slow healing of the housing market and prospective fiscal contraction. I anticipate that the unemployment rate will decline only gradually toward its longer-run normal level. And with rates of resource utilization remaining low and longer-run inflation expectations firmly anchored, I expect that in coming years inflation will remain at or below the Committee's longer-run goal of 2 percent. Of course, these assessments of the modal outlook and the balance of risks have important policy implications that I will discuss tomorrow.

CHAIRMAN BERNANKE. Thank you.

MR. FISHER. Mr. Chairman.

CHAIRMAN BERNANKE. Yes?

MR. FISHER. May I just ask a question? New information was introduced with your Zillow database. Do they track building permits?

MS. YELLEN. No, not that I know of, they're mainly concerned with prices.

MR. FISHER. Yes. The objective, it seems to me, is to try to determine a couple of things. One is purchasing power, obviously, and how it affects consumption. The other is employment, and I would just note that in March year-over-year building permits were up 30 percent; single, residential building permits, year over year, were up 18 percent with an increase in every region of the country. I agree with you that we need to look at these data extremely carefully, but I wouldn't rely on any single database to give us a full indication.

MS. YELLEN. The issue about building and construction activity, residential investment, that's one aspect of housing that, to me, is relevant to the forecast, but housing prices have broad significance.

MR. FISHER. When you're looking at prices, I agree.

MS. YELLEN. Again, in the Zillow data there is improvement in that in 2011, the national house-price index fell 5 percent, and in the first quarter it's fallen at a 2 percent annual rate, so that does show an improvement. You know—as David indicated and I would be happy to share these data with you—there is diversity across localities, and there are many where there is clear improvement, but also quite a number where there is deterioration. According to this data set, which really is a very good data set, we haven't turned the corner yet on house prices. They're still falling.

MR. FISHER. Well, thank you for introducing the new data set.

MS. YELLEN. Happy to.

CHAIRMAN BERNANKE. Perhaps Governor Duke will extend the housing theme.

MS. DUKE. Thank you, Mr. Chairman. Despite the collapse of the Yellen index, [laughter] I remain optimistic about building strength in the recovery. I continue to see signs that pent-up demand is likely to finally show through and sustain some form of the "Virtuous Circle" alternative of the Tealbook. Here are some of the reasons that I'm optimistic.

First, with the exception of mortgage credit, which I'll discuss separately, I can't envision current credit conditions creating any drag on whatever momentum might be building in the economy. Credit quality continues to improve, and in some cases, such as C&I and auto lending, charge-offs and delinquencies are at historic lows. Demand for credit is weak, but banks are aggressively competing for whatever loan volume is available. Funding for loans is abundant as deposits continue to grow, and banks need loans to bolster shrinking interest margins.

As for pent-up demand, maybe the best place to watch for it might be in auto sales. While auto sales have strengthened, they are still well below pre-crisis levels. Inventories on dealer lots are pretty lean, and the low level of sales over the past few years has resulted in an aging of the existing fleet. Furthermore, credit is plentiful enough across the full spectrum of credit quality to meet whatever demand materializes. Indeed, banks report a strong demand for auto loans, low delinquencies in auto portfolios, and record prices at auction for repossessed vehicles, but I will wait to see the data on total sales as I take Governor Yellen's admonition to heart, and besides, I've seen her car. [Laughter]

Some other random comments from my bank calls give me a sense that discretionary consumer spending might also be coming from pent-up demand or at least from a less fearful consumer. Spending on credit and debit cards is up 5 to 7 percent, with the majority of the increase coming from discretionary spending rather than for necessities. What increase there is in necessity spending is apparently currently driven by fuel purchases. Discount retailers also reported higher sales of discretionary items, while a higher-end retailer commented that customers were choosing higher price point items. Las Vegas visitor count and gaming revenues are up, even as spending per visitor is not quite back to previous levels. Tourism bounced back in southwest Florida this season, resulting in a need to book restaurant reservations weeks in advance. And finally, an indicator of willingness to spend for what, in my opinion, is the most discretionary of purchases, one bank reported record demand for recreational vehicles and marine lending.

Turning now to housing and mortgage lending, several programs designed to reduce the flow of foreclosed homes to the market seem to be getting good traction. Most banks report mortgage lending at capacity with significant percentages of the volume coming from HARP 2 applications. HARP 2 is the revised program aimed at refinancing underwater mortgages. In fact, HARP applications are so strong that one bank has revised its projection of aggregate gross 2012 mortgage production up from $1 trillion to $1.2 or $1.3 trillion. REO to rental has been identified as a way to reduce the flow of owner-occupied properties to the market. The GSEs are getting good response to their pilot offering of blocks of REO properties for sale, and seeing this response, a major servicer recently also put a bulk sale of homes on the market. The State Attorneys General agreement has strong incentives to complete principal reduction modifications within the first 12 months, and early indications are that servicers are off to a fast start and borrower response rates are higher than expected.

In the traditional homeowner-to-homeowner housing market, I continue to hear stories of shortened times on market, multiple offers, and other signals that a number of markets have shifted from favoring buyers to favoring sellers and that we may be at the inflection point between falling and rising prices. And as evidence that continuing high levels of loans past due or in foreclosure do not necessarily preclude improvement in house prices, I would point out that two areas, Phoenix and Florida, with the nation's highest past due and foreclosure rates, have also, according to Zillow, seen stable and increasing prices.

I asked staff to estimate the effect on economic conditions if house prices rose by more than we expect. Using a scenario that put house prices 10 percent higher than the Tealbook baseline by the end of 2014 resulted in increased real GDP growth of 0.2 to 0.5 percentage point and a reduced unemployment rate of up to 0.2 percentage point in 2014, depending on the assumptions about the channels through which house prices might work. I really have no idea how these anecdotes will play out or even where to look for the first signs in the data, but I believe that these stories indicate at least a potential to start a virtuous cycle. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. How do the data in Las Vegas square with President Kocherlakota's view on risk aversion? [Laughter] Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. The first thing I want to say is I'm not going to talk with President Dudley anymore on the day before these meetings because he takes all of the best stuff that comes out of our conversations. [Laughter]

MR. DUDLEY. Clear your money.

MR. TARULLO. But it does shorten, though, what I can say because I can now just incorporate it by reference. I did want to reiterate and expand on a couple of things that Bill alluded to and a couple of things that he didn't.

First, although I, as people may remember, was among the more skeptical in each of the past two springs about the sustainability of what then appeared to be increasing economic growth, I'm actually somewhat more optimistic this time around. It does seem to me that some combination of the changes in household balance sheets, easing of financial conditions, trends in the housing market, and PCE increases together suggests that there is some more prospect of self-sustaining momentum than we've seen. Having said that though, I think almost every one of those elements has a qualification in it. The household balance sheets are in better shape, but income is not rising all that quickly and doesn't show any particular prospect of doing so. The housing market seems to have bottomed out and may be slightly improving, but as Janet explained, it hasn't translated into firmer prices yet. Moreover, I think that until the GSE reform issue has a clearer endpoint, you're not going to see a restart in private-label securitization, which is going to hold down some growth in housing as well.

The second point I wanted to make is that some factors that people refer to as downside risks are basically just that. The Middle East, which Eric referred to, is definitely a downside risk—something really bad happens, and the result is a shock to the economy. But a couple of other things that a number of people—not here, but in the world—refer to as downside risks are more than that. They're the reality of decreased economic growth or impediments to growth as well as downside risks.

On Europe, the continued European travails are likely both to produce periodic risk aversion globally, including in the United States, and to keep the dollar stronger than it otherwise would be, thereby making exports a less probable source of growth over the coming couple of years. I do think that the European situation is going to drag on. The structure of EU decisionmaking, particularly in the presence of the shaky domestic positions of most incumbent governments, is almost assuring that that is the case. And—this is somewhat in answer to Richard's question earlier—although recent and potential electoral shifts may bring welcome attention to the need for growth policies for peripheral countries in an environment in which exchange rate changes are not an option, I think it's very unlikely that that shift in orientation will come without a good bit of rockiness in markets and in the politics of European councils. There is not a framework in place that Europeans can dial up and dial down depending on shifts in sentiment. Instead, you've had a quite polarized process that I don't think is going to be easy to thaw with a change in government. At best it's going to take some time.

Similarly, and Bill did allude to this, the fiscal issues to be addressed at the end of 2012 are not just a downside risk. It's a cliff, but it's not as if we wait to see whether Thelma and Louise get to drive the car. Instead, I think it's already becoming a negative influence on the real economy or shortly will be. This is not your normal case of regulatory or fiscal uncertainty. We always have regulatory and fiscal uncertainty, but as David was saying in his presentation, the combination of the Bush tax cuts, the payroll tax cut, extended unemployment, and the debt ceiling at the same time, quite rationally produced a lot of heretofore quiet and soon-to-be considerably more public talk about whether there is reason to hold back on investments. My guess is that as you get further into the year, a lot of that talk will have households thinking maybe we ought to wait before making a major purchase.

All of those qualifications together put me in the more tepid end of forecasts for at least the next 12 to 15 months. But as I've said the past couple of economic go-rounds, I don't think it matters enormously whether those of you who are more in the central tendency or a little higher up are going to be proven right as opposed to me, who's a little bit further down, precisely because of the fact that there is, by any reasonable measure, a substantial resource utilization gap still to be filled. Here is where I can incorporate by reference the remarks today and in the past couple of weeks of various presidents of the Federal Reserve Bank of San Francisco, who have reviewed the labor market situation very well. I'd only add a couple of points. As Bill said, again, there's absolutely no sign of wage pressures, certainly not in the aggregate, and so far as our staff, whom I continue to quiz on this point, can determine, not in any significant sector as well.

There is a real prospect of structural damage. Here I agree with what Narayana has been looking at for some time now, but it seems to me that the kind of structural damage that we may be facing is very unlikely to be a mismatch story. If you look at the indications of typical mismatch, you're not finding them right now in the data that we're seeing. One of the investment banks had a very nice little report on the experience of construction workers. You'd think that if there's one group that is likely to face mismatch it would be construction workers, but, in fact, the percentage of construction workers who have been in long-term unemployment is declining faster than in the labor market generally, and the hiring rate has risen much more rapidly than for the population as a whole. It's interesting—their wages in the new jobs are substantially lower than in their old jobs, but they are actually getting employed at a more rapid rate than in the economy more generally, so mismatch doesn't seem to be an explanation there.

Decline in the labor participation rate is something that obviously is going to have to be pored over, but one source of the actual decline, and John alluded to this, is in the very young cohort of people of 16 to 24. That appears to have been largely, although not completely, explained by the fact that many college students who used to have part-time jobs can't get them now. As you think about it, if you are a college student working, you're in the labor force and you have a job. You're in both the numerator and the denominator. If you're a college student who is not working anymore, you're not counted as unemployed, and yet you're now out of the labor force, and that may well be giving a slightly misleading indication of what's been going on at that end of the labor market.

All in all, then, if there is a risk of structural damage, it still appears to me as though it's the result of an insufficiently quick rebound in aggregate demand to get back into jobs all the people who lost them along the way, and not as a result of mismatches, which would defy any effort to create jobs through increased demand. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. While some data have come in more positively, my projections remain mostly unchanged due to a continued concern about more than a modest strength and durability to our recovery. I'll focus my remarks on consumer spending as one relevant prism. In particular, there are five factors influencing my ongoing concerns regarding consumer spending. Let's call them, one, real disposable income is flat; two, new jobs are low wage; three, student debt can crowd out spending; four, this is a presidential election year; and, five, fiscal policy is becoming increasingly restrictive.

The first factor relates to the weakness in real disposable income. Of all the factors driving growth in consumption, the factor with the greatest effect is real disposable income. However, Americans' disposable income has been rising at a subpar pace in recent quarters and, given recent price increases at the gas pump, appears to have been especially anemic in the first quarter. Real wages, in particular, have remained flat for some time. Unless income growth steps up considerably or households start to take on excessive amounts of debt again, I believe American households have insufficient means to propel faster consumption growth.

The second factor influencing my concern about consumer spending relates to the fact that the job growth that has occurred has been concentrated in very low-wage occupations. According to the National Employment Law Project, lower-wage occupations—retail salespersons, office clerks, food prep workers, and stock clerks—grew by 3.2 percent from the first quarter of 2010 through the first quarter of 2011, while mid-wage occupations rose just 1.2 percent, and higher-wage occupations actually declined 1.2 percent. This may suggest that workers across the distribution are taking less-lucrative positions. They're taking whatever jobs they can get. This is a form of underemployment that isn't captured by the latest employment data, but will likely continue to contribute to the subpar income growth. Unfortunately, this may not turn around any time soon. The Bureau of Labor Statistics projects that five of the top six occupations with the most job growth from 2010 to 2020 will be low-wage jobs.

Third, I'm concerned that high levels of student debt coupled with a poor labor market for post-college entry-level jobs may impede consumer spending. Total student borrowing has grown rapidly in recent years. Structural forces, such as rapidly rising tuition and an increasing share of high school graduates entering post-secondary education, are the main culprits, though cyclical forces, such as a lack of good job market prospects, are likely also important. Increased levels of education-related debt incurred in youth may crowd out spending on cars, houses, or other items in later years. This could affect not only today's youth, but also today's adults. Many of my cohort feel pressured to take out loans to help with their children's education expenses, and are themselves now helping make payments on student loans.

Fourth, I project consumption to be damped this year through a worsening of consumer confidence as the presidential election heats up. It may feel as if the presidential debate is about dogs riding on car roofs. No, the focus of this election year is the economy, and extensive campaigning is likely to accentuate discontent with the economic recovery. So even if the data are improving, that may be nearly irrelevant to people's perception that the economic recovery is subpar. This perception could show up in lackluster confidence and consumer spending.

Fifth and last, fiscal policy is likely to be essentially inoperative as a tool to help revive the economy. In fact, the fiscal policy situation is worse than inoperative. It is actively contractionary. Current estimates of total fiscal impetus indicate that fiscal policy is expected to impose a drag of a little more than ¼ percentage point of real GDP this year, 1 percentage point of GDP next year, and then a little more than ¼ percentage point of real GDP in 2014. These expectations could be larger if any one of the pieces of legislation that the Congress needs to act on later this year fails to materialize.

My projections reflect a sense that the fiscal cliff issues will not be resolved without collateral damage. As we saw after the debt ceiling negotiations last summer, it is entirely possible that there will be a drop-off of consumer sentiment that will exacerbate the drag on consumption and the overall economy. Thank you.

CHAIRMAN BERNANKE. Thank you. Thank you all for contributions that were both insightful and crisp. Very good. I will hold off on my own comments until first thing in the morning. We begin tomorrow at 8:30. There is a reception and dinner available upstairs at the Terrace, and so I’ll see you then and see you in the morning. Thank you.

[Meeting recessed]

April 25 Session

CHAIRMAN BERNANKE. Good morning, everybody. Let me start off this morning with a summary of the discussion from yesterday, and then I will add a few comments.

There was general agreement that moderate economic growth was continuing. Some participants were more optimistic, noting signs of strength and expressing increased confidence in the durability of the recovery, while others were less sure, citing factors like the confounding influence of the weather and noting that we had had false dawns each of the past two years. In any case, important downside risks remain, including the European situation and the fiscal cliff, both of which were likely to impede growth even if the worst outcomes were not realized, the geopolitics of oil, and perhaps a slowdown in Asia.

In the household sector, consumer spending continues to expand, notwithstanding high gas prices. Indeed, high gas prices, along with pent-up demand, could be a reason for strong auto sales. However, further speed-up in consumer spending faces a number of headwinds, including weak growth in disposal income and wages, student debt burdens, the effects of political campaigns on confidence, and restrictive fiscal policies. It was noted that affluent consumers are increasing spending more than the less affluent. Labor markets are generally stronger this year so far than they were last year, with regional variation. Highly qualified workers remain in short supply, but wage pressures overall are limited. Understanding the apparent breakdown in Okun’s law and the decline in participation are important for predicting unemployment. About half of the decline in participation may be cyclical, reflecting, as it does, primarily younger workers. If so, unemployment will decline more slowly in the future as the economy improves and workers are attracted back to the labor force. There was a discussion of the extent of structural unemployment, adducing evidence from areas such as the Stockholm

Branch of the Minneapolis Reserve Bank [laughter] and the experience of U.S. construction workers.

Housing has shown some signs of improvement on a variety of dimensions, although weather may be a factor again in some areas. One online source showed prices stabilizing, though not yet meaningfully increasing. Programs like HARP 2 and REO to Rental appear to be gaining traction, which will help housing activity and prices.

Most, but not all, participants saw somewhat better business sentiment and activity. Among industries showing strength in some areas are rail and trucking, semiconductors, agriculture, manufacturing, oil drilling, and gambling and tourism. The low cost of natural gas is supporting petrochemical industries. However, capital investment is aimed at productivity gains or gaining market share rather than expansion of capacity, and fiscal policy uncertainties may impede hiring and investment later this year.

Financially, stress is being felt from the European situation. The ECB's LTROs stabilized markets for a while, but macro problems such as current account balances and slow economic growth in Europe remain significant, and markets have once again become jittery. Even if a full-blown crisis in Europe is avoided, the situation is likely to drag on to the detriment of U.S. economic growth. In U.S. markets, credit conditions are improving, as bank credit quality and loan demand both improve. There has been a pickup in consumer credit demand, and spreads on C&I loans have come in. CRE and mortgages are the two weakest areas.

With respect to inflation, core inflation and related measures, such as the trimmed mean and median CPI, have risen a bit but remain close to 2 percent. Some argued that inflation will remain low, noting large amounts of slack, slow nominal wage growth, cooling commodity prices, anchored inflation expectations, and limited pricing power by firms. Others argue that oil prices and monetary policy ease pose upside risks to inflation. It was pointed out that estimates of the output gap and potential output have declined over time, even as inflation has surprised to the upside, underlining risks of overreliance on measures of slack.

Concerns were expressed about whether the public was adequately understanding the FOMC's communication and about possibly excessive attention to Taylor rules in situations in which real interest rates may be far from 2 percent. Any reactions, comments, or questions? [No response] Seeing none, let me make a few general comments.

A first observation is that, notwithstanding some swings in the data and market sentiment, overall we are pretty close to where we were in March. Recall that the March Tealbook was closed before the labor market report on the Friday before the meeting, but meeting to meeting we can say, for example, that the April Blue Chip survey was essentially identical to March. The S&P 500 and Treasury yields, which are both indicators of the outlook, are essentially identical to where they were in March. And policy expectations are unchanged or may be slightly more to the expansionary side. So there is not much indication of a significant overall net change in view since our last meeting.

Going forward, as I talked about in my speech at the NABE Conference, I think the Okun's law puzzle remains a very key element of the outlook. To the extent that the recent improvements in the labor market were a one-time catch up offsetting the unusual pace of firing in 2008 and 2009, then it may be the case that further improvements will be hard to come by, particularly if GDP growth remains moderate and close to trend. This is basically the story in the Tealbook and in a majority, if not all, of the SEP projections. Of course, there is the alternative possibility that GDP growth will pick up, and it will be a self-reinforcing recovery between growth and employment.

I think it was President Rosengren who said that the output data were stronger and the labor market data were weaker than we had anticipated, and in some sense that is kind of splitting the difference between the two stories. But I really don't put much weight in the data we received since the last meeting. There are plenty of special stories to explain the March labor report and UI claims. Again, weather is an issue certainly. And on the GDP/GDI side, GDP, for example, was stronger in the past couple of quarters, but there were certainly some factors that were likely to be temporary, such as inventory buildups and a surprising increase in defense spending, whereas the GDI number, which was very impressive in the fourth quarter, was almost entirely in profits rather than in wages. And so that is already included, in some sense, when we look at stock price effects and equity values on consumer spending. Once again, I don't think we have learned a great deal since March, and that puzzle still remains central to our outlook going forward. We certainly hope for the strengthening expansion story, but it still seems to me that if I have to choose at this point I would still stick with the moderate economic growth–slow improvement in the labor market scenario.

As Governor Raskin and others pointed out, for consumer spending, while improving, there doesn't seem to be the fuel needed to accelerate. Disposable income growth was 0.8 percent in all of 2011 and is estimated to be at a 0.3 percent rate in the first quarter. Wealth effects may help some, but overall it is hard to see where a substantial improvement in consumer spending is going to come from. With respect to other components of aggregate demand, trade looks to be roughly neutral for economic growth. We all know the story of fiscal policy, which is not going to help. Housing is improving slowly but is a very small part of aggregate demand. And nonresidential investment will react to broader demand conditions.

There is a lot to be learned from observing the data that are incoming, and I note that between now and the next meeting we will be seeing two labor market reports and the GDP number, which is at the end of this week. So, again, in terms of the modal outlook, my best estimate right now is still for moderate growth with slow improvement in unemployment, similar to our March statement. I do note that downside risks and uncertainty remain important, as many people have discussed.

As Governor Yellen mentioned, we and several others attended various components of the G-7, G-20, and IMF meetings over the weekend, and on the whole, they were not particularly encouraging in terms of the European outlook. Italian and Spanish spreads to bunds are both up about 90 basis points since the March meeting despite apparent progress in their fiscal programs. Spain, in particular, has a very large and uncertain obligation to its banking system, given the declining real estate prices and the risks they pose for mortgages and other types of credit. In terms of policy actions that have been taken, the firewall that was put together on the whole has to be judged disappointing. It was the smallest of the various options that were proposed, and it became clear in discussions in the meetings over the weekend that even Europeans view the firewall as being very unwieldy in its construction, very difficult to use in practice, and not flexible in its design. The IMF announced $420 billion of additional resources, but the BRICs that were making the major commitments to the IMF are insisting on tough conditionality, as they should. But that will of course increase the reluctance of countries to accept programs and will increase lenders’ concerns about either subordination or default with respect to their own debt. And the political considerations have been noted. The French election and the Dutch government collapse are indications that the German-led consensus is starting to unravel.

A lot was also said about the fiscal risks, which even in the best instance will create a lot of uncertainty near the end of the year. The fiscal cliff is huge, and the debt ceiling is yet another problem. But a third issue is the fact that the one-year budget runs out the beginning of September, and there will be a fight over a government shutdown at some point right before the election, which I am sure will be a period of maximum cooperation. [Laughter] So I think we do face, on the whole, downside risks and uncertainties that should lead us to be cautious.

On the inflation side, it is true that inflation has been a little higher than expected; however it is very close to 2 percent, and it does seem to be well anchored overall. As I noted in previous meetings, this really is mostly a gasoline story. For example, the latest CPI readings, ex gasoline and fuel oil but including all other energy and including all food, was an inflation rate for the past three months of 1.79 and for the past six months of 1.71. So it is very much gasoline that is driving a lot of this. Breakevens have come down a little bit over the intermeeting period, and gasoline futures are suggesting some meaningful softening in prices after the peak of the driving season in the next month or so. More broadly, last time I talked about non-energy commodities. There is an index called CRB spot prices, which is a daily index that includes 22 non-energy commodities, mostly metals and agricultural commodities. This index rose sharply in 2010 and early 2011, but it is now flat since the beginning of this year, and it is 16 percent below its peak of last April. If I had to pick a single factor that accounts for the surprising rise in core, I would say that commodity price pressures do ultimately find their way into core prices both via prices like airfares, but even indirectly through cost pressures. Those effects are not huge, but they are enough to account for differences of several tenths in core price inflation. That, together with a stronger dollar and weaker non-fuel import prices, makes me feel pretty confident—at least for the rest of the year, barring a new shock to oil prices—that we will see relatively well-controlled inflation.

My overall assessment is that things haven't changed much since March. We haven't learned a great deal. Economic growth appears likely to remain moderate, in the right direction certainly. We've seen slow improvement in unemployment, inflation is stable, but there are important downside risks that we need to be attentive to. Any thoughts? [No response] Okay. If we are all ready, we can now move to item 4, which is the monetary policy go-round. I will turn to Bill English to introduce the topic. Thank you.

MR. ENGLISH.[6] Thank you, Mr. Chairman. I will be referring to the handout labeled, "Material for the FOMC Briefing on Monetary Policy Alternatives," which contains the policy alternatives and associated directives that were published in the Tealbook last week.

Turning first to alternative B, on page 4, the Committee may view the information received since the March meeting as suggesting a somewhat stronger near-term economic outlook. However, you may also see the headwinds that have slowed the recovery as likely to continue for some time yet and judge that the downside risks related to fiscal strains in Europe have increased noticeably in recent weeks. Against that backdrop, you may be inclined to make only small changes to the postmeeting statement, as in alternative B.

The first paragraph of alternative B updates the March language to reflect the recent data, including (implicitly) the less positive tone of the March payroll employment report and the tentative signs of improvement in the housing sector. In addition, the statement acknowledges the recent increase in inflation resulting from the jump in crude oil and gasoline prices earlier this year.

In an effort to provide greater clarity about the link between the Committee's economic outlook and its forward guidance regarding the federal funds rate, the second paragraph under alternative B includes new language about the Committee's medium-term outlook for real activity and the stance of monetary policy on which that outlook is conditioned, stating that it expects economic growth "to remain moderate over coming quarters and then to pick up gradually, supported by highly accommodative monetary policy." In light of the deterioration of the situation in Europe, the statement drops the reference to an easing of strains in global financial markets, while continuing to say that those strains pose significant downside risks. The statement indicates that the earlier increase in oil and gas prices is expected to

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

boost inflation only temporarily, with inflation expected subsequently to run at or below mandate-consistent levels.

Paragraph 3 reiterates that the Committee anticipates that economic conditions will warrant exceptionally low levels for the federal funds rate "at least through late 2014." You may see the retention of this forward guidance as appropriate for a number of reasons. First, the optimal control exercises under commitment that the staff includes in the Tealbook suggest that the funds rate should remain at its current level until mid-2015. Alternatively, the application of a standard Taylor (1999) rule to the midpoint of the central tendencies of your SEP projections (assuming an Okun's law coefficient of 2.3) yields a funds rate prescription of less than 50 basis points at the end of 2014—consistent with an expectation that liftoff will take place late in that year.

Even if you feel that the current outlook for inflation and unemployment would, in normal times, justify a liftoff of the federal funds rate sooner than late 2014, you might want to keep the funds rate lower for longer in current circumstances. In particular, given that the federal funds rate has been constrained by the zero lower bound, you might want to compensate by extending the period of exceptionally low federal funds rates for a time. Alternatively, you may see the risks to the economic outlook as tilted to the downside, or view the costs of unexpectedly weak outcomes as likely to be higher than those of unexpectedly strong outcomes; that conclusion might be based on a judgment that policy can readily be tightened but cannot as readily be eased because of the zero lower bound and because there are costs and risks associated with additional balance sheet actions. Given these concerns, you may feel that retaining the existing forward guidance is appropriate, at least for now.

Under alternative B, the final paragraph of the statement would be unchanged. A statement along the lines of alternative B would be consistent with market expectations and so would likely have little effect on interest rates, stock prices, or the foreign exchange value of the dollar.

Alternative A, on page 2, might be appropriate if you see the pace of improvement in the unemployment rate as likely to be unacceptably slow in the absence of additional policy stimulus. Providing additional accommodation in the form of new balance sheet action could seem particularly appropriate if policymakers wanted to counter the downside risks to the outlook stemming from the situation in Europe and from the potential for significant near-term fiscal tightening in the United States, or if they were concerned that the skills and labor force attachment of the long-term unemployed will erode if the unemployment rate declines only very gradually.

The first paragraph of alternative A is identical to that of alternative B except that it omits the reference to tentative signs of improvement in the housing market. The second paragraph is less sanguine about the economic outlook, stating that economic growth would be unacceptably slow without further policy stimulus and that the unemployment rate would decline "only very gradually." It also includes the concern that the rise in energy prices earlier this year is reducing consumers' purchasing power.

Paragraphs 3.1 and 3.2 provide two possible balance sheet actions for your consideration: The first is an expansion of the maturity extension program through March 2013 that would include an additional $400 billion of purchases of Treasury securities with maturities greater than six years and an equal amount of sales of Treasury securities with maturities less than four years; the second possible action is a $500 billion MBS purchase program to be completed over the coming year. As noted in the memos that we provided, staff estimates suggest that either of these programs would reduce the unemployment rate by about ¼ percentage point over the next couple of years and boost inflation by a roughly similar amount.

The fourth paragraph continues to point to an expectation that economic conditions will warrant an exceptionally low funds rate at least through late 2014, but it drops the list of economic conditions supporting such an assessment in favor of the more detailed description of the factors influencing the Committee's policy outlook in a new fifth paragraph. This change is not intended to provide additional accommodation, but rather is an option that you might choose in an effort to improve public understanding regarding the link between economic conditions and the Committee's policy decisions.

An announcement along the lines of alternative A would surprise investors. Although respondents to the Desk's survey put considerable odds on the initiation of a new asset purchase program or measures to increase the duration of the SOMA portfolio at some point within the next 12 months, they see almost no chance the Committee will announce such a change today. Longer-term interest rates would decline, equity markets would likely rally, and the foreign exchange value of the dollar would probably fall.

Alternative C, on page 5, might be attractive to members who judge that the economic recovery is strengthening. Moreover, with inflation running above the Committee's 2 percent objective and policy highly accommodative, some of you may be concerned that inflation expectations could increase, resulting in upward pressure on inflation that will persist even after the effects of higher energy prices have waned. Consequently, you may want to forestall an undesirable rise in inflation by altering the forward guidance to signal an earlier expected increase in the federal funds rate.

The first paragraph under alternative C is more positive about developments in the labor and housing markets than is alternative B. The second paragraph points to expectations that the unemployment rate will decline appreciably over the next few years, and it conditions the expected retracement of inflation on appropriate monetary policy.

There are two versions of paragraph 3: The first, labeled 3.1, replaces the existing forward-guidance language, including the date, with new language indicating that the timing of the first increase in the funds rate will depend on the same broad set of factors listed at the end of alternative A; the second, labeled 3.2, retains the previous forward-guidance language but pulls the reference date forward to mid-2013.

The adoption of alternative C would surprise markets; interest rates could move sharply higher, and stock prices could register substantial declines.

The draft directives for the three alternatives are presented on pages 8 through 10 of your handout. Thank you Mr. Chairman. That completes my prepared remarks.

CHAIRMAN BERNANKE. Thank you very much. Any questions for Bill? President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. Bill, I have a question about the optimal control exercise and using that as justification for the language in alternative B. My understanding of the optimal control exercise is that people know that you are keeping rates low in conditions in which you would normally raise them. Is that a correct interpretation of what is going on? Or maybe I'm misunderstanding.

MR. ENGLISH. I am not sure that is exactly right. It is the optimal path for the funds rate, but given that people understand that that will be the optimal path of the funds rate. So they understand that it is a conditional commitment to that path for the funds rate. I'm not sure there is any sense that it is deviating from past behavior or from some rule.

CHAIRMAN BERNANKE. I'm sorry. It is a credible path and it is an optimal path.

MR. ENGLISH. Yes.

CHAIRMAN BERNANKE. But there would possibly be at the end some regret from the point of view of the Committee.

MR. KOCHERLAKOTA. Yes. That's what I was trying to get at.

MR. FISHER. Temptation.

MR. KOCHERLAKOTA. There is a temptation, yes, whereas the language in alternative B maybe doesn't convey that the Committee is facing temptation and deciding not to go with that, if you see what I'm saying. An important part of the stimulus that is being offered in the optimal control exercise is the fact that the Committee is willing to keep rates low, even though it is tempted to raise rates to fight inflation. It comes back to this conversation I had with Brian yesterday: Are we keeping rates low because we think the economy is going to be bad for a very long time, or is it because we are trying to provide extra stimulus? I think the people in the model, the optimal control exercise, know the answer to that. I am not so sure that people reading the statement will be so clear on it.

CHAIRMAN BERNANKE. I guess I would just point out that in the particular simulation the regret is pretty small because inflation is essentially 2.

MR. FISHER. That's true.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. It is certainly the case, the way you describe it, that a policymaker optimizing is going to make this choice and then later is going to be tempted to make a different choice. We somehow, though, are willing to be totally agnostic about something like a Taylor rule, whether it be 1993 or 19 99. We just put that on the table, and we don't describe whether or not the policymaker would want to deviate. If I wanted to get worked up about something like this, I could propose something like, what if we looked at Taylor (1999) plus two meetings beyond that? That is a perfectly fine rule. It all comes down to the public basically understanding we are in this for quite some time relative to how we look at this. I don't see a lot of value added beyond that.

MR. KOCHERLAKOTA. Yes, if I might, Mr. Chairman. All I was trying to suggest is that I think the public is confused about whether or not the Fed is keeping rates low because it thinks the economy is going to be bad over this stretch, or it is keeping rates low because it is providing extra stimulus beyond that. In the optimal control exercise that parsing is done by the agents in the model, and the statement is not guiding them, in my view, effectively on that.

CHAIRMAN BERNANKE. My plan, if asked the question in the press conference, would be to say that there are a number of factors involved, including the outlook, the desire to provide additional stimulus to compensate for the zero lower bound, the downside risks—I think a story that says that there are a number of things that lead us to this decision would probably satisfy the public.

MR. KOCHERLAKOTA. The press conference does provide a way to provide some color.

MR. ENGLISH. As I mentioned, we did make one change to the statement in paragraph 2, pointing out that the gradual pickup in the pace of growth that is projected is supported by the highly accommodative monetary policy, and that may give at least a flavor of what you were getting at.

MR. KOCHERLAKOTA. That's true.

CHAIRMAN BERNANKE. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. Bill, the April 17 staff memo provides very useful background for the paragraph 3.1 proposal in alternative A for a maturity extension program. One thing that wasn't addressed in that memo was the potential impact of the Treasury's debt management policies. And I ask about that because, although I think we all realize the direction in which those policies affected our maturity extension program, I have been surprised by a couple of recent papers about the possible magnitude of the impact of the Treasury maturity extension on the efficacy of the MEP. I wondered whether you or Brian or both had any perspective on how the Treasury's current debt management plans would offset the efficacy of the proposal in 3.1 of A.

MR. ENGLISH. You have to be a little careful in talking about "offsetting." I think the issue there is that the Treasury has a plan; it is going to do whatever it is going to do. As long as it doesn't change that plan in response to your decision to do an MEP or not to do an MEP, then the marginal effect of what this Committee does is whatever it is. That's what we have calculated in the memo.

The question is, is there feedback? As the Committee engages, say, in a new extended MEP, and that makes long rates lower than they would otherwise be, does the Treasury shift its issuance into those longer maturities in order to take advantage of those lower rates? Our interactions with the Treasury suggest that is not true, and that it has a plan—it has had it for some time—to extend the average maturity of its outstandings. It is implementing that plan. That plan is understood in the market, and there is no change to what it does because of what the Committee does. That would suggest that the effects of implementing a new MEP are exactly what we described in the memo. Brian, do you have any further thoughts?

MR. SACK. No. I completely agree. The Treasury's debt management decisions have been lengthening the average maturity of the debt, but not in response to our programs or to yields. In fact, the major debt innovation that is on the table today is to issue floating rate notes, which goes in exactly the other direction by putting less duration into the market.

MR. TARULLO. Regardless of what the preexisting plan was, it presumably had a non-trivial, and by some measures quite significant, effect in that the simultaneous extension of maturity of Treasury debt with our programs did offset one another to some degree, not perhaps in a responsive sense but in a market sense, right?

MR. ENGLISH. But the way to think about it is if the Committee, say, decided to not do an extension of the MEP, and the Treasury continues with its program of extending the average maturity of their debt, then that is going to push up longer-term rates a little bit because it is going to change the distribution of outstanding debt. That is built into the pricing of assets today. You can take your action and provide additional accommodation by pushing against that or not.

MR. TARULLO. No, I understand that, but—

MR. SACK. Yes. The Treasury's decisions affect the duration in the market through the same mechanism that we have talked about in terms of the effects of our programs. And, indeed, a lot of the empirical analysis, including the affine-term-structure model and a lot of the regression models, actually have a factor in there for overall debts supplied to the public, not just our balance sheet, so they find this effect more broadly.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. If I could just follow up. This goes to the relationship of the Committee with the Treasury. This is sort of a critical thing, and there is an open question in my mind. Did we ever seek an understanding with the Treasury that it would not offset, in the sense you described, by adjusting its debt issuance policies?

MR. ENGLISH. I wouldn't say "we sought." We had conversations with them to see what the Treasury's management plans were.

MR. LACKER. Did we ask them before we did this what they would do, or at any time did you ask them, would you respond?

CHAIRMAN BERNANKE. I had conversations with the Secretary, and he indicated that they had made plans based on debt management principles and consultations with the Treasury

Borrowing Advisory Council, and so on, and that the Treasury did not intend to "take advantage" of the lower rate structure that the Fed was providing.

MR. LACKER. Okay. So he volunteered that, in other words.

CHAIRMAN BERNANKE. There has been no issue of independence here. Yes, he volunteered that.

MR. LACKER. Okay. Thanks.

CHAIRMAN BERNANKE. Any other questions for Bill? [No response] If not, we can begin our go-round, and I will start with Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I support alternative B. My outlook has changed very little during the intermeeting period. I have, however, altered my SEP projection. I've taken on board the decline we've seen in the unemployment rate since the January SEP, a decline I did not anticipate, and like most of you, I've moved up my projected time of first tightening.

Given that my current estimate of the appropriate time for liftoff is mid-2015, I remain quite comfortable with our current policy guidance. This policy judgment reflects the fact that we are far from full employment. My outlook is for only gradual progress in meeting that objective, and I anticipate that, under our current forward guidance, inflation will remain near or below 2 percent over the entire forecast horizon. Considerable uncertainty attaches to both my unemployment and inflation forecasts. Even taking such uncertainty into account, I see the odds as very high that unemployment will exceed its normal longer-run rate at the end of 2014. My preferred liftoff date is later than would be consistent with Taylor (1999), a policy benchmark that I consider useful, especially in normal times. But Taylor (1999) is not the only relevant benchmark, nor, given that we are constrained by the zero lower bound, are these normal times.

My views are particularly informed by optimal control simulations, and these now call for the funds rate to remain near zero until late 2015. I consider the optimal control path described in the Tealbook highly attractive. Inflation remains close to 2 percent throughout the forecast period, peaking at 2.3 percent, and unemployment declines notably more quickly than under Taylor (1999), reaching its normal longer-run level in 2016. I recognize, of course, as President Kocherlakota pointed out, that the optimal control strategy requires commitment, and it is questionable whether this Committee can or should commit its successors to follow policies they have chosen that a later Committee would consider undesirable when the time comes. Moreover, such promises might lack credibility. In this regard, however, it is worth noting that the main reason for regret in the staff optimal control simulation stems from the fact that along the optimal control path unemployment undershoots NAIRU for a period of several years. I don't think the regret reflects any significant or persistent overshoot of the Committee's 2 percent inflation objective. The problem is that the loss function embodied in the simulation treats an undershoot of the unemployment goal as welfare detracting, a view that is inconsistent with many theoretical models of an economy dominated by monopolistically competitive firms. In my personal view, such outcomes are mainly undesirable if they result in a significant miss on our inflation objective, something that is not the case along the Tealbook baseline optimal control policy path.

To my mind, optimal monetary policy must also take into account the constraints that have long been imposed on policy by the zero bound, a unique feature of the environment that makes it non-normal. Reifschneider and Williams have shown that an effective strategy to compensate for the Fed's inability to provide adequate accommodation due to the zero bound is to hold the funds rate lower for longer than would otherwise be the case. I find this logic compelling, and it motivates for me a policy path that lies between the optimal control path and Taylor (1999).

My preference for such a path is also motivated by risk considerations. There are, of course, risks that economic growth will prove more robust than in the Tealbook baseline, and inflation could accordingly come in higher. Given the substantial headwinds to economic growth that I see, I consider such risks real but manageable. Should those risks materialize, we have adequate room to respond, and I would certainly be willing to do so by shortening the forward guidance. Meanwhile, downside risk to the forecast remains significant. My own view is that the risks remain asymmetric. The potential for renewed financial market strains relating to European developments is very real, and as the year-end approaches, another debt ceiling deadline looms along with the possible fiscal train wreck. Should such downside risks materialize, the zero lower bound will impose significant impediments to an adequate response.

I also share the concern discussed yesterday by Governor Tarullo that if a return to full employment is too prolonged, we risk higher structural unemployment as a consequence, or hysteresis. Even with symmetric risks, the seriousness of the resulting economic losses and the greater difficulty in responding should downside risks materialize create an intrinsic motive for additional policy accommodation now.

I have argued that it is appropriate to leave policy unchanged. I also consider it prudent to do so. We should be careful not to jump the gun in responding to incoming data, and as I noted in my economic statement, this is the third April in a row where the Committee will have upgraded its outlook. In the previous two episodes, we reversed course in the ensuing months. Let’s avoid déjà vu, and let’s especially avoid the market disruption that would result from tightening policy when there is a substantial chance that the need will arise to reverse course later on. Our policy guidance is certainly not unconditional, but I think we should be reasonably confident that the outlook, or the risks to the outlook, have changed before altering it. Acting prematurely would surprise the markets and could damage a fragile recovery.

I believe it is also important for us to remain prepared to provide additional monetary accommodation as warranted to foster a stronger economic recovery in the context of price stability. Indeed, if incoming information points to a weakening of the outlook or a widening of downside risks, I would see a very strong case for initiating another round of the maturity extension program, conceivably involving purchases of some combination of mortgage-backed securities and longer-term Treasuries.

One final note about monetary policy communications. I continue to see the publication of our policy projections as a significant positive step in terms of transparency, but I think we need to consider some further adjustments at this stage. First, to facilitate our internal deliberations, I think it's essential for the summary packet that's circulated to Committee participants to start identifying the SEP projections by name rather than with random ID codes. Second, to enhance the clarity of our external communications, we should give serious consideration to President Lockhart's suggestion of publishing additional SEP exhibits that would distinguish between permanent members and rotating participants, for example, by using diamonds and circles in the dot plot of the policy projections. At any rate, I'm sure that our subcommittee on communications would be happy to look into such approaches and come back to the FOMC with some specific recommendations for your consideration. Thank you.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. Given the recent data, my current anticipation is that conditions are likely to warrant exceptionally low interest rates through mid-2013, and that we would raise rates then. Obviously, the majority of the Committee at the past two meetings has favored instead the view that conditions are likely to warrant exceptionally low interest rates through late 2014. The Summary of Economic Projections indicates some movement in views about the course of the funds rate, but one can debate the magnitude of that movement.

Independent of our views about the particular date at which we launch or liftoff, as it were, I think it was clear at the previous meeting that we have some work to do to understand and come to terms with the conditions under which we would alter our calendar-based forward-guidance language; in other words, how we manage this language. It presents some difficulties in how we're thinking about this. That's what I'd like to spend a little bit of time talking about. I'm going to argue that we should not hesitate, if our forecast changes, to change the forward-guidance language, and I think this could be pressing sooner rather than later. The Tealbook now expects the funds rate, as I read it, to rise in the first quarter of 2014. In January they were expecting the fourth quarter of 2014. The SEP has shifted. It's not obvious from the dot picture just when in 2014 people expect the rise, and you could make a case that the median has perhaps shifted from late to mid-year.

Now, I can understand the argument for not engaging in too much fine tuning of the forward guidance because it conveys a sense of spurious precision. After all, when we're away from the zero bound, we don't adjust the federal funds target by 5 or 10 basis points, although there was this unfortunate episode in the late 1970s when we used one-eighth increments at a time when inflation was accelerating by leaps and bounds. But that aside, we generally wait until 25 basis points is what we think the funds rate should change by and change it by 25 basis points. That's essentially become our minimum tick size for policy changes. By the same token, we don’t wait until we think the funds rate needs to change 100 basis points and change it 100 basis points at a meeting. That would keep us on the sidelines too long and would make the changes, shall we say, interesting in financial markets, right? It would generate a fair amount of volatility, it’s fair to say. And I don’t think anyone would have advocated waiting until we’re sure and then changing interest rates 100 basis points. What we need to figure out is our minimum tick size for calendar-based forward guidance.

We’ve used the term “mid-2013,” and we’ve used the term “late 2014,” and that seems to imply that the tick size is one-third of the year, a trimester, four months. The calendar-based guidance is either early, mid, or late whatever year you’re talking about. The critical question becomes if our forecast changes by one-third of a year, shouldn’t we change the forward-guidance language? I think the obvious answer is that we should, when the projection of the median Committee member changes, the workable consensus of the Committee members, voting Committee members, participants—however you want to think about the decision process. When that forecast is shifted by four months, we change the forward-guidance language.

I’ll mention, by the way, there was an interesting piece on MarketSOURCE on Monday, which reported on attempts to measure the federal funds rate change equivalent of a one-trimester change in our forward-guidance language, and the answer was 75 basis points. Now, that suggests that the appropriate tick size is a ninth of a year. I don’t even know how many weeks that is, but I’m not advocating that we change our forward-guidance language by increments of one-ninth of a year, just to be clear about that. But that does bolster the case that in terms of our traditional metrics, at least one attempt to quantify the equivalent size of the policy change leads to an answer that gets you in the right ballpark.

There might be a reluctance to move the forward-guidance date even if the forecast has moved by at least one-third of the year because it would represent the first tightening move—this language came up at the previous meeting—and markets would immediately price in a very rapid exit. I don't think that's a persuasive argument, and that doesn't make sense. We should be thinking in terms of several small adjustments so that perhaps the first inward adjustment is going to be a big deal, but over time markets come to anticipate that these things move in and out, and over time they'll respond less to any one change than they would to the first one. The longer we hold on to late 2014 and then the larger the adjustment we would make when the time comes, say, to late 2013 or to early 2014 rather than mid-2014, then the larger the reaction will be. That's analogous to waiting until we want to make a 75 or 100 basis point move. We don't do that for good reasons; we make smaller increment adjustments.

You might argue that the first move of interest rates in a tightening cycle gives rise to expectations of a sequence of interest rate increases, and so that might be a reason that we should think about our first inward movement of the forward-guidance language as maybe more consequential than you might think. But that analogy breaks down because a forecast is a forecast, right? If you change your forecast, if you expect that all the subsequent changes in the forecast are going to be in one direction, then it's not your forecast. If you change to mid-2014, and you believe that it's much more likely to change to early 2014, late 2013, then that's not a forecast, that's a biased forecast. It's not really accurate, right? It ought to be if you're forecasting late 2014 that it's equally likely to be sooner or later. It's the balance of risk, that's why it's a forecast. It's the middle of the distribution of potential dates. I don't think this sequence of moves analogy is the right way to think about it. I'm arguing here for this general principle that as long as we're going to employ this calendar language, as long as we're going to live with this, that we alter it honestly and faithfully when our forecast changes.

The threshold question then is: Has the forecast changed from late 2014 to mid-2014? And, frankly, under our current procedures, it's really hard to tell. If you look at the Summary of Economic Projections, a couple of dots have moved up, some of them are off the floor, some of the ones in the middle have gone up, I guess. It's hard to tell. We don't ask about it in the SEP, and given our use of calendar language guidance in the statement, it strikes me that it would be useful to make that a part of the SEP disclosure, since we're putting in this calendar guidance, to ask which trimester do you believe the takeoff is in? Now we just ask about the year, and you get the year-end number. You could look at the dots and say, well, the ones that are on the floor for sure, they don't see a takeoff then. There are three at 50—that's probably indicating that they didn't raise rates until the last trimester. But what about the ones at 1 percent? Did they start in September or did they start in July, go up a little, and wait a bit? You don't really know what's going on there. I'd advocate that as we go around today, we each report which trimester we believe the liftoff is. That would help our deliberations.

For my part, as I said, mid-2013 is when I expect the liftoff. I'm clearly not the median. I'll dissent if the statement isn't close to that for reasons that I've discussed before. When the growth rates of real output and employment pick up, we'll need to increase rates to prevent a rise in inflation. We should be thinking of preempting a dramatic rise in inflation—that should be our goal. Our credibility for a commitment to 2 percent inflation is relatively high. We deserve more credit for keeping inflation steady over the past couple of years than we get in popular coverage of us, but to me that means that waiting until that credibility noticeably erodes is setting too high a bar for policy. Waiting until we lose the credibility we've won is just too stringent a standard. And my sense is that we'll need to do that next year. This is all predicated on the continuing use of the calendar-based language.

I admire President Plosser's suggestion for a kind of a traverse away from the calendar guidance by introducing the language that Bill English described at the end of A and the end of C, the description of conditions—running them in parallel for a couple of meetings and then dropping the calendar guidance. The one thing I'll comment about that language is that it's reminiscent of what around Richmond we called the "would–might" clause, and this isn't m-i-t-e. It's m-i-g-h-t. In the directives in the 1980s and 1990s, we had this clause that was published after the next meeting, and it would list a bunch of conditions and say either "would" warrant tighter conditions or "might," and "would" was viewed as more strong than "might," and so that was our way of signaling our tilt or bias about the next rate change. Apparently the practice was to tinker with the order of these things to send subtle signals to markets, and I wouldn't want to get into the business of us tinkering with the order of these things and trying to get too fancy about it. Just putting it in as more or less boilerplate language that describes how we think about this would be the right approach to that.

Then I want to comment on the language innovation in paragraph 2 of B in the second sentence. It says, "The Committee expects economic growth to remain moderate over coming quarters"—that's great—"and then to pick up gradually"—that's great—"supported by highly accommodative monetary policy." This ties highly accommodative monetary policy to gradually picking up growth. This, as I read it, seems to say that we are going to maintain highly accommodative policy, even as economic growth picks up gradually. I don't view us as having discussed that a lot. This strikes me as more forward guidance, forward guidance in another guise. It strikes me that it doesn't belong in paragraph 2, which I think Dudley's doctrine is that—

VICE CHAIRMAN DUDLEY. Paragraph 1.

MR. LACKER. What?

VICE CHAIRMAN DUDLEY. That's paragraph 1.

MR. LACKER. Well, no, paragraph 1 is about the data. Paragraph 2 is about our forecast, and paragraph 3 is about our policy. That's what I thought of as the structure we were gravitating to. Plus it seems to race to take credit for a gradually improving recovery. It seems to be a bit of patting ourselves on the back. I don't support this last clause here. We should drop "supported by highly accommodative monetary policy." I don't think we want to double the forward-guidance language. If we slip it in there, then it's going to be hard to take out without being viewed as sending some signal, and it just complicates our policy communication. Thank you very much, Mr. Chairman.

CHAIRMAN BERNANKE. Just the logic of it is that paragraph 2 is supposed to motivate the policy action in paragraph 3. Without that, we're sort of saying things are going to get better. Then the question is, why are we maintaining policy so low for so long? That's the conditionality that is trying to be expressed there. But obviously we can talk about that phrase. For the record, the median voter's view of policy is 1 percent at the end of 2014, so it's close.

MR. FISHER. What was that, Mr. Chairman? I'm sorry. I couldn't hear you.

CHAIRMAN BERNANKE. The median voter's SEP projection is for the funds rate to be 1 percent at the end of 2014. Are you supportive, by the way, of the idea of separating the rotating and permanent members as Governor Yellen mentioned?

MR. LACKER. It seems a little fussy to me.

CHAIRMAN BERNANKE. Fussy? Okay. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I'm going to be arguing in favor of broken analogies. [Laughter] The Tealbook forecast has the unemployment rate above 7 percent and PCE inflation below 2 percent in 2014. I agree with this forecast, which would imply to me that we should not be tightening until 2015. I would also highlight that the SEP central tendency for real GDP in 2014 is lower than January, and the central tendency for unemployment in 2014 is 6.7 to 7.4 percent rather than the 6.7 to 7.6 in January, which I view as virtually identical. With our forecast the same, there's no reason to change our guidance. Thus, I'm comfortable with option B.

However, such weak economic growth does raise the issue of why we are not trying to do more to promote a faster recovery. One potential reason is that monetary policy is not able to promote faster economic growth. Yet, empirical work by my staff highlights that monetary policy currently operates similarly to previous periods, with the exception of residential investment. Thus, it is broadly consistent with the staff memo on the attenuation of monetary policy. So if monetary policy is still effective and if we have unemployment above 7 percent in 2014, should we do more? I think the answer is yes. At this point, I would focus on using language to provide further stimulus, which has proven to be surprisingly effective. As I highlighted yesterday, I view our language as not helpful to reducing uncertainty. My preference would be to adopt language that employs so-called triggers. That is, we will not consider raising rates until the unemployment rate hits 7 percent or the inflation rate is forecast to be persistently higher than our target. That does not seem to have sufficient backing at present, so let me suggest an alternative. The alternative would be to adopt language similar to my analogy yesterday on military withdrawals, which conveys the date holds unless there is significant and material change in the conditions on the ground. For example, we could add a sentence after "2014" in paragraph 4 that says, "The Committee expects that only very significant revisions in its economic assessment will alter its forward guidance of exceptionally low levels for the federal funds rate." This would highlight that minor changes in our forecast would not alter our liftoff date. Earlier liftoff dates would be viewed as a tightening, and because we rarely quickly reverse direction, it is likely to be viewed as the start of a series of tightenings, which will cause the market to tighten much more than we may wish to imply by our change of language. Given the fragility of financial markets, the downside risk at the end of the year, and the forecast for a very slow recovery, we should be careful that our language does not inadvertently remove much-needed stimulus. Perhaps the best way to do so at present is to use language similar to my suggested alternative that conveys a greater commitment to keeping rates at exceptionally low levels through 2014. Also, I support the suggestions by Governor Yellen to look for further improvements in the SEP process. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Although I don't think today is the day to change our policy stance—in that sense, I think alternative B is the right direction to go—I do think it is very likely that economic conditions will warrant a change in policy considerably sooner than 2014. Indeed, based on my forecast, I believe it will be appropriate to begin reducing the level of accommodation as soon as either late this year or early 2013. Given the large error bands around our forecast, especially those two or three years out, I am concerned that our signaling that policy is likely to remain on hold for two or three years is potentially having more of a detrimental impact than a positive one on the real economy. As President Rosengren said yesterday, many business people come to me and say, "Does that mean you think the world is going to be terrible for the next three years? Why do I want to invest now? I am going to wait." There is still great confusion as our discussion continues about what the 2014 date means. We need to get away from the calendar date language and move to more state-contingent language that better links the changes in economic conditions to the changes in our policy. Clarifying for the public what factors guide our policy decisions would help keep inflation expectations well anchored and yield better economic outcomes.

There are two views that seem to be expressed around this table in various degrees about the calendar date language. One is that it is a commitment, and the commitment largely flows from models in which you are trying to target the price level as opposed to inflation. The big challenge with that framework of course is, can we commit, and can we deliver on a credible commitment to do so? Another interpretation is that it is a forecast, and if it is a forecast then the dates should be moving around as our forecast changes. There is a variety of views around this table about which of those is in action here. Our strategy seems to be a little bit of both of them. That is difficult to sell to the public because it leaves them confused as to what we are doing and why. If we want to make a commitment to a price-level target, we should do that, and then explain that is what we are doing. If we want to make a forecast, then the date ought to change and we ought to tell the public what our forecast is, what it depends upon, and then what are the things that will change it.

I am less enamored with optimal control solutions, particularly of FRB/US, and what they tell me. What we know from our memo that we received before the March meeting about optimal control in different types of models is that optimal control solutions can vary a lot depending on the model you write down and can give you very different paths. So I am dubious of relying too heavily on a particular model's optimal control, which is why I prefer the more robust rules that the Tealbook reports on, whether it be Taylor (1999), Taylor (1993), a first difference rule, or outcome-based rules. I think we need to move in that direction and move away from calendar dates. My suggestion, of course, would be, as I propose in the language, to split the difference and begin introducing the factors that actually go into our forecast and the things that we will consider as we try to move policy around.

For some good reasons, the Committee has resisted the temptation in previous meetings to move to either a price-level target or a level of nominal GDP target. And so, in my view, the "2014" language leaves us in kind of "Never Never Land." We are neither fish nor fowl. I think that is very confusing to the public, and it is something we need to move away from. There is not an easy solution to this. I proposed one to consider, but we need to move away from the calendar date language to a more contingent statement. I will just leave it at that, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Staff corrected me, the median voter's projection is 75 basis points at the end of 2014. President Evans.

MR. LACKER. I'm sorry?

CHAIRMAN BERNANKE. The median voter's projection is 75 basis points.

MR. LACKER. I don't see a dot there.

CHAIRMAN BERNANKE. Well, there are 10 votes.

MR. LACKER. So it's in between—I see.

CHAIRMAN BERNANKE. Between the fifth and the sixth.

MR. LACKER. I just wanted to clarify that.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. First off, I would like to say I agree with everything that Governor Yellen said. I thought that was a terrific statement of the situation. I favor a strongly accommodative monetary policy stance that reduces resource slack more quickly than our SEP and Tealbook projections. The preponderance of macroeconomic analyses indicate that this can be done without generating inflation above a rate that would violate our agreed-upon balanced-approach consensus policy framework, and most likely inflation would not increase to anywhere near those upper thresholds. That is evident from the Tealbook B, and the comments that Janet made.

Displaying a greater commitment to the optimal control monetary policy makes a lot of sense to me—it would generate better outcomes. The comments about how we should keep the funds rate lower longer—that would be excellent. I agree with President Rosengren's suggestion that the change to our calendar date language should meet a heavy burden before we undertake that.

Now, recognizing that in fact alternative B is the front-runner today, I would like to argue for at least maintaining the status quo within our implementation of alternative B. That is, unless a subtle policy tightening is intended today, how can the calendar date policy intentions from last August, January, and March be maintained in their effectiveness when we implement alternative B? I have in mind that we are facing a couple of dilemmas with our implementation along the lines of some things that President Kocherlakota and President Lacker have already mentioned. First, we have to remember that back in August when we introduced the calendar date language, it came with three disagreements from the voting members. In January, we picked up another disagreement, so there are differences of opinion clearly. And according to our SEP submissions, and a very vocal public commentary as we go out and talk, there appear to be six participants who prefer much less accommodation with a federal funds liftoff in either 2012 or 2013. From this observation, it seems to follow immediately that the SEP projections cannot impart the status quo forward guidance intended by the August, January, and March FOMC statements. A different choice was made than was evident in the SEP.

To recap, dilemma number one, SEPs don't seem to work in clarifying our "late 2014" forward guidance. That is a feature. We just can't point to the SEPs and hope that the public is going to figure it out. So now what? Second dilemma, describing "late 2014" as simply a forecast is incomplete, and I would say misleading. And as Narayana mentioned, the public is confused over how we are talking about this. Our scenario exercise yesterday and Govenor Yellen's speech last week provide the explanation for why just a forecast is an incomplete explanation.

A statement that conditions will likely lead the FOMC to keep the federal funds rate at zero "at least through late 2014" combines three features—one, an outlook for the economy; two, an assessment of inflation pressures; and, three, very importantly, a concrete view of how the FOMC will alter the federal funds rate when the economy and inflation outlooks change. This last condition is a statement of the Committee's, or at least the core of the Committee's, monetary policy reaction function. Now, yesterday President Kocherlakota was optimistic that we are not far from a common reaction function, and I would certainly delight in discovering that that is true, that we have such a thing, but the SEPs, at least, suggest differently. Effective communication of our "late 2014" guidance requires, first, adequately describing the monetary policy response function that was intended by the August, January, and March decisions. Then we assess whether the forecast is different, whether output is growing faster or slower, unemployment is improving, and what not. But we have to give the public some idea of how we are responding.

Mr. Chairman, all of your research on monetary policy, VARs, empirical reaction functions, and the like make things like that abundantly clear. An example would be to describe something like a Taylor (1999) reaction function. Janet started this ball rolling in public. We have started discussions today. Various staff analyses have suggested that there is, in fact, a basis for that within so many of the things that we talk about. But six SEP participants clearly have different views, so it strikes me that unanimous consent seems beyond our grasp on this issue, and, frankly, only your comments at the press conference can clarify what is really meant by alternative B guidance. It is more than just a forecast. Thank you, Mr. Chairman.

MR. LACKER. Mr. Chairman?

CHAIRMAN BERNANKE. Yes.

MR. LACKER. President Evans, I used "forecast" in a different way than you are using the word "forecast," and I want to make sure we understand each other. When I forecast the economy in late 2014, I can't do that without thinking about what policy is going to be, and not only that, but even what policy is expected to be beyond late 2014. I think of the word "forecast" as a joint exercise of forecasting us and the economy interacting over the next several years. And yet you seem to distinguish the forecast for real output and inflation—I mean, you seem to be saying that this isn't a forecast. You seem to be using it in some more narrow sense that I don't understand.

MR. EVANS. It contains all three of those elements. It appears that we are in total agreement on what something like that means. Whether or not we can carefully explain that to the public so they don't get confused, that because GDP went up it must be the case that now the calendar date is going to move forward by X months. Maybe it is going to be monotonic, and it is always going to move up. But how big is X, and where are we starting from?

MR. LACKER. Did you say the forward-guidance language isn't a forecast? Did I hear you right?

MR. EVANS. I said it is a combination of all three of those elements.

MR. LACKER. You mean it is a combination of forecasts of all three of those things.

MR. EVANS. It is all simultaneous, sure.

MR. LACKER. Okay. We agree.

CHAIRMAN BERNANKE. We differ on our projections of the rate for two reasons. One is our forecast of the underlying forces of the economy. Some people are more optimistic, some are more pessimistic. And, secondly, because we have different reaction functions. If we all had the same reaction function, the problem would be solved because even if we differ on the economy, we could at least state the conditionality for our policy action.

MR. LACKER. That's clear.

CHAIRMAN BERNANKE. That's the problem we have.

MR. LACKER. Yes.

CHAIRMAN BERNANKE. I want to reiterate that I take some blame for the problem we have here because I really did think that we would be able to come to some kind of conditionality, but we haven't been able to do that yet. But I have amazing optimism about the ability for us to figure this out sometime soon. [Laughter] President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I generally support alternative B for today. The current policy stance is already highly accommodative. Economic performance so far in 2012 has been better than forecast as of late last year. I counsel a wait-and-see stance for today as we gather more information on the progress of the economy during 2012. My own forecast suggests that we will have to move the date of the first policy rate increase forward somewhat, but I am willing to put that issue aside for now as we wait and see how the economy develops.

I think our baseline narrative on the economy is a little bit inconsistent. It emphasizes relatively large amounts of slack in the economy but does not predict rapid economic growth going forward. One important aspect of an economy far from its equilibrium balanced growth path is that a fairly rapid return to that growth path is a reliable feature of the data across times and places. We say in response to this that there are important headwinds that are preventing these snapback adjustment dynamics. To me, these headwinds, which are indeed substantial, are better viewed as longer-term adjustment issues than as part of the business cycle dynamics to which monetary stabilization policy normally applies. In effect, we are saying that a sharp rebound in economic activity is just around the corner every day.

We are now coming up on three years past the end of the recession, and this snapback has not happened. The natural conclusion, as President Kocherlakota was discussing yesterday, is that much of the business cycle adjustment has already occurred and that the economy has been permanently scarred in some respects by the very large shock of 2008 and 2009. A Hodrick-Prescott filtering of the data using staff forecasts several years into the future tells this story quite well. My sense is that as we go forward under the staff projection of the pace of economic growth, we and other observers of the U.S. economy will continue to come to the conclusion that potential output is lower than initially conceived at the end of the recession in mid-2009.

I would emphasize that some areas of the economy are doing quite well, even as housing and real estate markets remain at low levels of activity. Information technology, for instance, is, according to my contacts, in the midst of a scramble for labor resources. Workers outside that industry will not be able to participate there, so there is certainly some element of mismatch at a macroeconomic level. Other relatively strong sectors include energy and agriculture, both of which more easily attract workers from other sectors. I would like to comment that while it is true we have seen false dawns before, that is not a reason to assume a false dawn in 2012. We can afford to be patient on that issue, and I would like to commend the staff for the naming of the alternatives in the alternative scenarios. I think they are fantastic. Great piece of work on that.

I appreciate the risks of the "Fiscal Cliff" scenario, but I would also emphasize that the United States getting its fiscal house in order is a net positive, and I think we should always be emphasizing that. Some of you might remember the study by Steve Cecchetti and coauthors that was presented at Jackson Hole last year, which estimated that a 90 percent debt-to-GDP ratio was a rough rule of thumb for when a country had so much debt that it started to become a drag on economic growth. The United States, by some measures, is above that threshold. Getting that fixed would be a net positive for the U.S. economy.

I agree that the risks on U.S. policy are not symmetric, but I disagree with many around the table on the shape of that asymmetry. The risk learned the hard way in the 1970s is that, in the immortal words of many macroeconomists over the years, "You don't want to let the inflation genie out of the bottle." It is very difficult to get the inflation genie back into the bottle. That was the lesson of the 1970s. The 1970s were a global debacle. In the United States, there were four recessions in 13 years, double-digit inflation, and double-digit unemployment. This is where the risk is. In that scenario, the Committee would be forced to raise interest rates in uncomfortable circumstances. We would be returning to stop–go monetary policy. However, I think that renewed slowdown can actually be met very effectively with additional quantitative easing. This is a policy that has worked well in the past couple of years while we have been at the zero policy rate. To me the risks are on the side of not returning to the 1970s in the very uncertain circumstances that we operate in today. The risk is overcommitting to the ultra-easy policy that we are currently conducting.

I find the staff optimal control exercises interesting but wildly model-dependent. In those exercises, each idiosyncrasy of the model is exploited for maximum effect. It is unwise to put too much weight on those simulation outcomes in an environment where much of the uncertainty we face is model uncertainty. Many important aspects of real-world macroeconomics are not receiving satisfactory treatment in our models. Perhaps a leading candidate among many is that financial crises and sovereign debt crises are not appropriately addressed. In my mind, this suggests extreme caution in overinterpreting optimal control exercises coming from clearly inadequate models. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. I support alternative B based on the general tenor of recent data, improving forecasts particularly for the unemployment rate, and my own forecast that inflation will average close to 2 percent. My preferred path for the funds rate recognizes that substantial policy accommodation may need to remain in place for some time as the unemployment rate remains elevated and improvements in the housing sector remain modest. Even so, I believe it is important that we begin to lay the groundwork for our exit strategy in order to reduce the risk of unintended consequences related to the current stance of monetary policy.

Turning to the statement, I generally agree with the description that modestly upgrades the characterization of current economic conditions and the outlook from the March meeting. In addition, the current SEP projections for the unemployment rate do show improvement since the January projections. In my view, and consistent with the language in the statement, the forward guidance embodied in the late 2014 date is a forecast by Committee members of when the federal funds rate is likely to be increased for the first time. I do not believe it is, or should be, viewed as an unconditional commitment. So in comparing conditions now with those during the January meeting when we moved the date from mid-2013 to late 2014, I think markets and the broader public may likely find it hard to understand why the late 2014 date has not been changed to reflect the firmer outlook. Moreover, acknowledging that the outlook has improved by shifting the date could also have a positive effect through confidence and expectation channels. Thank you.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. In thinking about the monetary policy decision in the statement, I found myself referring to what I have found over the years to be the most useful resource, and that is the dictionary. [Laughter] In the past, we have had to study what the word “considerable” meant, “measured,” “exigent,” and this time I found myself studying what the word “late” means. Now, there are several definitions of the word “late,” and actually this difference in the definitions may explain some of the disagreement around the table about our language. For example, one meaning of the word “late” is “occurring after the correct or usual time.” I think President Lacker is actually thinking that that is [laughter] the definition we are using. A synonym is “tardy,” by the way. But actually the definition of “late” that I think we are referring to does seem to fit with our statement. It is “toward or near the end of a period.” With that somewhat loose definition in mind, I find that I do support alternative B in the statement as is.

I am growing increasingly concerned that the “late 2014” language is reaching the end of its shelf life. Indeed, I raised my projection for the funds rate for the end of 2014 to 1 percent, with liftoff occurring in the fall of 2014. Nevertheless, the uncertainty around my projections and the meaning of the word "late" is great enough that I can continue to support the current statement language.

Now, I am about to talk about Taylor rules, and I am a little concerned about Vice Chairman Dudley's headache, so I did bring some aspirin.

MR. KOCHERLAKOTA. It will cost you a buck, though.

VICE CHAIRMAN DUDLEY. I'll suffer. [Laughter]

MR. WILLIAMS. My thinking about the appropriate future path of policy is informed by the analysis of simple monetary policy rules, appropriately adjusted for the effects of the zero lower bound and LSAPs. In terms of simple rules, regression analysis shows that the Taylor (1999) rule is a pretty good description of historical FOMC behavior since the mid-1980s, the period of well-anchored inflation expectations. Various staff studies similarly find that the unemployment-based Taylor (1999) rule provides a decent description of a participant's fed funds projections from the January SEP. And, as reported in the Tealbook B, such a policy rule implies liftoff in the first quarter of 2014. But that is not the end of the story. One also needs to take into account the implications of unconventional monetary policy actions and the zero bound in considering the prescriptions of a historical policy rule.

In terms of an LSAP adjustment to the policy rule, the memo by the staff of the Minneapolis Fed circulated by President Kocherlakota was very helpful to my thinking. Tealbook B now reports term premium estimates from the LSAPs, so it is possible to implement that adjustment. But there are reasons to believe that this adjustment overstates the effectiveness of LSAPs. Research on the effects of our LSAP and MEP programs suggests a portion of the term premium effect is idiosyncratic to Treasury markets and does not fully pass through to private rates. That is, for a given reduction in the 10-year Treasury yield, reductions in the term premiums through LSAPs don't stimulate the economy as much as reductions in the expected path of short rates. As a rough attempt to take account of this partial pass-through to general financial conditions, I cut the policy rule adjustments suggested by the Minneapolis memo roughly in half.

Now, even with this adjustment for unconventional monetary policies, we have not been adding as much monetary stimulus as the historical policy rule would call for because of the zero bound. Fortunately, research tells us how to correct for this shortfall. The so-called Reifschneider–Williams adjustment at a zero lower bound argues it is optimal to deviate from the usual policy rule and keep the federal funds rate lower than otherwise for a longer period. Namely, the Reifschneider–Williams adjustment keeps track of the monetary policy deficit that is a cumulative amount by which the funds rate was too high in every quarter because of the zero bound constraint. Once the zero bound ceases to bind, it calls for reductions in the policy rule prescription until this accumulated policy deficit is unwound. Relative to the historical policy rule, we have accumulated a large monetary policy deficit since 2008. And using my forecast for the economy, and after adjustments for LSAPs, the MEP, and the Reifschneider–Williams adjustment, the historical policy rule has liftoff in the third quarter of 2014. I should note that this liftoff is a little earlier than would be implied from using the Tealbook projection, because my forecast has a bit less slack and slightly higher inflation than the Tealbook does.

Let me conclude by commenting on the risks to the outlook, which I view as being mostly to the downside. Alternative A lays out two options that would be appropriate if these significant downside risks to the outlook materialize. Finally, in response to Governor Yellen's questions, I am fine with associating names in our internal presentation of SEPs. I am, in fact, "Respondent 14." I wasn't quite sure about the other idea in terms of what was proposed, but I am okay with voting versus nonvoting participants being distinguished in terms of the public SEPs. Thank you.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. Before I get into my own remarks, I had a question for President Williams about the Reifschneider–Williams analysis. The purpose of offering a correction for the deficit is to stimulate activity during the periods when you are incurring the deficit.

MR. WILLIAMS. That is exactly right.

MR. KOCHERLAKOTA. So, people at the time—2008 and 2009—would have to know that the Committee was planning to make that correction for it to be helpful, is that right?

MR. WILLIAMS. Right. In the model simulations, the way it works is that the public understands and anticipates that you will do this correction. One way I interpret it, if I can go on a little about this, is that the forward language is an attempt to try to align expectations of the public with our policy strategy.

MR. KOCHERLAKOTA. Thank you. Mr. Chairman, clearly, this is not going to be a winning recommendation at this meeting, but I do favor alternative C. It might be helpful to describe my thinking behind that.

I used the Taylor (1999) rule, and so in terms of the thinking about the real interest rate component of that that Vice Chairman Dudley talked about yesterday, I had always been thinking about the output gap piece as being an attempt to correct for the fact that during bad times the real interest rate is low. There is, of course, a question about whether that adjustment is sufficient or not, and that would be a useful discussion to have: If we don't think the Taylor

(1999) rule is doing a good job in the current environment, how can we amend it or think about it? I will come back to that at the end of my remarks.

But I have been using the Taylor (1999) rule largely, Mr. Chairman, since you suggested it as a useful guide for the Committee's thinking in November 2010. I was struggling in that meeting with how to put together the LSAPs and our conventional monetary policy into one bundle. I thought the approach you laid out at that meeting was extremely helpful for me, and I have been going forward with that. From the memos we got from the staff and from Glenn Rudebusch in San Francisco, one could infer that others around this table seem to be using that rule to guide their thinking.

Now, to use the Taylor (1999) rule, we need an estimate of the output gap, and I argued in the economics go-round—and I am sympathetic to the things that President Bullard has already uttered—that I think the output gap is likely to be less negative than the staff's estimate indicates. But for the purposes of thinking about which alternative to choose, for purposes of what the appropriate stance of policy should be, I used the staff's assessment that the output gap is expected to be minus 4.3 percent in 2013. I also need an estimate of inflation. I used the staff's prediction that core inflation will be 1½ percent in 2013. Again, that is considerably lower than my own forecast for inflation, but that's fine—I will use the staff's prediction. So if we put all of these ingredients together—Taylor (1999), staff's prediction for the output gap, and staff's prediction for core inflation in 2013—Taylor (1999) recommends we provide a level of accommodation equivalent to a fed funds rate of minus 80 basis points.

How much accommodation is being provided by alternative C? Under alternative C, the fed funds rate would be between 0 and 25 basis points, which is too high. But we have an additional accommodation being provided through our asset holdings. As President Williams has already remarked, it is great that we have the estimates of the term premium reductions being provided by the time path of assets in Tealbook B. I found this very helpful and could combine that with my staff's work in thinking about how that translates into fed funds rate reductions. Under alternative C, the Minneapolis formula would generate a reduction in the fed funds rate of roughly 120 basis points. Taylor (1999) is recommending a fed funds rate of minus 80 points. Alternative C implies a level of accommodation that is equivalent to a fed funds rate of between minus 120 and minus 95 basis points, so alternative C is slightly overly accommodative relative to the recommendations of Taylor (1999), but it is better than alternatives A and B. I prefer paragraph 3.1 because I see it as less accommodative.

That is a rule-based approach to thinking about the problem, and I will explain to you how I reached the conclusion I did. There are three things about this calculation I see as worth emphasizing. First, it does not take into account any attenuation of the impact of monetary policy. My reading of the very nice memo we got from Chung et al. did not seem to suggest a need to take any attenuation into account. I haven't done the correction that President Williams suggested of marking down the accommodation provided by the LSAPs. I don't think it would actually make a big difference in my conclusion about policy at this meeting.

Second—this is the big thing—I want to emphasize that I treated new and existing asset holdings symmetrically in terms of their accommodative impact. As I just described, Taylor (1999) says to set the fed funds rate to some negative number—minus 80 basis points. Some people will conclude from this result that we need to buy assets to generate more accommodation because the fed funds rate is currently too high. This approach strikes me as asymmetric. It acts like the new asset purchases can provide accommodation, but we should be ignoring the accommodation provided by any assets we have bought in the past. I can't figure out the justification for this procedure.

Third, I emphasized that I used staff measures for the output gap and predicted inflation. Had I used Minneapolis measures for these variables, my analysis would have implied a less accommodative stance than alternative C. In other words, the Minneapolis measures imply that alternatives like A or B are exposing us to a threat of rising inflation.

Let me close by offering two thoughts on what strike me as a key question. I have arrived at my policy recommendation using Taylor (1999), taking into account the accommodation being provided by the LSAPs. Under the Tealbook's modal outlook, using Taylor (1999) as I have, both employment and inflation will remain below mandate-consistent levels for many years to come. Why, then, do I believe that we should formulate policy based on Taylor (1999) as I have? Well, first, Tealbook's modal outlook is not the same as my modal outlook. If I had used Minneapolis measures of the output gap and projected inflation to formulate a Tealbook outlook, I suspect that the dual mandate performance of Taylor (1999) would be considerably better.

But let me get to what I think is more the heart of the issue. Several of us—Governor Yellen, President Williams, President Plosser, myself—have spoken in favor of using simple rules as a benchmark for making policy. President Bullard just did this as well. Using these kinds of rules enhances the effectiveness of policy in a number of ways. They improve the robustness of our decisionmaking to model mis-specification, as President Bullard just emphasized. They improve our ability to communicate a reaction function to the public. They improve the public's trust in that communication by allowing them to easily track whether we are doing the things we claim to be doing. But by their very nature, simple rules will necessarily sometimes imply that we are not doing as well as we could otherwise. If we deviate from the prescriptions for that reason alone, we are essentially just discarding simplicity and all of the virtues that attend it.

Now, there are other simple rules besides Taylor (1999). I am open to considering them. I think that the Erceg et al. memo from March is a useful first step in thinking about how to compare the performance of various rules. But a defect in that memo, from my point of view, is it didn't really allow the Committee to use the LSAPs as a purposeful policy instrument. It was somehow being set by somebody else out there in the world. And the memo only considered rule performance in a limited number of scenarios. It would be good to build on their analysis by evaluating the long-run average performance of simple rules that are adjusted to allow for the purposeful use of LSAPs by the Committee.

I do have hopes, based on what I saw from the scenario analysis, that we could reach a broad consensus within the Committee about a reaction function. That broad consensus may not include me or President Evans, but it may still be broad enough to sustain a robust communication on the part of the Committee regarding what its reaction function would look like.

I thought the approach we adopted of trying to provide more communication about the likely arc of policy through the SEP is problematic, and it's flawed. I have said this before. In terms of solutions, I heard your suggestion, Governor Yellen—you can correct me if I'm wrong—is to put diamonds for the permanent members of the Committee. That does seem fussy to me in the following sense: It seems to be distinguishing between voters. There will be people who are voters now this year that you will be lumping with people who are nonvoters this year and treating them the same in that. That doesn't seem appropriate to me from a governance perspective. All voters should be treated the same.

But at the heart, I agree with what President Evans was saying today. I just think the SEP is structurally flawed as a way to try to communicate about the arc of policy. The statement is our vehicle. You, Mr. Chairman, have the opportunity through the press conference to offer some clarification about what alternative B is trying to say. It needs that clarification, and I am glad you are going to be able to do that. I don't think the SEP is providing that clarification, and there are no simple fixes to it that will allow it to do that. Thank you.

CHAIRMAN BERNANKE. Let me ask you one question—which I don't know the answer to, because I am not a lawyer—about your LSAP analysis. If you are looking at a standard Taylor rule, would it matter if the funds rate had been much lower two years earlier or not so much lower two years earlier? In other words, to what extent does your current setting of the interest rate based on a current Taylor rule depend on stimulative actions that have been taken, say, two years earlier? I think the answer is it wouldn't depend at all.

MR. KOCHERLAKOTA. It wouldn't depend at all, except through whatever the state of the economy is today.

CHAIRMAN BERNANKE. Exactly. So why doesn't that apply to LSAPs? The LSAP actions we took in March of 2009 presumably have spread to the economy. They have had effects on output, inflation, and so on, in the same way that lagged interest rate movements have had their effects. So why doesn't the fact that we are taking into account on the right-hand side the projected value of output and inflation—maybe not entirely because there may be effects still to come, but at least the part of the effect that is already taking place—in some sense already account for that through that mechanism?

MR. KOCHERLAKOTA. It's an interesting question. I have to think about it more, Mr. Chairman. My immediate reaction is that the Committee has taken a purposeful step to reduce the term premium, and that is providing accommodation to the economy, and it is going to continue providing accommodation to the economy. Taylor (1999) is trying to guide us in terms of how to think about what that level of accommodation is. My immediate answer is that we are doing it the right way in terms of treating it in this fashion.

MR. LACKER. Mr. Chairman?

CHAIRMAN BERNANKE. Yes. President Lacker.

MR. LACKER. At the risk of making Vice Chairman Dudley's head hurt, LSAPs are another policy instrument. They kind of belong on the left-hand side in combination. In other words, what is on the right-hand side is an output gap and other stuff, and it drives the funds rate until it gets to zero, at which point the equation drives LSAPs. See what I'm saying?

CHAIRMAN BERNANKE. You are just restating the Taylor rule.

MR. LACKER. Yes. But from that point of view, I think he is right in that you don't—

CHAIRMAN BERNANKE. It's not obvious to me because I think at least some of that effect is already captured in the growth and inflation numbers on the right-hand side, but let's leave that to another time. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. I would like to start by correcting what I may have misstated yesterday with regard to, for the record, the rail shipments, which I said were up 3.6 percent year to year. That is true, excluding coal. As you know, natural gas is substituted for coal. Natural gas molecules are transferred not by train or truck but by pipeline, and I wanted to make sure that is clear for the record.

With regard to the alternatives, let me start with the SEP exercise. I, too, doubt the efficacy of the SEP exercise, but I don't think it is any secret that I am more optimistic than most people at this table. In fact, I am one of the three dots that would advocate policy firming by year-end 2012, although I am not the highest dot. And I am one of the six dots in 2013, although not one of the two higher dots. And I am one of the dots higher up on the scale in 2014, although not the highest of the dots. [Laughter] I will let you guess what number I am.

Even though I am more optimistic than most people at the table, the drift is clearly toward alternative B, which I would support. My sense of the table—and my sense of you, Mr. Chairman—is that there is an overriding concern that we avoid a premature reversal of policy, and that we should be cautious here. We don't want to take the risk that these downside factors or tail risks that everybody has talked about might obtain and derail the recovery that we detect, however weak it may be.

I would accept alternative B. Like Mr. Williams, my favorite book is the dictionary. And I have one concern in the wording in paragraph 1, although I am delighted to see some acknowledgement of improvement in the housing sector, although it does remain depressed. I did not mention yesterday little anecdotal aspects, even though I believe I enumerated thoroughly the data on housing. But you are even seeing it in terms of remittances to Mexico. Mexicans, by the way, build homes in America. And if you look sequentially month by month, remittances are increasing in nominal terms. And then, you look at where they shop, like 7-Eleven, which is their main customer base—March sales are up 6.8 percent year over year, the best performance in five years. So there is plenty of evidence to me, in addition to the hard data, in the anecdotal stories that buttress the fact that there are some signs of improvement in housing. What I take issue with is the word "tentative." According to the *Oxford English Dictionary*, it means “experimental” or “a hostile attempt.” I realize you are probably thinking of it in a different way. The first use of “tentative” was in 1626, and it read as follows: “Falsehood, though it may be a bit tentative, is neither meted nor approved by the soul of God.” I know that doesn’t illuminate anything at this table. [Laughter] In terms of being precise, the word “tentative” is not the right use here, and it is not necessary. I would simply say, “Despite some signs of improvement, the housing sector remains depressed.”

I am not happy, and I haven’t been happy, with the 2014 time frame and voted against it. I doubt we are going to get that changed at this table. I would like to see us move toward a more state-contingent expression. I am supportive of that, but I don’t think now is the time to necessarily do so. I would like to suggest, Mr. Chairman, that we—except for the word “tentative,” which I would recommend striking—take alternative B, and that you use your press conference to talk about the conditionalities you spoke of earlier, and that you not just bias your expressions toward the downside but also point out that if conditions change toward the upside, then of course, we are going to adjust accordingly.

I also have two additional suggestions, for what it’s worth, with regard to your expression at the press conference. We are all concerned about the fiscal cliff, but we have to find the right time—and you are the right authority—if not now, perhaps at the next press conference, to at least make it clear that fiscal authorities have their duties and we have ours, and that one should not look at us as a substitute for the inability or fecklessness of the Congress. I have in mind children, and I can’t think of any proper time to tell your children, “You’d better eat your vegetables, but if you don’t, I have a nice plate of cookies for you to eat,” in terms of monetary accommodation. I worry that the Congress actually, in some cases, expects that of us. I want to be sure that we communicate clearly that they have their job and we have ours.

Then, the second thing I would like to kindly suggest is that you perhaps touch briefly on the kind of risks that Nellie pointed out in her presentation. That is, it might be, if not now, then at some point, propitious to warn that behavioral consequences are beginning to be evident that might be risky. It is our duty, of course, to be mindful of financial stability as well as the two formal mandates that we have from the Congress. For now, Mr. Chairman, I would support alternative B. Again, whether it is at this press conference or the next press conference, I ask you to put the spin on the ball that I just suggested, and perhaps make clear especially that it is important that the Congress get fiscal policy correct and do so in a way that doesn't damage recovery but provides hope for the future. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Those are good observations. Of course, what I have to say will depend to some extent on the questions I get. But I appreciate the input. You were kind enough to warn me about "tentative," so I looked it up as well. The first meaning is "experimental," as you say, but the second meaning in two different dictionaries is "unsure, uncertain, not definite or positive." I think it would be linguistically acceptable, but there may be good aesthetic reasons for dropping it. We will be happy to take that up.

MR. EVANS. We must have used it before in previous statements.

MR. FISHER. But it is—and strike this, please, from the transcript—a bastardization of proper English.

CHAIRMAN BERNANKE. Look, I am still fighting "hopefully." [Laughter]

MR. FISHER. You can leave it in if you wish, but I suggest we take it out, because it's not necessary.

CHAIRMAN BERNANKE. Thank you. I think that is the right argument. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I support alternative B. As I noted yesterday, the incoming data have given me somewhat more confidence that the recovery is now on firmer footing. Appropriate policy, in my outlook, has a federal funds rate liftoff in the second quarter of 2014, and I am one of the dots at 1 percent in 2014. In January, my projection called for a fed funds rate of 75 basis points at the end of 2014. Following the March FOMC meeting, my staff worked to enhance our forecasting framework to include a policy rule that adjusts more cautiously than the implementation of the Taylor (1999) rule that we had been using as a guidepost. The Taylor (1999) rule did not include enough caution in its reaction to incoming data, particularly for the first federal funds rate increase. We chose another policy reaction function, which includes an inertial component. This function worked well when we examined past decision points; it also worked well in the alternative scenario exercise that we discussed yesterday. I view this function as a useful guidepost for appropriate policy, not a rule that needs to be adhered to. Subsequently, it has turned out that this reaction function matches up well with the version of the Taylor rule that Board staff have fit to the Committee’s January projections.

Changes in my forecast since January have resulted in some adjustment of the liftoff guidance, even with this improved guidepost for appropriate policy. As of January, my forecast for GDP growth, employment, and inflation, using the new guidepost, was consistent with a late 2014 liftoff of the fed funds rate. But since then, my projections for economic growth and inflation have moved up while my projection for the unemployment rate has moved down. Now the new policy guide suggests a liftoff in the first or second quarter of 2014, and the fed funds rate reaches 1 percent by the end of 2014.

So why am I supporting maintaining the late 2014 date? Well, I recognize that there are important differences in our outlooks, our reaction functions, and in our views of the long-run unemployment rate. I would prefer, as others have noted today, to use data thresholds to find a greater sense of agreement, but as of yet we have not been able to agree on language describing data-driven thresholds. That leaves us with a date, but it is hard for me to be dogmatic about any particular date, given the implications of normal levels of forecast uncertainty on policy rules. We all routinely acknowledge in our SEP submissions that uncertainty is large, and even that it might be larger than typical. Uncertainty about output, unemployment, and inflation has implications for policy uncertainty. My staff used a model simulation to estimate how uncertain policy is even if a rule is followed mechanically. In their calculations, typical levels of uncertainty surrounding forecasts of GDP growth, unemployment, and inflation implied a 70 percent confidence interval that spans early 2013 through the end of 2015.

In addition to this uncertainty, another reason that I am willing to support no change in the date today is that policy has acted gradually in the past, particularly around turning points, and I support this cautious approach. I also think that there should be a higher hurdle to making changes to the stance of policy, and I am not confident enough about the outlook for economic growth and inflation over the next few quarters to begin tightening policy today. And yet another reason that I support no change in the date language today is that we are constrained by the zero lower bound. As others have noted, if the recovery strengthens, and inflation worsens, we can readily tighten policyTaylor, but we cannot readily ease if further accommodation is necessary. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I support alternative B, including for this meeting, the "late 2014" language, but I would like to register some reservations. First, I think the best course of action for this meeting is minimal change. That said, I'm comfortable with a growing disconnect between the 2014 date language in the statement and my expectation of the policy liftoff date. Even with the conditionality of the guidance emphasized, I'm seeing the "late 2014" language as increasingly untenable. My forecast is similar to the Tealbook forecast, including my baseline assumptions about appropriate policy, and it has been noted by others that the Tealbook has brought forward the liftoff date by three quarters since the "late 2014" language was originally published.

At the last meeting, I was comfortable supporting the "late 2014" language because at that time my forecast showed something closer to mid-2014—this is very similar to what President Pianalto just related. Given the imprecision of forecasting that far out, I didn't see a material difference versus later in 2014. Since then, however, the mismatch between my projected liftoff date and late 2014 has become more pronounced. I still think one way to resolve some of this conflict is to introduce economic conditionality into the statement. President Plosser referred to a state-contingent approach, and President Rosengren mentioned triggers. These are all thematically the same idea. This is not on the table at this meeting, so I'll just register my continued support for moving in the direction of expressing forward guidance in terms of some form of economic thresholds. A move in that direction might allow, in time, dropping the date language. In my view, we need to move the conversation to economic conditionality. This is an appeal to keep trying. Further on that point, my staff did a review of our forecast against various Taylor rule specifications, and we concluded that the liftoff date is highly sensitive to very small differences in economic assumptions in forecasts. Even when we use the outcome-based 1999 version of the Taylor rule described in the Tealbook, we get liftoff dates that vary substantially when plugging in forecasts that, to my mind, are not very different one from the other.

I'd like to also make a couple of points about the draft statement language, and this is in line with what I believe President Lacker said. It's best not to change the language unless required to address some perceived change in circumstances and outlook. The March statement read, "The Committee expects moderate economic growth over coming quarters." I think this characterization is still correct, and I don't see the gain from the proposed new verbiage that distinguishes between coming quarters and the medium term and lengthens, in effect, the horizon of the outlook. As the staff notes, the inclusion of this language may have the effect of sending members of the public to the SEPs for clarification. If this is the case, it would only promote the view that the FOMC statement should be interpreted through the SEPs. Many in the room have questioned whether that really does provide much clarification. I'm not very comfortable with that approach, particularly considering the divergent forecasts of liftoff opposite the "late 2014" guidance, and for that reason I would not make the changes contemplated in the current draft of alternative B. I would simply stick to the March version. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I want to talk about the SEP first and then I'll turn to policy. As a reminder, I was not a fan of publishing the individual fed funds assessments. I think of it as the recording of the dot votes, and I agree with President Kocherlakota's comments about communicating through the SEP. If we're going to go down the road of separating voters from nonvoters in the fed funds assessments, then it would also seem appropriate to separate out the voters from the nonvoters in the outlook items, and I hope we think long and carefully before we go to a voter versus a nonvoter SEP. Finally, if I compare the various dot charts and scattergrams of the fed funds projections with the results of the alternative simulation exercise, I get more information out of the results of the alternative simulation exercise than I actually get out of the dot charts. Nevertheless, in January we published our individual assessments of the appropriate fed funds target, along with projections of economic results, and so for the first time markets could compare the participants' individual assessments of appropriate policy with the statement of the Committee's collective judgment.

Then in March, immediately following the statement issuance, even without an SEP, markets seemed to intuit that the upgrade of the outlook that was contained in the statement would correspond to a liftoff two quarters earlier than the January statement had indicated, a conclusion that was eerily close to the March Tealbook. Now we're adding a third piece of information, the change in the individual views on the appropriate path of interest rates. This will allow markets to triangulate the way that changes in the outlook and changes in individual views about appropriate policy will influence policy actions of the Committee and, in particular, the date and the forward guidance of the statement. It's not a single opportunity but an ongoing one, and I believe that markets will come to understand it even better than we could express it today, in part because markets are simply focused on understanding and predicting, while each of us is also formulating and articulating our own ideas about how it should work and trying to influence the outcome.

In preparing for this meeting, I spent most of my energy trying to think about how to think about the date in the forward guidance in light of changes in the outlook. My own sense is that the building economic momentum will allow us to begin raising the fed funds target before the end of 2014, but that sense is not yet a conviction, and I have some reluctance to move in one direction and then reverse. Furthermore, a pulling forward of the date could also be interpreted as a reduction or even an extinguishment of the likelihood of further accommodation and, thus, have an even stronger-than-expected market reaction. I know I don't have that level of conviction in my forecast.

So if the data are coming in mixed as they have, it makes sense to wait and watch for convincing evidence that the economy is either losing steam, as some expect, or as I believe, sturdy enough to withstand potential shocks. If economic performance does appear to be faltering or if another shock knocks it off course, I would favor additional balance sheet measures rather than moving out the date in the statement. If the economy starts to show more strength or if some of the data puzzles resolve in the direction of more strength than we realized, then I'd be tempted to pull forward the date. However, while I think the intervals of movement might be important, I view a change of direction as especially important, and we should think about pulling forward the date as a first step in the exit strategy. For the moment I'm happy with the language in alternative B. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I can go along with alternative B. I find the changes in the second sentence of paragraph 2 a little bit less than felicitous, but I have confidence that at your press conference you can make any necessary explanation to put those in context.

I think it is useful that the staff has produced some memos on potential additional measures if those are called for. I hope that the expectation that by two months from now things are clarified one way or another proves correct, but it seems to me not inconceivable that we're going to have somewhat differently moving data between now and then as well, at which point we're going to have to start thinking about whether in a situation of continued mixed information and uncertainty, the current monetary policy stance is appropriate.

On the SEP—first, I want to say I thought Jeff made a lot of very important points. The only thing in his affirmative presentation that I would have slightly disagreed with was that he talked only about pulling the date forward, and it's at least conceivable that it could go further back at some moment. But I thought everything else he said really posed important questions for us to think about, and I would say much of the gravamen of what he was saying was that there is a disconnect between what is going on in the statement and what is going on in the SEP. I guess a corollary was that there's an instability in the statement itself one way or another because of the date.

I was a proponent of trying to move toward the use of projections, and I still am, but I am even more impressed now with the difficulties of doing so in the peculiar institutional framework that we have got relative to other central banks around the world. I thought it at the time, and I raised some of the issues. I thought we might be able to modify the SEP once in place. I do think it's adding to transparency but not to effective communication, and because the goal is effective communication, it does seem to me we're going to have to think pretty hard about both it and paragraph 3 language in the June meeting. When I say the idiosyncrasies—we have no real connection now between the SEP and the collective process. We all do our projections as a single matter. Those of us on the Board in splendid isolation—it's just us and our computers. Those of you in the Reserve Banks with your armies of support staffs [laughter] in your offices—but they're all done individually, and then they're just aggregated.

As several of us were talking about in the period preceding our adoption of the SEP, every other central bank that has a projection process has some kind of collective or collaborative element to that process before the projection is published. I don't think that the models that exist in Sweden or, for that matter, in Britain, are likely to be effective in this Committee, which is way larger than others and geographically dispersed. But there needs to be some institutional mechanism that ties a collective judgment together with the individual exercises of making projections, because right now we leave it to the Chairman to have to explain that the statement is a collective exercise and the projections are individual exercises. But they're both hanging out there, and it does exacerbate communications difficulties.

On the specific ideas, I go both ways on identifying current and noncurrent voters. On the one hand, I don't think it quite solves the problem. It's still a scatterpoint presentation, which is a problem. On the other hand, ironically, if you're saying 2014 is your current date, then the public should be more interested in who's voting in late 2013 and early 2014 than who's voting in 2012. So in an odd way, by identifying the current nonpermanent voters, you're saying, "Ah, these guys, you know, they're not going to be voting a couple of years from now," again an idiosyncrasy of the Federal Reserve. I'm ambivalent on that one, but I do think something that gets us out of scatterpoints and into a format that has more of a collective element to it is going to be critical so this thing doesn't end up being at best neutral and at worst confusing. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you.

MR. PLOSSER. Mr. Chairman, can I?

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. I find myself agreeing with almost everything Dan said, and I'm wanting people to consider two things: One, rather than thinking there's something wrong with the SEP—because it's just data—part of the problem we're having is because we've got the date in the statement. Getting the date out of the statement and talking about economic conditions would make the conflict between the statement and the SEPs less onerous.

The second step, the way I see it, would be—President Bullard brought this up yesterday, I brought it up on several occasions—the notion of a monetary policy report where you could then combine the strengths and information from the SEPs, the statements, and the frameworks and have a fuller discussion, where you might agree that there is a modal outlook from the SEPs that would point you toward a consensus of the Committee. There are opportunities between getting the date out of the statement and doing a monetary policy report that can take us forward to resolve the kind of conflicts that we're all struggling with.

MR. TARULLO. But I would only say that I'm a little less sanguine on the monetary policy report serving as an anchoring device for that collective judgment. At best, though, it would take time to do that. I wouldn't want to give up—and to a considerable extent it would be giving up—the use of forward guidance both by removing the date or any substitute for the date in paragraph 3, on the one hand, while maintaining a confusing scatterpoint presentation, on the other.

CHAIRMAN BERNANKE. Okay. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. I, too, support alternative B, but not without a vague sense that the actions taken today, i.e., no action, could be eventually interpreted by markets as being contractionary, an interpretation that could eventually effectively make them contractionary.

In my view, we're still dealing with large shortfalls in aggregate demand, and unlike most other recoveries, fiscal policy isn't helping. Rather, contractionary fiscal policy is worsening the aggregate demand shortfall. Accordingly, the policy action in this recovery sits squarely on our shoulders. We have done quite a bit, but the economy continues its slow slog.

I recognize that there's uncertainty about how effective monetary policy can be at the moment. I read with interest the staff's memo on the attenuation of the effects of monetary policy. I took from this memo that there is some evidence that various parts of the monetary transmission mechanism have been impaired. But I did not conclude that all of the channels are inoperable. Rather, I concluded that the transmission mechanism is only partially impaired. In that case, it's entirely possible that our usual measures of whether monetary policy is highly accommodative, that is, that rates are very low, may be misleading. When some channels of transmission are clogged, it may be that the current stance of monetary policy is just not sufficient for the magnitude of the crisis.

While we may not be prepared to do more at this point, I am concerned about the signal we send by communicating doing nothing. For those of us who believe the economy is still in slog mode, there is the concern that the longer we do nothing, the greater is the chance that we are unintentionally communicating that we are satisfied. "Mission accomplished" should not be the message of the day. If we are perceived as being satisfied, and many on this Committee will talk publicly about being satisfied, then markets will interpret us as having done the best we can. Financial conditions will tighten. The economy will visibly contract and slow down.

We've done nothing today to counteract what will be a growing sense that we are finished and that we are satisfied waiting for many more years in order to get us close to our statutory mandate. This message strikes me as the exact opposite of one we have discussed in the past. We've discussed that sending a clear message to markets that we are committed to do everything necessary to meet our mandate could all by itself have a salutary effect on markets and have an easing effect. Analogously, if our statement today sends a signal that we are content with the current path of the economy, this could work like contractionary policy—the last thing we need right now in my view. I hope that is not the message the public takes from our meeting today. Thank you.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Well, I think I'm going to have to take another run at the Taylor rule. [Laughter] My problem is not with the rule itself, per se. It's useful to have rules as guides to policy. My problem is the enshrinement of the equilibrium real rate assumption of 2¼ percent and how we use the rule in practice. Right now, the actual real rate that we're using with the funds rate of roughly 12 basis points is roughly minus 1½, 1¾ percent, depending on exactly how you measure it. We're supposedly running a monetary policy that's 4 percentage points easy, and this is why we keep talking about how we have this exceptionally accommodative monetary policy. Yet, when we observe what kind of economic growth we get from this exceptionally accommodative monetary policy, we see growth that's not very good. The past four quarters, including the first quarter of 3 percent growth, gives us 2¼ percent growth over the past four quarters, and the Tealbook forecast for 2012 is 2½ percent. So it seems to me that the logical conclusion is that policy isn't as exceptionally accommodative as we think it is because the equilibrium real rate in the current environment, given the financial crisis, the impediments to housing finance, et cetera, have pushed the equilibrium real rate significantly lower.

Now, if I take a lower equilibrium real rate and put it into the Taylor rule and then calculate what the appropriate time of exit is, that's going to push back the timing of exit. All I'm asking people is to answer the question, why has economic growth disappointed so much relative to the fact that we're running a very accommodative monetary policy? And doesn't that raise a question about whether policy isn't as accommodative as we thought and that maybe the equilibrium real rate in the current environment isn't 2¼ percent, but it's somewhat lower? That's really all I'm asking, just to consider that question. If you reject that way of thinking about things, I'd like to understand then what your view is of why we're not growing faster given the very accommodative policy that we supposedly have in place.

The second issue on the Taylor rule that is worth discussing, and we'll do this more in the June meeting, I think, is that the Taylor rule also doesn't consider the asymmetries of the losses in terms of errors around your forecast. If the economy is much weaker than we expect, if we get a bad draw and we end up in a debt–deflation trap, the losses there are enormous. Conversely, if the economy grows faster than we expect, we would actually probably be pretty delighted by that. Now, there would be some potential inflation consequence, but we could tighten monetary policy more quickly, and we could catch up. The Taylor rule in no way weights the asymmetry of that payoff function. So even if you took the Taylor rule literally and said that a 2¼ percent equilibrium rate was the right rate, you still would probably want to follow a policy somewhat easier than the Taylor rule because of the asymmetry in terms of loss functions around your forecast. Okay, that's it for the Taylor rule until June.

Turning now to the SEP, I think we all accept the fact that we're not very happy with how the SEP projections are not elucidating where the Committee is actually ending up in terms of the Committee decision. There's a tension between the SEP projections and the statement and the "late 2014" language. I support Governor Yellen's suggestions in terms of identifying the names internally. It would be a good idea to also identify permanent versus nonpermanent members because that allows the public to understand how to weight the circles a little bit better.

And if we really think we want to be transparent, we want to reduce confusion—I don't think it solves the SEP problem, but it would probably push it somewhat in the right direction—I would also favor going a little bit further. One thing we should consider: Is there a way to come up with threshold variables? We still need to work on that. The problem we've found is it's hard to come up with a small number of threshold variables that sufficiently frame the forecast in a way that we're comfortable with them. I also think we really should fix the SEP in the sense of publishing forecasts that link the interest rate outcomes with the real-side economic variables, and I would argue that we should just publish the matrix of the forecasts. I'm happy with it being done anonymously. I'm happy with it being done with our names attached. I would say if we were to attach our names, then the Chairman should be excluded from the exercise in that case. But we should take a straw poll or something to see where we actually stand on having System forecasts linked together and disclosed to the public because that would also provide some additional information.

The next thing I want to talk about is our own SEP submission. New York's SEP submission still actually has additional balance sheet stimulus included, and that was a very close call for us. Should we have it in or should we have it out? At the end of the day, our view was that we think it's likely at some point that the economy will be weak enough or the downside risks will be great enough that we'll want to do an additional balance sheet action. If the economy obviously doesn't disappoint or the downside risk diminishes, then we would take it out.

What I want to talk a little bit about is what happens if the economy actually does disappoint. One thing that we need to be prepared for is that we could come in at the June meeting disappointed about the economic outlook in terms of how the economy has performed, or worried about the downside risks that maybe have increased over the period. But we have not yet had a discussion about what we would actually do at that meeting if we wanted to offer up additional monetary policy stimulation. It is going to be particularly germane obviously because the maturity extension program comes to a conclusion at the end of the June meeting. I tried to think about this and asked myself the question, what would I do? I think I would rely on balance sheet rather than date because extending the date just lacks credibility. We have so little insight into how the economy is going to evolve in 2013, 2014, and beyond that I think extending the date would have a very small consequence. Then it's the choice between another maturity extension program, which is one alternative in alternative A, and another LSAP as alternative A suggests—the mortgage-backed securities program—and so I asked myself the question, how would I prioritize those two? Assuming that longer-term inflation expectations were still well anchored and haven't changed—in other words, we're not in a situation like we were in 2010 where people were worried about the U.S. going the route of Japan and inflation expectations are falling significantly—I come down on the side of doing the maturity extension program. The reason for that is that if we're not trying to push up inflation expectations, the benefits of the MEP versus MBS purchase program seem to be about the same as near as we can measure in terms of how much stimulus they provide to the economy. And the costs of the MEP seem to be somewhat lower in the sense that we've seen that the market is not at all concerned about the MEP in terms of creating an anxiety about longer-term inflation because it's not associated with balance sheet expansion.

This contrasts with when we do something that expands the balance sheet. Even though many of us around the table don't think there's going to be any long-term inflation consequence from that balance sheet expansion because of the ability to pay interest on excess reserves and our other reserve draining tools, it doesn't really matter what we think. If there are people in the market who are worried about the inflation consequences of that, then that is a cost of going down that course. That tells me that the MEP has a better cost–benefit tradeoff. I also think that there will be less drama in extending the MEP. We concluded the program, and then we decided we could do more. It worked well, and so we decided more. We would still have the ability to do an LSAP in reserve.

One thing I thought was interesting is that when we did the MEP program, the market did not significantly reduce its expectations of the possibility of us doing an LSAP. They didn't read the MEP as ruling out future LSAPs, and that's actually very useful because one important difference between an LSAP and the MEP is that the LSAP actually is open-ended. You can do as much as you want in principle. The MEP, by necessity, will at some point be exhausted, you won't be able to do any more. Having the LSAP possibility in reserve, an open-ended tool, I feel a little bit more comfortable with that than having something in reserve that by its nature is very limited.

Finally, let me turn to what we're doing today, alternative A. I support alternative A. Late 2014 still works very much for me; I haven't changed the date. The improvement in the outlook has been very modest in my mind, both actually—

MR. FISHER. Alternative A or alternative B?

MR. TARULLO. You said A. Did you mean it?

VICE CHAIRMAN DUDLEY. Alternative B, I favor alternative B. [Laughter]

MR. FISHER. You were just confusing your previous statement with where you want to go and where we are now. Thank you for revealing your—

VICE CHAIRMAN DUDLEY. Just created a little more drama here. In terms of what's happened since January, the economy is mostly evolving along the lines of our expectations. In other words, we've gotten some improvement in the economy, and the deviation of the economy from our forecast is actually extraordinarily modest. Not only that, it has virtually no implications for the outlook in 2013 and 2014 because as we went around the table, I don't think any of us think that the downside risks to the economy, be it Europe or be it the fiscal cliff, have really lessened significantly. So marginally stronger growth in the very near term, but no change in terms of the sort of downside risk, means that it really shouldn't have much implication for your outlook in 2013 and 2014.

In terms of the language in B, "supported by highly accommodative monetary policy," that makes sense to be in there, and the reason why it makes sense is that we're saying that we think that for the economy to follow the growth projection that we have, it needs a stimulative monetary policy in place. It's not as if the economy is going to get better on its own; it needs monetary policy. Accommodative monetary policy is a necessary condition for this growth outlook, so I'm actually comfortable with keeping that in. Thank you.

MR. FISHER. Mr. Chairman.

CHAIRMAN BERNANKE. President Fisher.

MR. FISHER. Just for the sake of the minutes since President Dudley made an extensive argument about the MEP, I'd like to note that I would not be in favor of an MEP program as described. I listened carefully to Brian's very thoughtful presentation yesterday, and especially to the citations in that one particular box. I have serious doubts about the efficacy of an MEP. I don't want to get into that right now. We can argue it later. There are enormous risks involved, and there are costs involved that offset the benefits that President Dudley elucidated. But only for the sake of the minutes, if we're going to say that an argument was made in favor of considering an MEP, I would like to also make it clear that a counterargument was made not in favor of an MEP.

VICE CHAIRMAN DUDLEY. I'm not arguing to do it now, but in terms of contingency planning.

MR. FISHER. No, no, no. If we included it in the minutes, I would just say that there would be a difference of opinion about it.

VICE CHAIRMAN DUDLEY. So would you rule it out categorically regardless of how the economy evolves?

MR. FISHER. Not categorically, but you seem to be headed in that direction, and I just want to make sure that we examine further the efficacy of an MEP.

CHAIRMAN BERNANKE. It's not on the table. The scenario analysis suggested that many, but not all of the participants would be prepared in principle if circumstances warranted to undertake further balance sheet actions. Perhaps that's the appropriate way to indicate it. Okay. Thank you all very much.

There's broad support for alternative B. I do think that maintaining the "late 2014" language is still appropriate. Bill English gave some good arguments for the particular timing, noting specifically that Taylor (1999) applied to the SEP projections still gives us something below 1 percent at the end of 2014. Like Governor Yellen, I take some input from the optimal control exercise because unlike the Taylor rules, it does take into account the zero lower bound concerns and the commitment possibility. But even the optimal control exercise doesn't take into account downside risks, which I think are greater than the upside risks, nor the asymmetry of the risks in terms of the ability to respond to those risks.

From a communications perspective, there are going to be some problems. I agree with with Governor Raskin that this entire package will be slightly contractionary, given both the SEP and the fact that we're not acting on the MEP today, but it would be very hard to understand a shift in policy from the March meeting as opposed to January because of the lack of change in the outlook since March.

What we are looking at is a great deal of uncertainty about how this recovery is going to proceed. We can always look ahead and say, "We'll get more information between this meeting and the next one." There is, in fact, a good deal of information that we'll be getting, and we need a better conviction about which way the economy is going to go before we take further action.

I take very seriously President Lacker's points about this being a forecast, and in fact, I have said similar things myself. I do think that this would be interpreted first as a reversal, which would be overinterpreted by the markets notwithstanding the rationality of President Lacker's position. But I also agree with a number of people around the table that we need to move forward to both better communication and better state contingency if we can. In that respect, I would support the view that a lot of people had that we need to do better on the SEP and maybe ask Governor Yellen and her subcommittee to look not only at the points that she raised about the use of these projections internally and about various ways of changing the disclosure process, but more broadly at what improvements that we can make to the SEP that we can put before the Committee for further consideration.

I'd also like the staff as we look toward the next meeting—at which we'll be talking about rules, and we'll be looking and reviewing the SEPs from both January and March—to consider if not principal statements at least alternative hypothetical statements that might allow for some state-contingent approach but would be broad enough in some sense to capture the broad center of the Committee. I'm a bit concerned at this point of going to a strictly qualitative approach, but I understand the arguments behind that. Perhaps there's an intermediate thing, which can be a little bit more specific without necessarily giving two-digit accuracy to the criteria that we use for easing or tightening. That's something I think the staff should continue to look at.

On the language, there wasn't a great deal of consistency in theme. I'm perfectly happy to drop "tentative" if everyone is okay with that. Signs are sort of implicitly tentative, I suppose. The only other thing that received significant attention was the language in paragraph 2. I would summarize President Lacker's and President Lockhart's views as going back to the March language in the second sentence, and I think Vice Chairman Dudley opposed that. I don't have strong views about it. Is there anyone who would like to comment on that?

MR. PLOSSER. I support President Lacker's suggestion of eliminating that clause.

CHAIRMAN BERNANKE. So there are really three suggestions.

MR. PLOSSER. Right, or going back to the March language.

CHAIRMAN BERNANKE. Or going back, yes. Any other? [No response] I do understand the logic. It isn't simply another way of trying to have forward guidance. It is an attempt to explain why we are maintaining an accommodative policy, which is that progress is contingent on our expectation of the policy. President Bullard.

MR. BULLARD. I guess I like the phrase because it reminds people that we've already done a lot and we already have an aggressive policy, and that sometimes is lost in the discussion. And so we're balancing the degree of our aggressiveness on monetary policy against bad outcomes that we've seen over the past several years.

CHAIRMAN BERNANKE. I think that's a good point. Anyone else want to comment? [No response] Maybe we could just put this as the current versus the March status quo. Is that a good first cut? I'm proposing to ask the Committee whether we want to leave it as it is or go back to the March status quo. How many want to go back to the status quo?

MR. FISHER. The March statement?

CHAIRMAN BERNANKE. How many participants want to go back to the status quo? [Show of hands]

CHAIRMAN BERNANKE. I see three, four. Okay. Would it be okay, President Lacker, if we maintained the "highly accommodative stance for monetary policy" on the grounds that I described, namely—President Bullard's point—that this is as much a description of what we've already done?

MR. LACKER. I worry about the consequences of linking policy to this pickup and what happens as time plays out with that phrase. When do we drop it? Are we going to be afraid to drop it?

CHAIRMAN BERNANKE. I don't think we'll be afraid to drop it. President Bullard says it has as much a descriptive as opposed to a forward-looking component.

MR. LACKER. I'd prefer not to, but I'll yield to the Committee's view.

CHAIRMAN BERNANKE. President Lockhart?

MR. LOCKHART. I'd like to pose a question to the Vice Chairman. At the beginning of your statement you said it is possible policy isn't so exceptionally accommodative as we thought, and that if it's highly accommodative, why are we not growing faster? And then you turned around and supported keeping it in. I was interpreting what you said as there's a lot of confusion around words that you're supporting keeping in the statement, and we may be leading people to a conclusion that we're very certain about it being highly accommodative. Can you help me sort that out?

VICE CHAIRMAN DUDLEY. We may not be following as highly accommodative a monetary policy as we think, but we are intending to follow a highly accommodative monetary policy.

MR. LOCKHART. This is forward looking? This is intentional as opposed to the state of policy now?

VICE CHAIRMAN DUDLEY. I think the SEP and the statement, as well as the fact that we're keeping the rates exceptionally low through late 2014, implies that we think we're going to be keeping policy very accommodative through that period. All I'm saying is it might not be quite as accommodative as we think it is. That's all. Our intention is certainly to follow an accommodative monetary policy.

MR. LOCKHART. I'd simply make the point that I think inclusion of this can be interpreted in a lot of different ways, and we may open a Pandora's box of interpretation that we don't intend.

CHAIRMAN BERNANKE. I'm prepared to take a straw poll on this, President Lockhart.

MR. PLOSSER. I'd just make one other point.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. In the very next paragraph, Mr. Chairman, paragraph 3, we say that "to help ensure that inflation, over time, is at the rate most consistent with its dual mandate, the Committee expects to maintain a highly accommodative stance for monetary policy." We say it in the next paragraph. What do we gain by saying it in the previous paragraph? It seems like it's conveying the same.

CHAIRMAN BERNANKE. Only the logic that paragraph 2 is supposed to provide the rationale for the action of paragraph 3, and this is essentially saying that our forecast of pickup is conditional on accommodative monetary. I think it's logical, but there may be other reasons to oppose it. I'm happy to take a straw poll on this, but any other comments on that issue?

MR. LACKER. Well, that goes for everything in paragraph 2. It's not more accommodative policy, which is why inflation is only going to be affected temporarily. You can draw that line linked to anything in paragraph 2.

CHAIRMAN BERNANKE. Okay. Let me ask how many participants would like to drop the "supported by highly accommodative monetary policy" part? [Show of hands] One, two, three, four, five, six, seven, eight.

VICE CHAIRMAN DUDLEY. Nine to eight, curious. How many are in favor of keeping it?

MR. FISHER. Mr. Chairman, may I ask a question?

CHAIRMAN BERNANKE. Yes.

MR. FISHER. What do we gain by putting it in there?

CHAIRMAN BERNANKE. I think it's logical, but why don't we drop it just so we don't have a statement that eight people are—I know, it goes both ways. You can always argue for the status quo, right? I mean, we always give weight to the status quo.

VICE CHAIRMAN DUDLEY. That's fair.

CHAIRMAN BERNANKE. All right. Bear with me on that. Let's drop the "supported by highly accommodative monetary policy."

MR. TARULLO. I'm sorry. But, Mr. Chairman?

CHAIRMAN BERNANKE. Yes, Governor.

MR. TARULLO. You're going to revert back to the March language?

CHAIRMAN BERNANKE. No. Do you want to revert back to the March language?

MR. TARULLO. My issue is that I see the ambiguity in the "highly accommodative monetary policy," but I actually saw ambiguity in the "remain moderate over coming quarters and then to pick up gradually."

CHAIRMAN BERNANKE. That's kind of in the SEP.

MR. TARULLO. Okay.

CHAIRMAN BERNANKE. I think maybe we have gone beyond diminishing returns on this. If there are no further comments, I'd like to go ahead and take a vote.

VICE CHAIRMAN DUDLEY. So you're going to go back to the March language.

CHAIRMAN BERNANKE. No, I was going to just drop the clause.

VICE CHAIRMAN DUDLEY. Just drop that one clause.

CHAIRMAN BERNANKE. All right. The only changes are to drop the word "tentative" and to drop the phrase "supported by highly accommodative monetary policy." Will you call the roll please?

MS. DANKER. This vote is for the statement alternative B, and the associated directive in the handout with the amendments just mentioned by the Chairman.

Chairman Bernanke	Yes
Vice Chairman Dudley	Yes
Governor Duke	Yes
President Lacker	No
President Lockhart	Yes
President Pianalto	Yes
Governor Raskin	Yes
Governor Tarullo	Yes
President Williams	Yes
Governor Yellen	Yes

CHAIRMAN BERNANKE. Thank you. Two items. First, the next meeting is Tuesday–Wednesday, June 19–20. Today there will be a press conference at 2:15. For those who are interested, there will be a screen set up in the Special Library. We'll have coffee available when we're done here in a minute, and then lunch as well for those who are hanging around.

Let me make one more business comment here. We sent out a calendar. We received some comments on that. The main feature of this calendar is that it is now strictly quarterly. We're dropping the concern about trying to match it up to the Humphrey–Hawkins testimonies, and that has the advantage of more regular meetings, but also, in particular, the four SEPs and four press conferences will be strictly quarterly, and I think that's advantageous.

The calendar that was sent out had four two-day meetings—ones corresponding to the SEP—and four one-day meetings. A couple of participants have asked whether we could consider having all eight meetings be two days to allow for additional discussion and leave more time for deliberation and perhaps assure that every meeting is an "active meeting" where policy actions could be taken if needed. I don't know if discussion of this now is appropriate, but we would certainly be interested in getting views on that subject. Is that all right? Let me bring this up as a possibility.

MR. KOCHERLAKOTA. So you don't want my enthusiastic endorsement right now? [Laughter]

CHAIRMAN BERNANKE. An enthusiastic endorsement. Okay.

MR. FISHER. I was going to ask who they are so we could be take them out and shoot them. [Laughter]

CHAIRMAN BERNANKE. Just for my interest—and recognizing this is unfair, you can change your minds—we will poll you. You haven't had any time to think about it. How many people would like to have eight two-day meetings? [Show of hands] So—3, 4, 5, 6, 7, 8, 9, 10, 11, 12. All right. It looks like that is at least a promising direction, let's say. We will ask you for more considered opinions, and we'll try to resolve this soon. President Bullard.

MR. BULLARD. Mr. Chairman, the revised schedule for this year conflicted with boards of directors' meetings. If we're going to do this, I'd prefer to start in a calendar year where we can make all of those adjustments in a normal way.

CHAIRMAN BERNANKE. If you would submit that comment to Debbie, we'll certainly try to accommodate everybody. All right. Thank you very much. Coffee is available.

END OF MEETING