**Meeting of the Federal Open Market Committee on
June 19–20, 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, June 19, 2012, at 11:00 a.m. and continued on Wednesday, June 20, 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
Jerome H. Powell
Sarah Bloom Raskin
Jeremy C. Stein
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
Richard M. Ashton,[1] Assistant General Counsel
Steven B. Kamin, Economist
David W. Wilcox, Economist

David Altig, Thomas A. Connors, Michael P. Leahy, William Nelson, Simon Potter, David Reifschneider, Mark S. Sniderman, William Wascher, and John A. Weinberg, Associate Economists

Brian Sack, Manager, System Open Market Account

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

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

Seth B. Carpenter, Senior Associate Director, Division of Monetary Affairs, Board of Governors; Timothy P. Clark, Senior Associate Director, Division of Banking Supervision and Regulation, Board of Governors

Thomas Laubach, Senior Adviser, Division of Research and Statistics, Board of Governors; Ellen E. Meade, Stephen A. Meyer, and Joyce K. Zickler, Senior Advisers, Division of Monetary Affairs, Board of Governors

Daniel M. Covitz, Eric M. Engen, Michael T. Kiley,[2] David E. Lebow, and Michael G. Palumbo, Associate Directors, Division of Research and Statistics, Board of Governors

David Bowman, Deputy Associate Director, Division of International Finance, Board of Governors

Steven A. Sharpe and John J. Stevens, Assistant Directors, Division of Research and Statistics, Board of Governors

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

Francisco Covas and Jennifer E. Roush, Senior Economists, Division of Monetary Affairs, Board of Governors; Andrea De Michelis, Senior Economist, Division of International Finance, Board of Governors

Sarah G. Green, First Vice President, Federal Reserve Bank of Richmond

Loretta J. Mester and Harvey Rosenblum, Executive Vice Presidents, Federal Reserve Banks of Philadelphia and Dallas, respectively

Troy Davig, Geoffrey Tootell, Christopher J. Waller, and Kei-Mu Yi, Senior Vice Presidents, Federal Reserve Banks of Kansas City, Boston, St. Louis, and Minneapolis, respectively

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

Lorie K. Logan and Anna Paulson, Vice Presidents, Federal Reserve Banks of New York and Chicago, respectively

[1] Attended Tuesday's morning session only.
[2] Attended Tuesday's session only.

Transcript of the Federal Open Market Committee Meeting on June 19–20, 2012

June 19 Session

CHAIRMAN BERNANKE. Good morning. I would like to start by welcoming two new members to the table, Governor Jeremy Stein and Governor Jay Powell, sitting over here in the delinquents' corner. [Laughter] The last time there were seven Board members at an FOMC meeting, I am told, was March 2005. There has been a short hiatus since that time. We welcome our two new distinguished colleagues and look forward to collaborating with them and learning from them. I am optimistic because I note that they both got their B.A.'s from Princeton University. [Laughter] That is a good start. Welcome, and we look forward to working with you.

We also have a departure of which to take note. This is Brian Sack's last meeting. Brian has served as the manager of the System Open Market Account (SOMA) since June 2009 and has attended 25 FOMC meetings in that capacity. Before that, he engaged with monetary policy issues, both inside and outside the Fed, as the head of the Monetary and Financial Markets Analysis Section of the Board, and then as a vice president of Macroeconomic Advisers. It's a little hard to believe for a person of such policy experience, but Brian got his Ph.D. in Clinton's second term [laughter], which accounts at least a bit for his youthful appearance and his energy, notwithstanding the maturity of his contributions.

Brian, you have been a superb colleague, you've been a terrific leader and manager of the Federal Reserve's financial operations during a very difficult and complex time, and we are extremely grateful for all you've done, for your dedication and your service. And I would like to turn the floor over for a moment to the Vice Chairman to add a couple of comments.

VICE CHAIRMAN DUDLEY. Thank you. I think Brian has had an extraordinary three years as head of the Markets Group and SOMA manager. It probably feels like dog years rather than people years. [Laughter] The balance sheet hasn't changed very much in terms of size on your watch, but the composition certainly has. The Desk has been extraordinarily busy completing the first LSAP program of agency MBS and Treasuries, the second LSAP program, which probably got a little bit more attention than the first maturity extension program, and, of course, the reinvestment of maturing MBS securities. The fact that all of the MBS operations were brought in-house under Brian's watch is also very important. Moreover, Brian has been an exemplary leader, with intelligence, knowledge, the ability to relate monetary policy and macro to markets, and the ability to see the forest for the trees. He has also managed the Markets Group effectively. It has expanded from 230 people when I was the head of the Markets Group to about 400 people today, and its functions have broadened considerably as the financial stability mandate of the System has increased.

I think you all would agree with me that he has been a terrific resource for the Committee, not only through his briefings and ability to answer all our questions but also in terms of the quality of product that is coming out of the Markets Group, in terms of the daily briefings, and the MarketSOURCE material, which has really been upgraded significantly under his watch. He has been a very able adviser to me and to Governor Yellen. He speaks his mind, makes very good points, and has very definitely improved my own thinking. He has kept me out of trouble on numerous occasions. He has just been a joy for me personally to work with, and I am going to miss him not being in this role any longer. But the good news is that the Markets Group, under his stewardship, is quite deep. Lorie Logan, sitting next to him, is a very senior person in Markets, as is Kevin Stiroh. And with the new head of the Markets Group, they will

continue on in the tradition that we have had in recent years. Thank you, Brian, for your efforts. It has been a privilege. [Applause]

CHAIRMAN BERNANKE. No one can replace Brian, but someone can succeed him. Our first item is the proposal to appoint Simon Potter as manager of the System Open Market Account. And accompanying that, because Simon is currently an associate economist of the FOMC, the item also proposes that we appoint Jamie McAndrews to replace Simon in that role. Both appointments would be effective June 30 and would hold until the selection of successors at the first regularly scheduled organizational meeting next January. I would like to turn to the Vice Chairman to talk a bit about the selection process that produced Simon's name.

VICE CHAIRMAN DUDLEY. Thank you. We obviously take whom we have at the head of the Markets Group and as the SOMA manager extraordinarily seriously, and we ran a very complete and thorough process to identify a successor. We hired Spencer Stuart as a search firm, and they identified a large number of candidates that we augmented by our own knowledge and contacts throughout the markets business. We identified five criteria that we think are important for the SOMA manager and head of the Markets Group—macroeconomic monetary policy knowledge, knowledge of markets, knowledge of the Fed, demonstrated management ability, and demonstrated operations experience. Now, it turns out that as far as we can tell, nobody in the world actually has all five of those attributes. [Laughter] But we think having three and a half of them is about as good as you can do, and I would apply that grade to myself and to Brian when we took on that job. It is the kind of position where you are not going to be expert in all things when you start, but the Markets Group is really deep and able, and they have shown their ability to nurture the past two heads of Markets in a very successful way.

We went through the search process, and we identified a number of strong candidates both within the New York Fed, elsewhere in the Federal Reserve System, and outside working at a variety of different private-sector firms. And after going through the process of extensive interviewing by a large number of people in New York and close consultation with the Chairman and Governor Yellen, there was a very strong consensus that Simon Potter was the right person for the job. As the Chairman noted, Simon has been the co-head of Research over the past couple of years and been an associate economist for this Committee. But it is important to underscore the fact that Simon is not just a macroeconomist and monetary policy person. He has really broadened his knowledge quite a bit beyond macroeconomics. He did spend a stint in Markets, and he took to it because when the Markets position came open he was strongly interested in the position. The other thing that he did last year, which I think was really noteworthy and demonstrates his management acumen, was to serve as the point person for writing the Financial Stability Oversight Council's first Annual Report, which was an extraordinarily challenging assignment because, one, it had never been done before, and, two, you're herding cats from all the different agencies that all had different views. That was a pretty stern test, and Simon passed it with flying colors, which really demonstrates his management acumen. Obviously, these are big shoes to fill with Brian's departure, but I am very confident that he will be able to do so very ably.

CHAIRMAN BERNANKE. Thank you. Are there questions for the Vice Chairman? President Fisher.

MR. FISHER. It is not a question, but I just wanted to thank the Vice Chairman for that thorough description. This has become, as Brian knows, a much more complex business than ever before. I think I have known every head of Markets going back to Paul Volcker and up to

you, Brian, and your brilliant performance. In a way, you are the whale. [Laughter] And we don't want to have whale repetition occur, so, for the record, I wanted to thank the Vice Chairman for filling us in, and wish Simon good luck.

CHAIRMAN BERNANKE. Thank you. Other questions? [No response] If not, could I have a motion to appoint Simon Potter to manage the System Open Market Account, and to appoint Jamie McAndrews to replace Simon as associate FOMC economist?

MS. YELLEN. So moved.

CHAIRMAN BERNANKE. Any objection? [No response] Thank you. The next item is action on proposed adjustments to the external communications policy for System staff. Governor Yellen.

MS. YELLEN.[1] Thank you, Mr. Chairman. When the Committee adopted its external communications policies last June, we noted that some further adjustments to the policy for Federal Reserve System staff might be appropriate. The Chairman asked me to oversee that fine-tuning process. And since then, the directors of the economics divisions at the Board and the research directors at the Reserve Banks have engaged in a series of consultations, and they have identified a number of specific adjustments that would be helpful in clarifying certain aspects of the policy. For example, the preamble would now include a sentence underscoring the benefits of economic research, and the principles and practical examples would now specifically encompass staff contacts with other government agencies, central banks, and multinational institutions. I won't enumerate the various adjustments that are denoted by insertions and strikeouts in the document that was distributed to all of you earlier. Rather, I would like to propose this set of amendments for adoption by the Committee, and I would be happy to answer any questions that you may have.

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

CHAIRMAN BERNANKE. Are there any questions for Governor Yellen? She is referring to the memorandum of May 3 that was circulated to the Committee. [No response] If there are no questions, can I have a motion?

VICE CHAIRMAN DUDLEY. So moved.

CHAIRMAN BERNANKE. Any objection? [No response] Seeing none, we accept the proposed adjustments. Thank you, Governor Yellen. Our next item, item 3, is another communications subcommittee item on the possibility of developing a consensus forecast for the FOMC, together with supporting documentation. And I will turn, once again, to Governor Yellen.

MS. YELLEN.[2] Thank you, again, Mr. Chairman. At the April FOMC meeting, you encouraged the subcommittee on communications to consider various approaches for enhancing the Committee's monetary policy communications. In our subsequent discussions, we examined a number of conceivable adjustments to the scope and presentation of the SEP. However, we ultimately concluded that it would be preferable to explore the possibility of a more substantial improvement—namely, the development of an FOMC consensus forecast and a quarterly monetary policy report, which I will refer to as the QMPR. We have consulted with all of you individually, and we very much appreciate the feedback that we have received. We found enough interest in this approach to put it on today's agenda for further discussion. Before opening up a general discussion, I would like to take a few minutes to highlight some key issues regarding the potential desirability and feasibility of pursuing such an approach. I will then set forth my subcommittee's specific recommendations about an initial experimental exercise that could be helpful in deciding whether to proceed any further with this initiative.

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

At the outset, I want to emphasize my personal view that the SEP is an effective means of communicating to the public about the diversity of participants' individual assessments of the economic outlook and appropriate monetary policy. Its usefulness has been enhanced by the inclusion in 2009 of our longer-run projections and the federal funds rate projections that we started publishing earlier this year. Of course, it is not always comfortable when the distribution of our individual assessments doesn't line up neatly with the phrasing of the FOMC statement. But I view that as a feature, not a bug. I have always felt that public confidence in the FOMC rests partly on the assurance that our decisions are informed by a true diversity of perspectives, and the SEP provides compelling evidence that we haven't been subsumed into some sort of mind-meld.

Nonetheless, the design of the SEP does impose some crucial limitations on our external communications. For example, the SEP focuses on the outlook for a handful of top-line macro variables—GDP growth, unemployment, and inflation—whereas the monetary policy reports of many other central banks provide a more thorough description of the current outlook, including the components of aggregate demand, financial and external developments, and so forth. Moreover, the SEP exhibits tend to focus the public's attention on the modal outlook, whereas many other central banks routinely use fan charts and alternative scenarios to convey the broader contours of the outlook and to illustrate salient sources of risk to that outlook. Of course, we could consider expanding the SEP survey to elicit such information, but we might well be faced with spending inordinate amounts of time on preparing our SEP submissions. A more fundamental limitation of the SEP is that it is simply a survey of individual views and, hence, it is not necessarily very effective in conveying the rationale for the Committee's collective decisions.

Under the Chairman's leadership, we arrive at our policy judgments through a consensus-building process that truly can't be well captured by any mechanical procedure for aggregating our individual assessments. While we could try to address the shortcomings of the SEP by coloring the dots, or identifying participants' projections by name, that sort of approach could harm collegiality and might well cause the public to focus on the views of specific participants rather than on our collective judgments as a Committee. Consequently, after consultations with the Chairman, our subcommittee has concluded that the most promising way forward is to explore the possibility of developing a consensus forecast and QMPR. We believe that such an approach could significantly enhance FOMC communications by providing a coherent rationale for the Committee's decisions, along with the diversity of participants' individual views. In effect, the QMPR could serve as the successor to the SEP, which would be discontinued.

Now, some of you may recall that I have previously expressed strong reservations about the feasibility of producing an FOMC consensus forecast. Given the size and geographical dispersion of the Committee, I continue to believe that it would be utterly infeasible to replicate the intensive forecasting approach followed by some other central banks, where a much smaller and centrally located policy board refers to a single forecasting model and engages in multiple days of discussions to settle on all the specific details of the outlook. Such an approach would be conceivable only if all of the Reserve Bank presidents were willing to spend a couple of weeks here in DC in advance of each consensus forecast. And on many occasions I am afraid we still might not be able to reach a complete consensus. In contrast, I do think it might be feasible to produce a consensus forecast using roughly the same approach that we follow in crafting our postmeeting statements. Specifically, the Chairman could develop the consensus forecast in consultation with the Committee, circulate an initial draft, and make adjustments in light of

participants' comments, and then present the revised forecast for discussion at the FOMC meeting. In our policy go-rounds, we typically engage in line-by-line editing, wordsmithing, and fine-tuning of our postmeeting statement language. In contrast, I think it would be completely impractical to do that with a consensus forecast that involves quantitative projections and confidence intervals along with multiple pages of accompanying narrative.

To me, therefore, it seems fairly clear that a consensus forecast would only be feasible if the Chairman confers with the Committee in developing each forecast but has ultimate responsibility for the consensus forecast and accompanying narrative. At the FOMC meeting, participants could endorse the forecast, perhaps with some specific reservations, or could indicate that they hold essentially different views about the economic outlook and appropriate policy, and the diversity of these views would be reported in the minutes and in the QMPR. As a matter of governance, such an approach seems reasonable if we agree that the Committee's policy decisions will continue to be conveyed through our postmeeting statements and, hence, that the consensus forecast and QMPR will simply be aimed at elucidating the rationale for those decisions. In effect, the consensus forecast would be roughly similar to the Chairman's press conferences, where he tries to express the sense of the Committee but maintains ultimate responsibility for his remarks. The diversity of views is then communicated through the minutes as well as participants' speeches and media interviews.

To summarize, our subcommittee has concluded that developing a consensus forecast and QMPR would be both desirable and feasible, but we also recognize that its prospects for success are contingent on a host of substantive and logistical details. Therefore, it seems sensible to explore this initiative carefully and systematically while holding off on making any final determination about whether to proceed with a public launch until after it has been thoroughly

vetted through an extensive and extended sequence of proofs of concept, trial runs, and mockups. In keeping with this approach, we think that a useful initial step would be to conduct an experimental exercise in conjunction with the July FOMC meeting. The Chairman could draft a consensus forecast and circulate it to the Committee a week before the meeting, make adjustments, and circulate a revised draft, and then present the consensus forecast for discussion at the conclusion of the economic go-round. If that experience suggests that this initiative is completely unworkable, we could simply agree to abandon it at that stage. Alternatively, if the results of this experiment are sufficiently promising, we could decide to repeat it or perhaps move on to a more elaborate proof of concept exercise in September.

Let me stop there and say that we are eager to hear your views today on whether you think this initiative is worthwhile, whether you are comfortable with the general approach, and whether you would like to proceed with an initial experiment in July.

CHAIRMAN BERNANKE. Thank you, Janet, once again for your hard work. Let me express my support for this approach. Consensus forecasts and supporting documentation, like an inflation report or monetary policy report, are a standard approach around the world for central banks to communicate the rationale for their decisions. And in that respect, it is a well-tested approach, and one we should consider. The problem we have, of course, is with a very large and geographically dispersed Committee, it is much more difficult to develop a consensus forecast. And so the feasibility of that will be the key issue as we think about this.

I have some criteria for success. I think if we have a forecast, it does have to incorporate Committee consensus—it can't be solely mine, for example—and it must be consistent with the policy decision. We need to have a flexible process, so that we can respond to events close to the meeting. In particular, if there are any developments right before the meeting, we should be

able to respond. The forecast should have a means of expositing differing views. It should be a vehicle for a more complete explanation of our outlook and policies, and, importantly—and this is an issue I think we will need to address—it should not be a significant net additional burden on the staff. That would be a very important consideration. What Governor Yellen's subcommittee has proposed is an experiment, one in which we would go very slowly, to make sure that at each stage everybody is comfortable or that we have incorporated everybody's views.

Let me modify very slightly her proposal for an experimental consensus forecast this time. What I would do is add one slight additional round. About two weeks before the Tealbook is produced, the staff provides me with a very preliminary forecast based on where they are at that point. What I could do, if we decide to go ahead with this, is circulate that forecast and ask for your reactions. Your reaction might be "This looks okay," or it might be that "I disagree with this aspect of it," or whatever. It could be simply a qualitative comment, or it could be a quantitative assessment. I would take those comments, and then proceeding along the lines that Janet described, about a week before the meeting I would, working with staff, develop a consensus forecast that I would circulate. I'd get another round of comments, and then, Friday before the meeting, circulate my candidate for the final consensus forecast. It would be useful in our discussions, but, obviously, at this early stage this would be experimental. I want to reiterate the experimental nature. I think this is something that would take quite a few meetings to develop. We are not proposing to do anything that looks like a QMPR at this point. But as we move forward, if we do, we would want to develop a mockup for how that might look and recognize that over time it would become more complete and elaborate.

At this juncture, I would like to open the floor. We don't necessarily need a full go-round, but I want to be sure that everyone who has views has a chance to communicate them. Why don't we start with President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I want to thank the subcommittee on communications for their hard work on fostering what is really important. I think it's always important for this Committee, but it is critical—especially at the current juncture—that we have ways to communicate effectively about our policy and our policy objectives.

Before answering the questions that were circulated by the Committee, I want to start with some observations. When I think about this issue, my starting point is that the FOMC already does produce a consensus forecast, a consensus forecast that is voted on and, hence, owned by the Committee as a whole. What do I mean when I say this? The FOMC statement currently contains an explicit forecast of the path of policy variables—the fed funds rate—over the next two and a half years. That is voted on by the Committee, and it is explicitly a forecast of what is going to happen with policy. That is a good starting point, but I don't think this forecast of policy is really enough, though. I am very enthusiastic to hear from Governor Yellen that she shares my interest in this and that the Committee shares my interest in this. I think the FOMC needs to produce a consensus forecast about economic conditions.

I am going to back off of my prepared text just to be clear what I have in mind when I say "consensus forecast" because it sounds a little different from what Governor Yellen was describing. I really have in mind that it is something pretty close to my SEP submissions, which would be a number for the unemployment rate at the end of 2012, at the end of 2013, at the end of 2014, possibly the longer run as well; a number for inflation at the end of 2012, 2013, 2014, and the longer run; maybe a number for core as well; and possibly a number for real GDP

growth. That is basically a table of something like16 numbers. That is very similar to what the Riksbank includes in its statement right now.

Why am I enthusiastic about a consensus forecast? It is very important for us to be clear with the public that we are not offering this forecast because we have some special ability or information that allows us to see the future better than all of the myriad of private-sector forecasts that are out there. The main reason a consensus forecast would be valuable to the public is that it is conditional on what the Committee believes to be appropriate policy. As a result, our consensus forecast is really a policy tool that allows the Committee to communicate on an ongoing basis about what economic outcomes it is trying to achieve through its choices. I think such a tool is especially valuable to this organization relative to other central banks because of our dual mandate and the way the employment mandate evolves with economic conditions.

To me, these observations suggest four conclusions. We should continue to have a forecast of medium-term policy that is either part of or at least contemporaneous with the statement, as we are doing right now. We need a consensus forecast of unemployment and inflation. I talked about my 16 numbers—we should have something like that that is released contemporaneously with the statement. The Chairman just spoke about this, and I thought you laid out the desired criteria—the desiderata—very well, Mr. Chairman. It is very important that we have an iterative process that ensures consistency between the forecast of economic variables and the forecast of policy that is being offered in the statement. The current proposal that is offered by the subcommittee seems a little vague at times about how this iteration process would work, but I think that process is very important. Where I guess I differ a little bit from the subcommittee's proposal is that the consensus forecast of policy variables would be voted on by the full Committee. The consensus forecast of economic variables, conditional on appropriate

policy, is also a component of policy because it is telling the public what we are trying to achieve with our policy tools. I think it, too, should be voted on and owned by the Committee. I would love to see a quarterly monetary policy report, but I agree with the Chairman that is something that can be deferred to later. That is my initial observation.

Let me turn to the questions. You probably have guessed my answers to them already. An FOMC consensus forecast seems essential to me in our current circumstances. We should be deliberate and careful about what that looks like and how we go about doing it, but I think it is something we need. The ownership of this forecast is a really critical thing. As I have indicated, a forecast of this kind is inextricably intertwined with the policy choices of the FOMC, and it does need to be voted on and owned by the FOMC. I have in mind a table of 16 numbers that would have to be voted on. I don't think it is really as challenging as we make it sound. We issue statements with hundreds of words that we are able to agree on and vote on.

Governor Yellen laid out some of the challenges in constructing a consensus forecast. I think that we are able to construct a consensus forecast of policy variables in the meeting, and we get that by starting off with what the staff suggests. So I liked what the Chairman was describing as a potential process. The only nuance I would offer is that it is critical that we have that process somehow ensure the consistency of what the Committee is voting on in terms of policy—that is, whatever the forecast of policy variables is—and the eventual forecast of the 16 numbers that comes out. There are probably ways to work with the process that was suggested by the subcommittee. I suggested an alternative before—and I continue to like this—that two weeks before the FOMC meeting, participants submit their projections, just as we do now, for appropriate policy and a mutually consistent forecast of economic variables. We do that now for the Summary of Economic Projections, except I am saying two weeks ahead instead of maybe a

week or few days as we do now. Then, using those projections, I think it should be possible to formulate a table of 16 numbers, as I described, for a consensus forecast as well as the policy variables in alternatives A, B, and C. So you have tables that go along with each of the statements. We've already got one set of numbers in each statement implicitly because we've got the policy variables in them. These can be circulated as part of the draft alternative statements and eventually would become part of Tealbook B. And then, we would discuss these various alternatives, including the associated forecasts. I don't have in mind trying to discuss confidence intervals in this context, but just the numbers of the modal forecast. We will be engaging in some numbersmithing, just as we do wordsmithing right now, but it ends up being a manageable process. At the end of the day, the members will be voting on the statement, including this consensus forecast of both economic and policy variables. What I see is that the eventual output will closely resemble the Riksbank's postmeeting press release.

I would be very enthusiastic about running an experiment in July with the Chairman's caveats, but it might be a good idea to consider experimenting with not just one process, but maybe running one or two at the same time to try to make sure we are getting the best possible process. It doesn't have to be simultaneously—it could be sequentially instead. I have in mind, obviously, the process I suggested as well.

I will just echo what the Chairman said in his remarks, that this decision is going to be a long-lasting one. One thing I will caution the Committee and the participants on is that I think we all feel very comfortable with the current Chairman. I will speak for myself—I have a great deal of admiration and respect for him. But we have to be careful not to set up processes that we know are congruent with his particular talents and skills because there will be, at some point in the future, another person who will hold that job. We want to be sure that the processes that we

set up today are also congruent with whoever might hold that position. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I'd like to thank the communications subcommittee for all of their work on this, and Governor Yellen, in particular, who has really spearheaded this effort. As many of you know, and as I have stressed at previous meetings, I believe that the next logical step in FOMC communications is, in fact, to develop a quarterly monetary policy report similar to those produced by other central banks worldwide. We have, in my view, lagged behind other central banks in this dimension. I think it is time to catch up. In addition, I believe we can learn a lot from the experience of the other central banks in this arena. I found the staff memos on this subject extremely helpful.

In my view, the primary advantage of a QMPR is that it can provide improved communication by laying down a benchmark from which a robust discussion of monetary policy and the state of the U.S. economy can take place. To me what financial markets and other observers desire from the FOMC is a baseline view combined with a complete and full discussion of all aspects of the economic outlook up to and including special factors ranging from the effects of natural disasters to anomalies in financial market data. A QMPR modeled on those produced by other central banks could provide such a comprehensive discussion. This would be an improvement on the SEP, which provides many forecasts of a limited set of variables with only sparse background or context. I agree with the communications subcommittee that there are a host of detailed issues that would have to be ironed out before the Committee can realistically move forward on this issue. For this reason it is probably helpful to move slowly and deliberately. I view the current version of the SEP as somewhat cumbersome

as a communications tool for the Committee. For this reason I think the SEP should be downplayed or eliminated in a QMPR. The diversity of views on the Committee can be characterized in other ways. One of the hallmarks of many quarterly reports from other central banks is the iconic fan chart characterizing the degree of uncertainty surrounding the forecast of the economy. If they are realistic, the uncertainty bands are quite wide, much wider than even the range of views typically presented in the SEP. My view is that most or all of the participants will be able to see their own forecast as well within these confidence bands.

Let me now turn to the question of the ownership of the consensus forecast. I think it may work best if the Chairman is primarily responsible for the QMPR. Again, I see the report as a baseline from which interested parties can debate the issues of the day. We are still going to have our Adam Posens and our Andrew Sentances—our hawks and doves—and that debate will be eternal, but this will provide a benchmark from which that debate can occur. In contrast to President Kocherlakota, I do not think it would be that helpful to have actual votes on the QMPR, especially if the votes were portrayed as a complete endorsement of every aspect of the forecast. In that case, future members may feel compelled to vote against a particular QMPR on the grounds that some aspect of the forecast is quite different from their own view, and we all do have our own views. Instead, I suggest that we say that the QMPR is the "Chairman's summary" of the views of the Committee. I would see it as the duty of the Chairman, and any future Chairman, to ensure that the QMPR represents fair and accurate insight into the thinking of the Committee. I think a Chairman that got a long way away from his Committee would face a lot of problems.

I also think that we have a process already in place that could be used to develop the document. The process is the one that we use to produce the minutes of the meeting. In that

process, an initial version is distributed to participants who have a chance to comment on the draft and to ask for changes. A vote on the minutes is actually a vote to say that the minutes represent a good summary of the meeting, not that you agree with everything everyone said at the meeting. Because a consensus forecast is a larger project than the minutes, I see there being a larger number of iterations over a longer time period, but in principal, this same process could be used. Draft versions could also be circulated by section, instead of having us wait for a complete draft, and you could probably make faster progress by doing it in sections.

Finally, let me mention the policy assumption embedded in the QMPR. By putting out such a report, we would essentially be telling the world how we expect future U.S. monetary policy will evolve, not just in terms of the policy rate, but in terms of balance sheet policy as well. This may conflict with the communications subcommittee statement in the May 25 memo that "For a QMPR to be workable, it seems essential that this document *not* convey the Committee's policy decisions…." Other central banks have faced this question and found ways to resolve it. Some central banks have used a market-based expectation of future policy at the time the forecast is made in the QMPR. This is actually my preferred approach. In most circumstances, the market assumption should be close to the FOMC's actual plan. If they are a lot different, the Committee should be asking themselves, why are they a lot different? But in using a market-based policy expectation, we can make it clear that the Committee can and will change the policy path in reaction to changing circumstances in the macroeconomic outlook going forward. That's my reason for wanting the market-based expectation. Now, some central banks just don't worry about this so much. They simply map out the future policy path assumptions on all dimensions, and they try to make it as clear as possible that the projected policy path is subject to change going forward, depending on economic circumstances. And if

you look at the Riksbank's policy path over the past decade compared with what actually happened, you will see a chart that has a tangled set of lines because the actual policy path did not match the projected policy path on many different occasions. But the Committee simply says that, well, economic circumstances change, so we changed our expected policy path with economic circumstances. It's really a question of how comfortable is the Committee with laying out that future policy path, and then how comfortable is the Committee going to be in possibly changing that path going forward. The Riksbank is very comfortable over the past decade often changing that policy path. This Committee may or may not be as comfortable with that, and for that reason you could use the Bank of England's approach, which is to use the market-based assumption. Then you don't have to feel like you put a commitment out there that you're reneging on.

Let me just summarize. I agree with the Chairman and Governor Yellen and the communications subcommittee that a QMPR is a good idea whose time has come. The document should be characterized and thought of as the "Chairman's summary" of the Committee's view, and it is incumbent on the Chairman to get a good summary of the view of the entire Committee. I think we should move ahead on this, but slowly and deliberately. Fan charts will capture the diversity of views and will better communicate the extent of the uncertainty we face. It's always critical to be reminding people of how much uncertainty there is around these forecasts, and that moving things around a tenth or two is not really that meaningful in the context of the uncertainty that's out there. And finally, a market-based policy assumption preserves the Committee's right and ability to act in the future and prevents the QMPR from becoming a de facto policy document. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. I do support this initiative to explore the development of an FOMC consensus forecast and a quarterly monetary policy report. I see it as a potentially very useful enhancement to our policy communications. As I have said before on many occasions, increasing transparency is a journey, not a destination in some sense, and I view this exploration in that light. I do see no particular urgent problem in current communications that would necessitate rushing to a policy report. Rather, I believe we should take time to fully explore the many nuances and issues surrounding development of such a report. We currently have a variety of vehicles to communicate to the public in addition to the statement, including the Chairman's press conferences and speeches. We also have the quarterly SEP and the semiannual policy report to the Congress.

I actually can envision, for example, that the SEP and the report to the Congress could be collapsed into one monetary policy report that would provide three very important things: a comprehensive expression of the range of views of the Committee—as President Bullard just noticed, fan charts can help a lot in representing that—a consensus forecast that informs our policy decisions, and the opportunity to clearly articulate both the range of economic conditions that go into our thinking as well as our policy strategy. Done right, I believe that such a report can substantially enhance our policy communications.

I think we can learn a lot from running the experiment that has been outlined by Governor Yellen and the Chairman in conjunction with the July meeting, and I am comfortable proceeding along those lines. For the purpose of the experiment, it seems reasonable to proceed, as suggested in the memo and as augmented by the Chairman, with having the Chairman be responsible for drafting a consensus forecast prior to the meeting and then soliciting participants' views on whether they could endorse the forecast, had reservations, or preferred some alternative

forecast. In July this has a particular disadvantage to it because I envision, as President Bullard discussed, that we would have a mechanism for submitting the SEPs, which actually captures the range of views. Sitting in the Chairman's position, it seems to me that having those SEPs at his disposal as he begins to craft a consensus forecast could be highly useful. You won't have that in July, but we would have it in September. I believe that can be very useful, whereas individually trying to collapse verbal conversations that might go on with everybody would be a more difficult task. Keeping the SEPs and doing those SEPs can be useful inputs into this process.

It is reasonable to operate under the assumption that the Chairman will retain ultimate responsibility for the consensus forecast and the narrative surrounding it. However, whether this is a stable outcome or, put differently, whether the report ultimately will be useful and a beneficial communications vehicle is going to depend a lot on how this process plays out and how it works and what goes into the consensus forecast, and more importantly for the report, how the diversity of views section is actually handled. As President Kocherlakota mentioned, it's going to be important that we understand that whatever process we set up, that we around this table have a lot of confidence in the Chairman and his ability and his skills to do this. Whether that will always be true with other Chairmen remains to be seen, and we have to be a little sensitive that we set up a process and a mechanism that is robust across different individuals that may sit in that chair. Even if the Chairman retains responsibility, I still envision the Committee voting on the entire report, as President Bullard suggested, much like we do with the minutes whereby the Committee members vote on whether the minutes fully reflect what happened in the meeting. The policy report would fully reflect the views and perspectives that

went into developing our policy. The Committee would vote both on the consensus forecast and the accuracy of the report reflecting the range of views.

The only way we are going to get a better handle on how this is going to work is to try it, and we'll no doubt discover lots of pitfalls, troubles, and things we will have to iron out, but I think it is important that we give this a fair try and be willing to adapt it as we go along to fit whatever we discover in the process. I am very strongly in favor of having a monetary policy report for some time, and I would encourage us to begin this journey, but to do so at a very deliberate pace. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I don't have any deep objections to going ahead with this experiment, but I'm relatively skeptical of the benefits it offers us. Relative to the Summary of Economic Projections we do now, it's hard for me to see what else we could do that people out there are clamoring for. I understand the benefits of a quarterly monetary policy report that offers a richer narrative discussion of aspects of the forecast, and I agree with President Bullard, President Plosser, President Kocherlakota, and Governor Yellen on the value of that. But it is not clear to me that the SEP doesn't convey a fair amount already. I think the central tendency ranges aren't that large in the grand scheme of things and that fan charts could be incorporated into the SEP without too much bother.

Governor Yellen made reference to an inordinate amount of time that might be required to extract from Committee participants the textured information that goes into a broader forecast that some other central banks do. But I am not quite sure I see how the procedure gets around requiring an inordinate amount of time of all of us without essentially foregoing gathering that information from us. So I'm not sure what this accomplishes. The other perspective I bring on

this is that we have made a bunch of changes in how we communicate in the past year with what we did last August and what we did in January. I don't think market participants have had a lot of time, and I don't think we've had a lot of chances, to have some experience using it, changing it, and seeing how our communications tools vary with economic conditions. I'm drawn to the idea of taking a pause on our journey and taking some time before we take the next step, and I'm wary of us being seen as throwing communications tools willy-nilly at the public, innovating at an excessively rapid pace in this dimension. I have a really cautious view about this.

CHAIRMAN BERNANKE. Okay. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. Many of my views have already been expressed, including some concerns. I am overall supportive. I agree with the premise that if the Committee could formulate a consensus outlook—an outlook that served as the basis for the most recent policy decision—and if that were accompanied by the characterization of the consensus view on the degree of uncertainty and balance of the risks, all of this would enhance communication and possibly enhance policy effectiveness.

I thought the May 25 memo dealt with a number of implementation ideas, and they certainly are worthy of consideration, but before tackling those ideas, I would like to raise what I would consider a more first-order conceptual question, one already discussed by President Bullard, and that is the treatment of the policy assumption. Continuing to condition on individual policy assumptions that would serve as a starting point of formulating consensus forecasts could be problematic. That is part of the problem with the current SEP. And it is worth pointing out, as has already been noted, that the Bank of England avoids this challenge by basing the consensus forecast on a market expectation for policy, and although it is my

understanding that it is not done today, this approach was also suggested for the Riksbank by a recent Swedish government review panel.

Also I would make a slight cautionary note as we go forward, and that is that the FOMC is not designed for arriving at a consensus rationale for policy decisions, rather, just arriving at decisions. Voters can choose to support a policy decision for quite different reasons, and I am concerned that as we try to wrap as many of us as possible into a consensus outlook and rationale, the product could be diluted a lot and might not be, at the end of the day, very effective as a communications tool. There's also the question of the Committee with a capital C, that is, the voters or participants. I prefer participants so as to get beyond the changing makeup of the Committee and to avoid any question of the future relevance as we get toward the end of the year.

Now, let me respond to questions two and three, which deal with practical implementation matters. On the question of does it seem reasonable that the Chairman consult with the Committee, whatever that is, in developing the consensus—yes, I certainly agree that the Chairman's lead would be very helpful in getting this done. But somewhat like President Kocherlakota, I'd prefer a bottom-up approach as a starting point, along the lines of the existing forecast submission versus essentially reacting to a forecast presented with the requirement of deciding how material one wants to consider differences with that forecast. Starting with something along the lines of the SEP would be my preference. The submissions could be modified to deal with the question of the underlying policy assumptions, and then from these formal submissions, the Chairman, helped by the staff, could take the lead in deriving a consensus forecast.

On the third question of whether it would be worthwhile to conduct an experimental exercise in July—yes, I think a proof of concept trial run or two or maybe three is certainly necessary going forward. However, I am a little hesitant to go down the implementation path without first resolving the question of how to deal with the policy assumption. The process described by Governor Yellen seems very deliberate and careful to me. I certainly endorse multiple trial runs. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. I, too, want to acknowledge the subcommittee and thank Governor Yellen for helping us think through communication. I also want to thank the staff who pulled together that comparative analysis. I found that particularly helpful in looking across other central banks.

It is not clear to me, though, that the consensus forecast approach offers "a significant enhancement," as question 1 is worded, to our current policy communication or that our current approach is flawed to the point of warranting a change of this magnitude. I think that the public has come to understand and expect this diversity of views, and the SEP, although granted it has some issues, provides a very democratic method to convey the outlooks of the FOMC participants. Regarding a QMPR, an enhanced narrative could be useful, but it seems to me that the narrative of the staff forecast is already provided in the FOMC meeting minutes and that adding another narrative or changing a such a well-tested vehicle for communicating could raise some questions for us in the near term about explaining our decisions as clearly as possible. Despite these reservations, I am not opposed to proceeding with a trial run of some sort, although I am, at this stage, a bit skeptical of its value relative to what we do today. Thank you.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. I'd like to add my thanks to the subcommittee who put a lot of thought into this topic, and I, too, found the memo comparing different practices across central banks very helpful.

In a perfect world, I think publication of a quarterly monetary policy report similar to those published by other central banks would be useful. It has obvious benefits in terms of more clearly and comprehensively portraying the consensus outlook, the risks to the outlook, and very importantly, the rationale for policy actions. But I want to mention something that is very important right now in that these benefits come with significant costs. In approaching this undertaking, we need to think very carefully not just about the benefits, but also of the costs, especially in terms of staff resources. In particular, we should focus, in my view, on the problem we are trying to solve and whether it can be addressed at lower cost using our existing outlets, such as the SEP, the Chairman's press conferences, and the minutes.

I am actually struck by the discussion and the comments so far. There seem to be multiple objectives out there. One is a monetary policy report as in done in other countries, which provides this very comprehensive, verbal description of consumption, investment, and the entire economic outlook, and like President Bullard mentioned, really does not take a stand on policy. It is more of a comprehensive discussion of economic conditions and the outlook. Then I listened to President Kocherlakota's comments, which I am very much in sympathy with, that expressed the view that what we are trying to do is provide the rationale for our policy decisions—that is, provide the forecast that goes with the policy decision—which is very different than, say, what the Bank of England does.

Regarding staff resources, I am very concerned that the Board staff, in particular, has a very full plate. The subcommittee's proposals represent a significant undertaking in terms of

staff time. I know that the Chairman mentioned that an important goal was to have no net additional burden on the staff, but I think that is going to be hard to do. I would also just emphasize that key senior staff really have the greatest burden today, and they are the ones who are going to have a major role in the development of something such as a QMPR. Moreover, given the heightened uncertainty about future events and the fact that we may soon need to dig deeper into our toolkit of unconventional monetary and liquidity policy tools, this is a particularly inopportune time to distract the staff's attention from the all-important policy analysis, which is what we actually need here and what we rely on so much for our policy discussions and decisions.

If the main problem that we are trying to solve is to focus the public's attention on the consensus forecast that underlines and provides the rationale for the policy decision, then a lower-cost solution might be to leverage our existing communication platform, such as the SEP, the press conference, and the FOMC minutes. President Kocherlakota gave an example of that in terms of the FOMC statement. We could redesign, for example, the presentation of the SEP in terms of the tables, the charts, and the verbal description to highlight and focus attention on the consensus forecast, and this could be the consensus forecast of the voting members of the Committee. It could be chosen by the Chairman based on, say, preliminary SEP submissions from the FOMC members as described in one of the memos. I do see a great value in having the consensus forecast that provides the rationale for the policy decisions. That is far less work, however, than actually writing a quarterly monetary policy report. In this model, in my view, the full range of SEP submissions would still be presented in order to convey the diversity of views across participants. That information would play second fiddle to the main message of the consensus forecast. That is very important. However, I also view, as Governor Yellen

mentioned, that the diversity of views portrayed in the SEP has advantages and benefits, too. It sends the important message that we are not locked into group-think, focused on one point forecast, but rather are regularly confronting and synthesizing a wide range of perspectives in coming to our policy decisions.

In sum, I support developing a consensus forecast and the trial runs that are laid out in the memo. As President Plosser said, this is a journey that we should be on. From the point of view of staff resources, we should now focus more on improving our communication with a consensus forecast using tools we already have and should put off development of a full-blown QMPR until later, benefiting from the experience that we have from developing the consensus forecast through the existing means. Thank you very much.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. I also want to add my thanks to the communications subcommittee for their continued efforts to enhance our communications, and I am in favor of enhancing our communications. While we clearly have enhanced transparency with the adjustments we have made to our communications so far, some of the initiatives have also generated some unanticipated complications. I am pleased to hear that the plan is to move slowly and to have several meetings to experiment with developing a consensus forecast. I am concerned that if we pursue a consensus forecast too hastily, the revised process could adversely affect the Committee deliberations. Historically, the diversity of views has greatly benefited our decisionmaking process, and it would be unfortunate if we moved to developing a consensus forecast that encouraged more group-think and discouraged diversity of views. The question of how we organize our discussion around the consensus forecast is critical. In order to maintain the value of the full range of perspectives, I have one recommendation to make that several

others have already made, and that is to suggest that we move up the SEP submissions by a week or two. Then the Chairman would be able to consider the full range of projections along with the staff's preliminary forecast before offering a consensus forecast. A potential starting point for the consensus forecast might be to take the midpoint of the central tendency, which would then reinforce the value of our independent analysis.

It is critical that we deliberately and carefully vet any major shifts in our policy communication strategy. As best we can, we really need to see how this new approach in generating a consensus forecast would work in different economic and policy circumstances. I know that might be difficult, but regardless of the approach taken, I am convinced that we should see, as you are recommending, how it performs through several meetings. When we do make this large of a change in our communication approach, it is important that we vet it. That sounds like the approach that the subcommittee is recommending, and I am supportive. Thank you.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. I also want to thank Governor Yellen and the subcommittee for proceeding cautiously in an effort to get it right, and I think that is how we should proceed.

I just have a few comments, Mr. Chairman, following up on the comments that have been made heretofore. In general, I share the skepticism that President George and President Lacker have expressed, and I am a little bit confused. When you read through the memo, there is interplay between the Committee and the participants. It is important, as President Lockhart pointed out earlier, that we reflect the full view of the Committee because, unlike the Riksbank and every other central bank that I am aware of, this is the only central bank that has rotating or occasional voters. To capture that overall view, particularly as we approach a year-end, would

be very important. I believe that President Bullard's proposal, which is that the ownership of this exercise would be vested in the Chairman, is perhaps the way to get around that, but I would hope that as we and if we develop this consensus forecast the full range of views of the participants is reflected in the exercise.

With regard to the three questions, again, I agree with President George and President Lacker. It may be an enhancement; I am not sure it will be a major enhancement. We do have the meeting minutes, which I think provide a very full rationale. We have the SEPs. We have our semiannual report to the Congress. This would allow us to provide more detail to be communicated to the public and perhaps, if we do it right, to present a more coherent and cohesive story about our outlook. But I am not sure how much it really adds at the margin, and I would like to see that thought through a little bit more. I do think that, as President Lockhart pointed out, the real emphasis has to be placed on how policy is conducted, not really how to communicate or rationalize how we communicate it. That is not the problem; the problem is the conduct of policy. But that being said, good communication is essential for implementing good policy. Once a policy framework is adopted, it does serve as a commitment device, and it is important to underscore what President Lockhart mentioned.

With regard to the second question and the third question—I've partially addressed this so far—basically what we are saying is that even if we have a full range of the participants' views, which I would insist upon as being fair, in the end the Chairman and the Board staff will be the final arbiters of the forecast and the narrative. I do not think there is any other way to work it. To their credit, at least in my seven years' experience here, the Board staff has generally been fair and balanced, certainly in the minutes it prepares after every meeting, and I would hope that that would continue if we proceed with this exercise. With regard to the third question—

would it be worthwhile to conduct an experimental exercise in conjunction with the July meeting—I would say yes. I was struck by President Williams's comment that we already have an enormous burden on the staff at a time when we have very difficult puzzles to solve, and I think it will take several trial runs, and we should proceed quite slowly. Those are my comments, Mr. Chairman.

I would just like to conclude by saying that my one concern here with regard to developing a consensus, even in your able hands, is that it be a consensus of the entire table, not just of the voters. We need to make sure that we do not undercut what I consider to be our greatest virtue. As I was mentioning to one of our new Governors earlier, I do believe this is the last great deliberative body in Washington, and we have to make sure that we reflect the diversity of views at this table. I know this brings a smile to your face, but I can tell you the Supreme Court is no longer as deliberative as we are. We don't see it anywhere else, and we need to reflect that richness that we have here at the table, and I hope it is incorporated.

In summary, I would go very slow. I would be mindful of the fact that we have other things that are very important presently, and I would hope it reflects the entire diversity of views at this table. And lastly, we are inundating the public and the markets with information. This may provide some new information at the margin, but I am somewhat skeptical. Thank you, Mr. Chairman. Thank you, Governor Yellen.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I very much support trying to move forward to develop a consensus forecast and a quarterly monetary policy report, and I thank the subcommittee and Governor Yellen, for their efforts. A lot of thought and I'm sure a great deal of time went into this exercise.

As I have noted before, where we are right now is not a good place. The SEP is deeply flawed in a number of respects—no linkage of the individual interest rate forecast to the individual forecasts of economic growth and inflation, the ongoing potential for a disconnect between the median SEP liftoff date relative to the liftoff date expressed in the FOMC statement, difficulties in assessing what changes in the SEP mean when changes in the composition of the Committee occur, such as Governor Powell's and Governor Stein's accession to this Committee. That has changed the SEP, but in ways that are not going to be obvious to the public. And, lastly, the SEP unfortunately focuses attention very much on our differences rather than our similarities.

We should take our time in doing this, and we should be willing to test several different approaches before going public. A model in which the Chairman generates an initial consensus forecast before seeking outside input does have a number of attractive features. It is not cumbersome, and it has the advantage that the individual Committee participants don't have to come up with their own forecasts. Also, it presumably can be done within a relatively short period of time. It is going to be up to date as circumstances change.

But there are several potential shortcomings to this type of approach that we at least need to note. First, this approach could make the staff forecast very central to the process. Not only could this make it more difficult for the staff, over time, to produce a truly independent arms-length forecast, but it also runs the risk that the consensus forecast would rest too heavily on a single model or perspective with respect to the economic outlook. Second, and this is more important, a too-centralized approach without sufficient iteration might not lead to a true consensus. This is critical because the goal should be to have the policy deliberations and judgments of the Committee match what is ultimately communicated in the monetary policy

report in terms of the consensus forecast. If this doesn't all hang together, then we will still have a problem in that what we are communicating doesn't match how we are actually evaluating the outlook and the reaction function that we collectively use in the conduct of monetary policy. For these reasons, it might be worthwhile trying out other alternatives as well, and I note in your comments, Mr. Chairman, that you introduced a wrinkle, which I think maybe goes in the right direction. Conceivably, you could start the process with the Committee participant submissions of those who wish to do so. The Chairman could then develop the first iteration of the consensus forecast from these submissions. That is one alternative, and it might be interesting to try others. Third, as others have said, in conducting these experiments we have to think very carefully about how robust the process is likely to be over time, as the composition of the Committee and the identity of the Chairperson changes. I endorse what other people have said on that point.

Now, in terms of a vote or not a vote, I have been wrestling with this. It is not clear to me that a vote on the consensus forecast is absolutely necessary, but I do think that the process has to conclude in a way that there is an explicit endorsement of the outcome by the Committee. This is necessary so that market participants will perceive that the forecast does in fact represent the Committee consensus. Now, the endorsement doesn't necessarily have to be agreement about the consensus forecast itself, but, instead, could represent agreement that the consensus forecast is somehow a "fair" representation of the consensus. In this latter case, the Committee participants could still endorse adoption of the consensus forecast, even if their own forecast differed in material ways from that consensus.

In terms of the quarterly monetary policy report, I do think it is a good thing to work toward. I'd put the emphasis for right now, though, on developing a consensus forecast—the monetary policy report can be the caboose, assuming we actually succeed in this first process.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. In order not to repeat a lot of what has already been said, I don't have any concerns with an approach that meets all of the criteria that you laid out. I am not certain how much stronger it is. I agree with President Lockhart that we can come to a consensus on action; I am not sure we can come to a consensus on what led us to that action. A lot of our discussions on communication have really been discussions about a level of consensus that I am not sure is possible with 19 different people.

As we have gone around the room, everybody seems to have different ideas of what this idea actually means, and so I would be careful about that. I also agree with President Williams that we have to be careful and that this is not without cost. And the trial period is particularly not without cost because if we are going to do this without increasing the burden on staff, it would imply that there is something we are not going to ask staff to do anymore after they start doing this.

MR. TARULLO. Sleeping. [Laughter]

MS. DUKE. When you are in a trial run, you are going to be doing both. And so I think the trial period in particular will create some burden. The second thing is that it seems to me this changes the timing of our process because if we are going to submit projections two weeks earlier, then I need the Tealbook two weeks earlier. I know that wouldn't create any extra burden on staff! And then, you would have the update to that Tealbook. We do have to be careful on that.

I would suggest a couple of things. One is that we make a moratorium on other changes to our communication while we are testing this one. We rushed out the changes adding the fed funds rate to the SEP, and we have now been unhappy with some of the things we learned about

the peculiarities of the size of our Committee and the voters versus nonvoters. I liked the suggestions that were made by Presidents Kocherlakota, Williams, and Plosser on ways to change the statement. But I worry that if we go back to that, all of a sudden we are now changing our statement in ways that are pretty noticeable, and the public is going say, "Okay, why are you changing that? Is this the communication change that was foreshadowed in the minutes, or is it something else?" If we think we have an idea of what we want to go to, we shouldn't do other things in the meantime. And second, because this is going to create some burden, we should be clear that this takes a backseat to policy action. We are in an arena where policy action might require an awful lot of staff time, and I would hate to see them torn between working on the new consensus forecast and working on what we are going to do at the next meeting. That could create some conflicts.

Finally, on the quarterly monetary policy report, we already have a semiannual monetary policy report to Congress, and it certainly wouldn't hurt to work on the format of that. Most other central banks have shorter reports. I can't imagine we'd get any congressional complaints that our monetary policy report was too short or too skimpy, so we can certainly work on that as we are doing the monetary policy report. But we are going to have to think of a way to make that report quarterly without also doubling the opportunities for the Chairman to appear in front of the Congress and explain what it is that we are doing. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you for thinking about me. [Laughter] President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I have two process comments. The first is that I would defer the trial until September for two reasons. One is that I think Europe is much more pressing right now. We should be focused on the brewing problems in Europe and

that should be the topic of the July meeting. And, the other is that it should be integrated with the SEP, and so doing it in September makes a lot more sense. If we spend some time on contingency planning in July, then we can spend September, I hope, thinking about these other things. But we ought to get the priorities appropriately aligned.

The second is tied to President Kocherlakota's comment that the policy and the forecast are intertwined. I am worried about changing the dynamics of the meeting. I came here with an open mind about how we should be thinking about this and was hoping that I would have some of my views informed by everybody else around the table. I would like that to continue with monetary policy as well as with this type of decision. One question I had was whether the consensus forecast and the press briefing could be tied to the release of the minutes. It would change when you would do the press briefing, so that there would not be an emergency right after the FOMC meeting to try to integrate everything, and it would possibly allow integrating some of the information into the minutes rather than having a completely separate press report. The advantage would be that we could jointly discuss around the table both the forecast and the policy, and they would be intertwined. Then we would have some time to put that all together, and it could come out at the time of the minutes, and that would give you more time both to reflect on the discussion and to integrate it into the minutes process. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I don't have any major comments. Being part of the subcommittee, I certainly endorse this proposal. I share some of Governor Yellen's comments about the SEP not being exactly as clear a communications device as we would like, and so I think that the consensus forecast process would help. One of the big benefits in this is that the consensus forecast would have some common monetary policy assumption on which

everybody's opinions about the economic outlook would be based. At the moment, the SEP is at best a confused product because we have different policy assumptions, and we don't identify ourselves, as Governor Yellen was mentioning. It is not possible to sort out the pieces as to why you think inflation is going to be at our target next year and why you think it is not. I think a common monetary policy assumption would be very good.

I want to note one thing that I picked up on when I was talking to my colleagues. As I have observed your press conferences, Mr. Chairman, it strikes me that they are not the easiest place to go out and respond to questions, especially the way that you so very correctly and authentically try to convey the opinions of the Committee and not just your own particular opinions. I would think that you would be one of the big beneficiaries from having a consensus forecast. In trying to describe the SEP, which is 19 different monetary policy assumptions, I am not sure if it is possible to answer some of those questions. But if we all got together behind, as best we could, some common forecast with a common monetary policy assumption, I would think that that would be a lot easier. I would certainly be interested in your opinions on that. That is an important consideration, at least in my mind. Thanks.

CHAIRMAN BERNANKE. Thank you. That is our list. Thank you for the comments. Governor Tarullo?

MR. TARULLO. May I say just a couple of things, Mr. Chairman? Thanks. I have listened to what everybody here had to say, and one thing that came out of this—which is a truism but probably bears repeating—is that all alternatives are imperfect. A number of people have noted the imperfections in the current SEP, which I think are substantial. People have anticipated imperfections in this as well. I think that is why Janet proposed an elongated and

iterative process here to try to figure out whether in fact we can come up with a better alternative.

The second point I would make is that I do think that the SEP is not serving us particularly well right now if the aim was to give more useful information to markets. I have talked to a number of people who read this stuff and pay close attention to it, and while there is a range of views, most people seem either not to pay very much attention to it at all, or to look at it as a kind of little game in which they try to find inconsistencies in the thinking of the Committee. This gets back to another point that Janet made two or three meetings ago about the need for something collective. We now have a divergence between forecasting and action, which creates the kind of problems that Charlie Evans and Narayana were noting earlier.

As I was listening to Narayana, it occurred to me that an important point here, which Dennis underscored as well, is what people think they mean by "consensus." And I guess I would be a little bit skeptical if in the more literal and etymological senses of the term we could come up with a consensus here. But what we are looking for is some sort of collective judgment or, as Narayana would have it, a series of perhaps alternative judgments. And that is a really useful desideratum to have, whether or not we can ultimately achieve it. I believe that is what Janet is trying to test with her subcommittee. If I heard correctly, I think there is, in some cases, reluctance or skepticism but in all cases willingness to let Janet's subcommittee do this on an iterative basis. I have a lot of sympathy for what Eric and John said about July, though.

The final point I would make is, if we go down this road, this would be a wonderful opportunity to fundamentally change the nature of the economic discussion that we have here, by which I mean dispensing with a series of readings of prepared statements on the economy, and instead actually moving toward a deliberation in which people, in talking about the forecast,

bring to bear their own views and maybe listen to and respond to one another. Thank you, Mr. Chairman.

MR. FISHER. We may be the last deliberative body, but we can be a better deliberative body.

MR. TARULLO. You know, I think we deliberate on monetary policy, not on the economics.

CHAIRMAN BERNANKE. Well, okay. Thank you very much. So as usual, we don't quite have a consensus. [Laughter] One thing that was very clear is this needs to be a slow and iterative process, and we can certainly try that. Some of the key questions raised were how best and at what stage to get the input from the Committee and what to do about the policy assumption, and we will think about that. Let me just state now I have at least a potential theoretical concern about taking the market rates as a policy assumption because that doesn't allow the endogeneity of policy to developments in the economy. What you would ideally want is some kind of rule, but, again, that is an issue we can look at.

On the staff time, I have already had some discussions with David Wilcox and others, and we have in mind a process that will be very light on the staff. I see Dave Reifschneider nodding his head, which is good news. [Laughter]

MR. REIFSCHNEIDER. Sorry, I was nodding to something Eric Engen said, not to you.

CHAIRMAN BERNANKE. Oh, not to me. Okay.

MR. WILCOX. That was not an authorized nod. [Laughter]

CHAIRMAN BERNANKE. We will try to be very undemanding of staff on this issue, recognizing the importance of the substantive policy questions that they are currently working on. I take that point. So we will try a little experiment. Many of the comments were extremely

helpful. We will go slowly, and if it doesn't work, I am totally prepared to move on and do something else. President Kocherlakota.

MR. KOCHERLAKOTA. Mr. Chairman, I was very struck by President Rosengren's suggestion that the experiment be in September. I don't know what your thinking and Governor Yellen's thinking was on that.

CHAIRMAN BERNANKE. Well, my original thought was to iterate on the preliminary Tealbook without having an SEP projection. We could try that, and then we could try the other in September. Okay.

If everybody is amenable, maybe before lunch we could get Brian Sack's final report on monetary and financial conditions.

MR. SACK.[3] Thank you, Mr. Chairman. If I could start on a personal note, I would like to say that it has been a privilege to serve this Committee over the past three years and to work so closely with you, President Dudley, Governor Yellen, and others at this table. Somehow, I thought that the Committee's exit strategy would take place before my own, but at this rate that might require me to stay here forever. [Laughter]

Okay, let me turn to financial markets. Growing concerns about a disorderly outcome in Europe and further evidence of a slowdown in global economic growth led investors to pull back sharply from riskier assets over the intermeeting period. Although several key risk events have passed—most recently the Greek elections this past weekend—the situation in Europe remains very uncertain, leaving financial markets in a fragile state.

The pullback from riskier assets was evident in global equity prices, shown in the upper-left panel of your first exhibit. The S&P 500 index fell notably in response to developments in Europe and disappointing U.S. economic data, with the index down more than 6 percent at one point. It has rebounded some over the past two weeks, supported in part by growing expectations for additional policy easing by the Federal Reserve, but remains more than 2 percent lower, on balance, over the intermeeting period. Equity price declines in Europe and in emerging markets were even steeper, reflecting investors' views that those regions might experience a more-intense weakening of economic activity.

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

Concerns about the global economic outlook were reflected in other financial variables as well. As shown to the right, prices of commodities, and crude oil in particular, declined significantly over the period, bringing them back to levels from early last fall. Corporate bond spreads widened notably, particularly for lower-quality issuers. And U.S. Treasury yields, shown in the middle-left panel, moved down further, with the 10- and 30-year yields falling about 40 basis points.

The Desk's survey of primary dealers asked about the factors leading to the decline in the 10-year Treasury yield. Respondents pointed to the weakening of the growth outlook and flight-to-safety flows as the most important factors. In addition, they indicated that expectations of additional balance sheet actions by the Federal Reserve were also somewhat important. The combination of flight-to-safety flows and anticipated balance sheet actions appeared to push the term premium down further, even though it was already very low by historical standards. Indeed, the Board's estimate of the 10-year term premium, shown to the right, fell about 25 basis points over the intermeeting period and currently stands at around minus 80 basis points.

Given the weaker outlook and greater concern about downside risks, investors pushed out the expected timing of increases in the federal funds rate, as shown in the bottom-left panel, with the market now pricing in more-significant odds that the rate will not begin to rise until late 2014 or early 2015. This view was corroborated by the Desk's primary dealer survey. As shown to the right, while dealers continue to assign the highest probability to the first increase in the federal funds target rate coming in the second half of 2014, the distribution now shows greater odds assigned to even later lift-off dates.

Your next exhibit turns to European developments and their implications for financial institutions. Over the intermeeting period, financial markets have been increasingly focused on the possibility of an eventual exit from the euro area by one or more countries. This focus was precipitated by concerns that the outcome of the second round of Greek elections could make further disbursements to Greece from the EU–IMF program unlikely. Greece is dependent on those disbursements to meet its debt obligations in coming weeks.

In addition, Greece is dependent on the Eurosystem's willingness to provide liquidity to its banks. As shown in the upper-left panel, Greek banks have obligations to the Eurosystem in excess of €100 billion, or nearly one-third of total bank liabilities. Moreover, deposit flight from Greek banks picked up meaningfully in May and June, implying that the reliance on central bank funding likely increased further beyond the data shown in the chart.

If Greece were cut off from EU–IMF support or from liquidity provision by the ECB, it would default on its debt obligations and would presumably exit the euro zone—a situation that could have severe consequences for market functioning and unpredictable contagion effects to other peripheral European countries. Sunday's

election results reduce the immediate risks of a disorderly outcome, but there is still considerable uncertainty about the path forward for Greece.

Greece has not been the only source of market pressure in the euro area. Investors have also become increasingly concerned over the capital needs of Spanish banks and the associated implications for the debt sustainability of the Spanish government. Euro-area policymakers reached an agreement that up to €100 billion of European financial stability funds would be used to recapitalize Spanish banks. While this step was seen as productive in some ways, it also led to worries about the additional debt burden for Spain.

In general, market participants are increasingly questioning the longer-term fiscal sustainability of Spain and, to a somewhat lesser extent, Italy. As shown in the upper-right panel, sovereign debt spreads for those two countries have increased significantly over the past two months. This upward pressure on funding costs, along with the downgrade of euro-area growth prospects, will add to the fiscal challenges facing those sovereigns. Reflecting these concerns, all three ratings agencies have downgraded Spanish sovereign debt into the BBB range.

The ability of these sovereigns to continue to access funding will likely be an ongoing source of uncertainty for financial markets. Despite some attempts to front-load their debt issuance, Spain and Italy have significant borrowing needs for the balance of the year. Domestic banks in those jurisdictions had ramped up their holdings of this debt earlier in the year, helping the sovereigns to meet their funding needs, as shown in the middle-left panel. However, those banks may be reluctant to increase their holdings further, as evidenced by the slowdown in purchases in April. Moreover, the ECB has not been providing a direct backstop to the sovereign debt market, as its Securities Market Programme has been completely inactive since the end of February. Absent additional policy actions, we see meaningful risk that the pressure on these sovereign debt markets will continue to mount.

The broad deterioration in investor sentiment toward the euro area has put significant downward pressure on the exchange value of the euro against the dollar, as shown in the middle-right panel. The dollar has also appreciated substantially against emerging market currencies and other advanced economy currencies, with the exception of the Japanese yen. The broad dollar index gained nearly 3 percent over the intermeeting period.

Despite the risks surrounding the situation in the euro area, widespread signs of stress have not emerged in short-term funding markets. Dollar funding markets generally remained stable over the intermeeting period, as seen in the bottom-left panel. This pattern likely reflects the considerable amounts of liquidity that central banks are already providing to the financial sector. In addition, euro-area banks have reduced their demand for dollars by shedding dollar-denominated assets.

While short-term funding does not appear to be under pressure, broader measures of risk for the financial sector have worsened some. As shown in the bottom-right

panel, CDS spreads for U.S. financial institutions widened over the intermeeting period, reflecting concerns about both the euro-area situation and domestic growth prospects. In addition, uncertainty surrounding anticipated downgrades by Moody's of global capital market banks weighed on the sector. Bank equities also came under pressure after the announcement of large unexpected trading losses at JP Morgan—involving the other "whale." Investors were concerned about the potential regulatory response to that event and the associated implications for the future earnings potential of financial institutions.

Your final exhibit turns to recent Desk operations and market expectations of additional balance sheet actions. The Desk is nearly finished implementing the maturity extension program—at least as it was originally planned. As shown in the upper-left panel, the Desk has purchased about $380 billion of longer-term Treasury securities though 121 operations, and we have sold just over $383 billion of shorter-term securities through 52 operations. Given the difference in the duration of the securities purchased and sold, the MEP has removed more than $400 billion of 10-year equivalents from the market. The last scheduled operation under the current directive is on June 29.

However, with the growing angst about the economic outlook and downside risks from Europe, market participants have come to see greater chances of additional policy actions by the Federal Reserve. As shown to the right, the Desk's primary dealer survey shows that market participants see high probabilities of further policy steps over the coming year (the blue tick marks), with meaningful probabilities assigned to this meeting (the red tick marks). Specifically, the median respondent saw a 35 percent chance of a further increase in the duration of the SOMA portfolio at this meeting (presumably through a continuation of the MEP) and a 25 percent chance of an increase in the size of the portfolio. The chance of the FOMC taking at least one of those two actions at this meeting (shown to the far right) was put at 50 percent.

The ability of the FOMC to continue the maturity extension program is obviously constrained by the amount of shorter-term Treasury securities that are available to be sold from the SOMA portfolio. As shown in the middle-left panel, SOMA holdings of securities with remaining maturities of three years or less will have declined about 70 percent by the end of June as a result of the current MEP, to around $200 billion.

Of course, securities with slightly longer maturities will roll down into this maturity range over time, adding to the potential capacity to extend the program. Taking this into account, the Desk estimates that it has the capacity to continue the maturity extension program at its current pace of $44 billion per month through the end of the year, with a slight adjustment to the maturity of the securities being sold to just over three years. Note that, to achieve this outcome, the Desk would have to take SOMA holdings of securities in this maturity range essentially all the way to zero.

The other potential constraint on continuing the maturity extension program is the size of our holdings at the longer end of the Treasury yield curve. As shown in the

table to the right, under the current MEP, the SOMA portfolio will own 30 percent of the total outstanding amount of Treasury securities in the 6-to-30-year maturity range by the end of June. An extension of the MEP through December would bring this share to 33 percent. Holding such large portions of the market raises some risk of harming market functioning. However, we have not seen any meaningful deterioration in the liquidity of the market to date and thus believe that the market could withstand this extension of the MEP.

Some market participants have argued that the sales of shorter-term Treasury securities from the MEP are putting upward pressure on overnight interest rates. Indeed, dealers' holdings of short-term Treasury securities have reached unusually high levels, in part reflecting the ongoing sales from the program. Because dealers tend to finance these securities in the repo market, their holdings may be pushing repo rates higher. As shown in the bottom-left panel, the Treasury repo rate has risen gradually over the course of this year to around 25 basis points, and the federal funds rate has been pulled up as well, rising to over 15 basis points most recently. If the MEP were extended, it is possible that the upward pressure on these rates would persist for a time, with the federal funds rate perhaps remaining in the upper end of its target range and the Treasury repo rate remaining above the federal funds rate.

As noted earlier, dealers also saw considerable odds of an outright expansion of the SOMA portfolio, either in place of or in addition to a continuation of the maturity extension program. The panel to the right shows the projected size of the SOMA portfolio from the dealer survey. Eleven of the 21 dealers included an LSAP in their baseline forecast of the balance sheet, and the median response among those dealers indicated that the LSAP would be just above $500 billion in size, resulting in the increase in asset holdings shown by the dark blue line. Almost all of those respondents expected the asset purchases to involve a combination of Treasury securities and MBS. The prospect of MBS purchases by the Federal Reserve was cited as a factor keeping the MBS spread to Treasury securities relatively narrow over the intermeeting period.

Lastly, I would like to seek the Committee's approval of two amendments to the Authorization for Domestic Open Market Operations conducted by the Federal Reserve Bank of New York. Details of both requests are outlined in a memo you received ahead of this meeting.

First, I would like to ask the Committee to grant new authority to the New York Fed to conduct—for the purpose of testing operational readiness—small-value operations in the types of transactions described in the first paragraph of the Domestic Authorization. This authority would essentially be an expansion of the November 2009 resolution authorizing small-value reverse repurchase agreement operations. Those operations have provided valuable opportunities for counterparties, clearing banks, and the New York Fed to identify and resolve operational issues before the tool is employed on a larger scale. As a matter of prudent planning, the Desk believes that it is important to conduct similar exercises for other types of domestic open market operations. Specifically, we would like to perform small-value repurchase

agreements in the near term. We also anticipate the need to conduct small-value sales of mortgage-backed security next year, once that capacity is incorporated into the FedTrade system. The proposed authority imposes limits on the allowable size of these operations and establishes that prior notice of the transactions must be given to the Committee.

The second proposed change relates to the accounts that the New York Fed maintains for central banks around the world for managing their U.S. dollar reserves. The activities in these accounts include the clearing and settlement of U.S. Treasury and other fixed-income securities. By virtue of the settlement process on Fedwire, occurrences of daylight overdrafts inadvertently arise in customers' accounts in the normal course of business. The proposed change asks for the authority to allow the New York Fed to conduct intraday repurchase agreements (or daylight repos) with foreign central bank customers to address these overdrafts and better protect the Bank's interests. The proposed facility was described in an informational memo to the Committee in June 2009 and was approved by the Board of Governors under Regulation N in July 2011. The staffs at the Board and the New York Fed have finalized the proposed procedures and would like to move forward with implementation. Thank you.

CHAIRMAN BERNANKE. Thank you. Questions for Brian? President Fisher.

MR. FISHER. First, again, Brian, thank you for your service. Following the distinguished line you followed, you filled those shoes very ably, and I want to thank you for what you have done. And I want to draw on your experience now to address your exhibit 3, number 16. Would it be prudent in your view to have 0 percent holdings between zero and three years in the SOMA portfolio? What would be a rational amount for us to hold, just for the sake of maintaining healthy market operations?

MR. SACK. There are some consequences of taking our holdings to zero. In particular, we won't have any of those securities available for our securities lending facility, and we won't be rolling over any securities into new, longer-run issues for securities lending. The first program has already taken our holdings down meaningfully. So to some degree, this effect is already in place, and the first program has actually left us with a very odd profile of maturities and rollovers. The most extreme example is that in the middle of October we literally have a maturing issue of $200 that under our current procedure we would try to roll over into the

multiple securities being issued that day. My point is that we are already facing some of these issues. Obviously, taking it to zero will take it to the extreme. Having said that, we regard those type of issues—and securities lending, in particular—as secondary to the policy purposes of adjusting the portfolio in this way. And of course, our not holding these securities means someone else will be, and those other investors may also make the securities available to the repo market. So it is not clearly that detrimental to the markets.

MR. FISHER. And then the second question relates to extending the MEP in the 6-to-30-year maturity range where we would end up holding one-third, according to this table. With regard to exit, the sell side is always different than the buy side, and we are going to be holding a significant portion of the issuance in that maturity period. Do you have any concerns about that; do you think we can ably negotiate our way through or sell our way through in a rising interest rate environment? And how does it affect the buy side, those we would be selling to?

MR. SACK. Let me say a couple of things. First of all, the issue I was raising in the briefing is that, as our holdings go up in size as a portion of the market, at some point, we always have this concern about impairing market functioning—just associated with our holdings, not necessarily with sales. It wasn't long ago we wrestled with whether we could increase the 35 percent limit on any individual security, and here we are considering policies that may take us basically to that limit for the entire market. So we are in uncharted territory; it is hard to figure out how far you can go. But as I said in the briefing, because we haven't seen meaningful problems with increasing our holdings to 30 percent, we are confident we can keep going.

In terms of your question of whether we will be able to sell these securities, I think we are quite confident we will be able to sell the Treasury securities, even in a rising rate environment. Obviously, the securities will reprice, and the market will be trading at a different

level, but there is no reason we shouldn't be able to sell these securities through a competitive process at market prices.

Doing this operation does have consequences for your exit strategy, which you may want to think through. For example, the June 2011 exit principles rely on redemptions early and for quite a period to reduce the size of the balance sheet. This will clearly reduce your capacity to shrink the balance sheet through that channel for a number of years. It is worth considering at some point whether these actions warrant additional consideration of your exit strategy, but I don't have any concerns about the actual ability to execute sales, however that falls into your strategy.

MR. FISHER. Thank you, Brian.

CHAIRMAN BERNANKE. Brian, you show in number 16, "SOMA Treasury Holdings as a Percent of Outstanding." What is the denominator there?

MR. SACK. Total outstanding securities in the market. So related to that, you can create alternative statistics that would be even more concerning if you took out, say, foreign official holdings, which maybe aren't available to the market, or if you took out bonds that have been stripped, because the market can't easily reconstitute bonds. But what I am showing is relative to the market as a whole.

CHAIRMAN BERNANKE. I think this is a much smaller number than the U.S. publicly held government debt. The U.S. public debt is on the order of 75 percent of GDP, which is roughly $10 trillion. What is the relationship of that number to this number?

VICE CHAIRMAN DUDLEY. We're skewed to the long end now, right?

MR. SACK. Right.

VICE CHAIRMAN DUDLEY. And Treasury is not as skewed to the long end as we are.

MR. SACK. We own $1.6 trillion of total Treasury securities.

CHAIRMAN BERNANKE. You have a similar number for three to six years. Oh, it's the fact that we don't own bills.

MR. SACK. It's the zero holdings in the zero-to-three-year maturity range.

VICE CHAIRMAN DUDLEY. There is lot of issuance in that sector.

CHAIRMAN BERNANKE. Okay. Thank you. A two-hander from Governor Duke.

MS. DUKE. Brian, remind me what percentage of the total agency MBS market we hold, and then, in addition to that, are there any exit issues or percentage holding issues with MBS that are different than for the Treasury market?

MR. SACK. We face similar issues there. If you look as a share of the market that we transact in—fixed coupon, TBA-eligible-type agency securities—I think our current holdings are probably in the low 20 percent of outstandings, and I believe that the $500 billion LSAP that was presented as alternative A would take them to around 30 percent. The same issue arises there about getting to a relatively sizable part of that market and not knowing exactly where the line is. However, when we think about capacity for MBS, we don't just look at the effect on the net supply or on our share of the total outstanding. We also pay a lot of attention to the flow of our purchases relative to production, because one thing we learned in the first LSAP was that, unlike Treasury securities, it was very hard to go out and pull MBS out of the secondary market. It caused a lot of market functioning problems. As a result, we are a little bit more tuned in to not getting too large relative to gross issuance. When we calibrate capacity there, we take that into consideration as well.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. And thank you, Brian, for outstanding service to the Federal Reserve System. I do have one final question for you. [Laughter]

MR. SACK. Is it about market functioning? [Laughter]

MR. LACKER. I take it you wouldn't claim that we have impaired the functioning of the Treasury repo market, but the increase of 15 basis points is in the ballpark of some ranges of estimates of the effect of the MEP on the long end of the curve in the other direction. I'm wondering, do we still know that the MEP is, on net, stimulative? Or is this a contractionary offset we need to take into account? Related to that, my recollection of the theory of the case for MEP was that at the very short end there are close substitutes for reserves, especially given the expectation that the price of reserves would remain very low for two, three years maybe. So should this lead us to revise that sense in which we view two-, three-year securities as close substitutes for reserves, and, thus, the theory on which we built the case for MEP?

MR. SACK. A couple of things to note. First, we are unsure the extent to which this rise in overnight rates is associated with the MEP. It is a common story among market participants. We have done some empirical analysis suggesting that changes in Treasury supply do have transitory effects on repo rates. It is probably part of the story, but it is hard to know if it is the only factor or to what extent it is playing a role. And, of course, Treasury supply was increasing over this period for other reasons, not just because of our sales. Having said that, to the extent it is putting some upward pressure on short-term interest rates—and if those were expected to persist—it would be tightening financial conditions in a way that presumably would be counterproductive. But I don't think that effect is large enough to offset the positive benefits of taking the duration out of the market. And while we are unsure of the size of the effects, we also don't think that they are permanent. We think that, once the supply works its way through the

dealer balance sheets, we will see the upward pressure on repo come off. And for those reasons, maybe it is not quite as concerning as you suggest.

But it is very much an open issue. You could say, well, whether this is a result of the maturity extension program or not, having repo rates at 25 basis points is not productive for trying to get the most accommodative financial conditions. From a policy perspective, you could ask the question if it's worth trying to lower them.

CHAIRMAN BERNANKE. President Rosengren.

MR. ROSENGREN. Just to follow up on President Lacker's comment, if we were to lower the interest on excess reserves, would that likely put downward pressure on those rates that President Lacker is concerned about?

MR. SACK. We believe it would put downward pressure on overnight rates. Our guess is that the effect on the repo rate would be less than one for one. If you are truly interested in lowering the repo rate, you could consider an IOER change, but you could also consider just directly doing repos.

CHAIRMAN BERNANKE. President Lockhart.

MR. LOCKHART. I am looking at number 16 here, and it raises the question in my mind of whether some form of reverse MEP would be feasible in the future, to just dial back the distribution among maturities, maybe preliminary to exit, while simultaneously I would understand that the Treasury Department, in their normal course, is managing their own distribution of maturities. Is that a feasible way for us to consider undoing it, if we wish to do that at some stage in the future?

MR. SACK. It is certainly operationally feasible, and maybe there would be a reason to consider that. Thinking back to the staff discussions about the exit strategy, we didn't see a

strong case for doing a reverse MEP under the view that, at the time you would want to be removing accommodation, you wouldn't mind seeing the level of reserves going down as well. Of course, the MEP is designed to not further boost the level of reserves under the view that there is not a benefit of increasing reserves from here. But on the flip side, when you are into your exit strategy, there may be benefits to get the reserves down. But if for some reason there wasn't, if you wanted to maintain the size of the balance sheet or the level of reserves while reducing duration, it certainly could be done.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. Thank you, Mr. Chairman. And thank you, Brian. You have given great service, and on a personal level, I have learned a tremendous amount from your briefings on an ongoing basis. I have two questions. The first question is about panel 14. Do you have narratives from the survey about why the respondents felt that changing the balance sheet was so much more likely than changing rate guidance?

MR. SACK. We don't have a good, complete narrative on that, but we certainly have a sense from our broader discussions with market participants. I think there is a view that moving the rate guidance to late 2014 was already quite aggressive. It is very hard to know how the forecast will unfold that far out, and there were questions about how meaningful providing a forecast beyond that into 2015 would be. Having said that, I would note the responses would be consistent with the idea that the probability of a change in the rate guidance over the course of the next year goes up quite a bit. As time marches on, and late 2014 gets closer, I think there is a perception of more scope to credibly give guidance into 2015.

MR. KOCHERLAKOTA. Thank you. And my second question is about the very low level of the term premium. I would guess—and you can inform me if I am right or wrong on

this—that there would be information in option markets about how traders view the probability of a reversal of the low term premium, and are we seeing anything in those markets to indicate that that is more likely?

MR. SACK. Obviously, we don't have a market reading on the term premium itself. We have an options market on longer-term interest rates that allows us to assess the perceived skew around longer-term interest rates. And, indeed, swaptions suggest that the skew has moved up meaningfully in the direction of higher odds of an increase in interest rates. I think that is actually a natural reaction in the market as rates get to unusually low levels and the downside of the distribution is limited. There has generally been a greater market perception of at least a larger risk of an increase in rates. But of course all of those risks are embedded in the yield, so this is about the shape of the perceived risk around that yield.

MR. KOCHERLAKOTA. Yes. But this will give us some information about a low probability but still-possible event of rapid reversals.

MR. SACK. Correct.

CHAIRMAN BERNANKE. President Plosser.

MR. PLOSSER. Yes. Brian, the previous time when we engaged in our MEP, we had some discussion about the fact that this was, in part, a fiscal action, and that the debt management policies of the Treasury would matter in terms of the results. My question is, as we think forward to consideration of another MEP action over the coming months that is much smaller in size, there also has been a lot of discussion about what the debt management policies of the Treasury are going to be going forward, whether they are going to push out their duration in the process. Have we had any conversations with the Treasury? Alternatively, what is the implicit assumption here about what the Treasury is going to do with its debt management

policies that may or may not impact how we think about some kind of an extension of the program?

MR. SACK. Yes, I did reach out to Mary Miller at the Treasury to get a sense of how it may react to this type of option, because this option would have meaningful debt management consequences as early as the beginning of July. That conversation suggested that there would be no meaningful change in debt management practices in response to an additional maturity extension program. What happens is the Treasury would lose the rollovers that it was getting to the Fed, so it somehow have to make up for that financing by issuing more debt to the market. The indication was it would initially do all of that adjustment through bills. Treasury coupon sizes have been stable for some time. It wants to maintain that stability, and its bill issuance has actually been low relative to coupon issuance, so it would make it up through bills. But what we would assume is, over time, it would work its way into the Treasury's broader debt management strategy and result in it issuing more duration over time.

MR. PLOSSER. What is your understanding of what the Treasury's debt management strategy is going forward, in terms of both its duration plans and issuance, over the next six months, let's say?

MR. SACK. We have talked about this before at this table, and I haven't learned anything new since then. My understanding is its strategy is to continue lengthening the average maturity of their debt. In fact, the decisions it has already made will keep it on an upward trajectory for some time. And to be honest, it sounds like there is some uncertainty about how far it will go, when it will top that out. The average maturity is going to get up to or maybe above the typical range that we have seen historically. It has already gone a long distance, and it is not entirely clear just how far it goes. But as has been pointed out before, the course that the

Treasury has been on is in no way driven by the monetary policy decisions made at this table. We tend to think of our programs having effects around that course in terms of removing duration that would have been there without our operations.

CHAIRMAN BERNANKE. Any other questions for Brian? [No response] Okay. We need a vote to ratify domestic open market operations. No objection? [No response]

We had a second vote to approve the two amendments to domestic authorization. Brian gave an explanation. Are there any questions or comments on that? [No response] All right. Seeing none, I take it no objection to approving those? [No response] Okay. I understand lunch is ready. Why don't we take 30 minutes for lunch, and start up again around 1:35. Thank you.

[Lunch recess]

CHAIRMAN BERNANKE. Okay. Why don't we reconvene? The Vice Chair reminds me to tell you that Simon Potter's appointment will not be public until Thursday afternoon, so please keep that confidential until then. Reconvening, we are now at item 5, Economic and Financial Situation, and I will call on David Bowman to introduce the staff presentation.

> MR. BOWMAN.[4] Thank you, Mr. Chairman. The global outlook is highly dependent on what happens in Europe, and the risks are unusually large. As Brian discussed, financial conditions in the euro area have deteriorated sharply. Macroeconomic conditions have not been much better. Overall euro-area GDP growth (the black line in the panel on the left) was flat in the first quarter; however the contribution of domestic demand to euro-area GDP growth, the blue bars, has been negative for the past year. Moreover, euro-area PMIs, shown to the right, turned down again following an uptick in the first quarter.
>
> The middle-left panel compares our current forecast, in black, with the April and December Tealbook forecasts. As a consequence of the downturn in financial and macroeconomic conditions, we now project that euro-area GDP will contract at an average annual rate of nearly 1½ percent over the remainder of this year and will only return to positive growth at the end of next year. Our current forecast is much more pessimistic than our previous projections, even the one we prepared last December, when financial conditions were deteriorating very sharply.

[4] The materials used by Messrs. Bowman, Lebow, and Palumbo are appended to this transcript (appendix 4).

The Greek election offers some hope that a new government will be formed that can reach an agreement with euro-area leaders on some more lenient conditions for its rescue program, but negotiations will still be difficult. As outlined in the bullets below, we expect that any Greek exit, should it occur, would still be some time off, allowing policymakers and financial markets more time to prepare for such an event. Even so, we expect that mounting concerns about the health of banks and governments in other peripheral European countries will lead to increasing financial stresses, which will not abate until euro-area leaders are willing to take more-ambitious steps. Even then, our baseline assumes that euro-area leaders will only do enough to contain the crisis. The ECB will probably offer further liquidity measures, and full EU–IMF programs for Spain and Italy may well prove necessary. The June 9 announcement that Spain will receive a loan of up to €100 billion to support its banks does not appear to have been sufficient to assuage investor fears. A key concern, as illustrated in the middle-right panel, is that the loan could bring Spain's debt ratio, already projected to reach 80 percent this year, closer to 90 percent.

Our assumption that the crisis will remain contained may appear sanguine. However, as shown in the table, our forecast is more pessimistic than consensus forecasts, line 2, and markedly more pessimistic than the ECB's forecast, line 3.

David Lebow will be discussing the implications for the U.S. economy of an alternative scenario presented in the Tealbook, in which the euro area undergoes considerably more-severe stresses than in our baseline. Your next exhibit highlights some of the events that could spark this type of outcome.

To begin with, there is some chance that negotiations over a revised rescue program for Greece will break down, pushing Greece toward a rapid exit from the euro area. This could prompt a much sharper deterioration in European and global financial conditions than in the baseline, as well as trigger an economic collapse within Greece itself, with capital controls and bank holidays likely to be imposed. Given this, it would seem in Greece's interest to cooperate with EU negotiators; however, as shown in the middle-left panel, more than three years of recession have left Greece's economic performance close to Argentina's in the lead-up to its default in 2001. The Greek electorate may not be able to withstand much more pressure.

A Greek exit might spark a number of adverse developments, including deposit runs in other countries—the risk noted in the second bullet—as depositors elsewhere witnessed Greek banks collapsing. Even without a Greek exit, there is a risk of deposit runs in other euro-area countries, particularly Spain. As shown in the middle panel below, Spain has already seen declines in core deposits and external liabilities totaling €100 billion since November. Deposits in Italian banks have been steady, but as shown to the right, CDS premiums on Italian banks are even higher than on Spanish banks, and they could conceivably experience a run on deposits or other funding as well.

Although the June 9 package should help cover Spanish banks' losses on nonperforming loans, it would be of little help against a deposit run. Spain's deposit

insurance fund has only about €2 billion remaining, and even a well-capitalized national fund could not insure against the risk that Spain would leave the euro area and redenominate bank deposits; in that event the fund would pay out pesetas, not euros. A euro-area wide deposit insurance scheme might help, but countries with healthy banking systems are likely to resist the idea of joint insurance.

ECB lending could offset deposit outflows, but that would further increase the claims of the ECB against the national central banks of Italy and Spain, the so-called TARGET2 balances shown in the bottom-left panel. As noted in the third bullet, these balances could provoke the main creditor countries, such as Germany, to seek to limit the ECB lending that is funding these balances.

Finally, euro-area countries must also worry about runs on their sovereign debt. EU–IMF programs could address this problem by providing the funding to meet the government's borrowing needs. However, the full €500 billion in European funds will be available only after the new rescue facility, the ESM, is ratified, which now seems likely to occur after the original July target date. Even then, joint EU and IMF resources may be inadequate if several countries come under pressure. An increase in stress could also make it difficult for the EFSF and ESM to borrow; as shown in the bottom-right panel, spreads on EFSF bonds were quite high last fall, and there is no guarantee these institutions will be able to raise all the funds authorized for the current "firewall."

Even if these downside risks do not materialize, the euro-area crisis promises to leave a substantial imprint on the outlook for overall foreign economic growth, the subject of your next exhibit. As shown in the table, we expect total foreign GDP to grow at an annual rate of just a 2½ percent over the remainder of this year and to accelerate only gradually over 2013 and 2014. This forecast is about ½ percentage point lower than in the April Tealbook. A substantial portion of the markdown reflects our revision to the euro area, but it has also been affected by the weaker outlook for the United States, which David Lebow will discuss, and a somewhat weaker outlook for China as well. As shown to the right, central banks in Brazil, China, and Australia recently eased policy out of fears that the pace of global growth was slowing. The Bank of England announced new lending initiatives as well.

A number of indicators of Chinese activity in April came in soft, including loan growth and industrial production, shown in the middle-left panel. May data were a bit better, but overall the second quarter looks to be much weaker than we had anticipated. We marked down our forecast for Chinese growth this quarter by 1 percentage point and for later quarters by about two-tenths. The housing market is one potential source of concern. The middle panel points to an increasing amount of unsold inventories among real estate developers. However, it is not clear at this stage that a severe correction is in process. While the risks of a hard landing have increased in China, we believe the government would deploy all its policy tools to avoid a sharp slowing. That said, as shown to the right, our Tealbook forecasts, in blue, have consistently been more pessimistic about Chinese growth than many outside forecasts, including the IMF and consensus.

Some of the other emerging market economies have also fared poorly of late, held down by both weaker exports and domestic factors. Brazil's GDP growth, the blue line in the bottom-left panel, has underperformed for several quarters, and India's GDP growth is on a weaker trajectory than a year ago. But Mexico has been doing fairly well, as evidenced by recent production and employment gains, shown to the right. We marked down our EME forecast in face of the weaker outlook for Europe and the United States, but we expect growth in the EMEs to gradually firm as the advanced economies recover and as the effects of recent policy easing take hold.

The weaker outlook has pushed commodity prices down. The first panel of your next exhibit shows the probabilities that option-market participants are estimated to assign to different possible spot prices for WTI in December 2012. The distribution has shifted to the left since April, and the probability of seeing a price above $100 is now seen as fairly small. The price of Brent, the black line in the middle panel, has declined almost $30 per barrel from its recent peak. Supply factors have also played a role in this; as the red line shows, OPEC production is now quite high. Nonfuel commodity prices (shown to the right) have also fallen, particularly copper.

Part of the decline in the dollar prices of commodities is due to the recent appreciation of the dollar. As seen in the middle-left panel, the dollar has increased notably, driven by safe-haven flows into dollar assets as the euro-area crisis has intensified. Consistent with our forecast that financial stresses will increase, our baseline assumes the dollar will rise further this year and then depreciate as financial conditions in Europe begin to improve.

As shown in line 1 of the table, we expect the higher dollar and weak foreign activity to cause U.S. real export growth to slow over 2012 and 2013 before picking up in 2014, while imports, line 2, are projected to maintain a fairly stable pace going forward as the higher dollar is partially offset by our weaker U.S. forecast. All told, we expect net exports, line 3, to subtract roughly ¼ percentage point from U.S. GDP growth the rest of this year and next, a larger drag than we wrote down in April. As shown in the bottom-left, while U.S. exports to countries outside the euro area (the red line) have grown fairly well, exports to the euro area remain below their 2008 average. To examine the effect of the euro-area crisis on the U.S. economy, we compared the current Tealbook forecast with a counterfactual in which euro-area GDP (shown in the middle panel) and the broad nominal dollar (to the right) instead follow the paths predicted in the June 2011 Tealbook, just before the crisis intensified. As shown on line 5 of the table, on that basis the crisis will subtract about 1 percentage point from U.S. GDP growth in the second half of this year and in 2013—relative to the scenario in which the financial crisis has not intensified—creating a substantial drag on our recovery. I will now turn things over to David Lebow.

MR. LEBOW. The data on the U.S. economy that have become available since the time of the April Tealbook (some of which are summarized in exhibit 5) have been softer on balance than we had expected, and they point to an economy that is

expanding about in line with potential, with little headway being made in reducing the degree of labor market slack.

As you know, the May labor market report fell short of our expectations, and private payrolls (the top-left panel) are now reported to have risen only about 100,000 per month, on average, in March, April, and May, well below the gains seen during the preceding three months. While we think that the warm winter and seasonal adjustment difficulties have probably exaggerated the slowdown evident in these recent data, our best estimate is that the pace of labor market improvement has indeed slowed from the winter. In this environment, the unemployment rate, shown in the inset box, has been flat so far this year. As shown to the right, after rising solidly through the first quarter, manufacturing production has also stalled recently, and forward indicators such as the regional manufacturing surveys (not shown) suggest modest gains in coming months.

As shown in the inset box in the middle-left panel, consumer spending now is estimated to have posted a stronger increase in the first quarter than we expected in April, but factoring in the latest data on retail sales, we now see the growth of consumer spending as having slowed in the second quarter. On net, the rise in PCE over the first half of the year looks to be about in line with our expectations in the April Tealbook. But real disposable income in the fourth quarter of last year (not shown) was revised down appreciably, and even factoring in some benefit from the recent drop in energy prices, we now project more moderate growth of PCE in the third quarter as well. Recent readings on consumer sentiment, shown to the right, seem consistent with such an outlook, as do indicators of household credit conditions that Michael Palumbo will discuss.

Meanwhile, government spending (shown in the lower-left panel) has been coming in below our expectations, reflecting weakness in both federal defense spending and in construction expenditures at the state and local level. Net exports, not shown, have also been weaker than we had expected. All told, as you can see from the blue bars in the lower-right panel, GDP growth now looks to have averaged a bit below 2 percent so far this year, close to our estimate of potential GDP growth, and we project a similar increase in the third quarter.

Your next exhibit describes our medium-term projection. Although the weaker tone of the incoming data plays some role, the main reason for the more negative outlook in this Tealbook is the situation in Europe that David Bowman just discussed and the associated effects on financial markets. The stronger exchange value of the dollar, worsened prospects for foreign growth, and decline in equity prices that have occurred since the time of the April FOMC meeting all derive primarily, in our view, from developments in Europe, and all restrain the recovery here in the U.S. The drop in global oil prices and the declines in longer-term interest rates are mitigating factors, but they offset only part of the weakness from these other sources.

With all of these changes, our projection now calls for essentially a continuation through next year of the situation we've had in the first half of this year, with GDP

(the black line in the top-right panel) rising about in line with our estimate of potential. The subdued pace of growth through 2013 reflects, among other things, the greater restraint that we expect fiscal policy will exert next year compared with this year. Thus, we project the unemployment rate (shown in the middle left) to hold flat at 8¼ percent through the end of this year. Even the slight decline that we project over the course of 2013, to 8 percent, can be attributed to our assumption that the emergency unemployment compensation program will expire at the end of this year. Only in 2014, in our projection, does the eventual containment of the financial crisis in Europe, some lessening of the drag from federal fiscal policy, and the general slow improvement that we expect to see in financial conditions and credit availability show through to GDP growth that is materially above potential, with some reduction in slack.

As we discussed in the Tealbook, we view the uncertainty around this baseline projection as being larger than usual, and with the risks skewed decidedly to the downside. Of course, the most salient risk at present is the situation in Europe. David discussed some of the potential adverse outcomes in the euro zone, and in the Tealbook, we presented one particularly severe scenario as a downside risk to the baseline forecast. In this scenario, described in the middle right panel, Europe plunges into a severe financial crisis, and real GDP there (the lower-left panel) falls sharply. These developments are assumed to have large spillover effects for the U.S. including a sizable further appreciation of the dollar, sharply wider U.S. bond spreads, a much weaker stock market, and some erosion in household and business confidence. According to the SIGMA model, these developments would lead to another serious recession here in the United States, with the unemployment rate (shown in the bottom-right panel) rising above 11 percent. In this economic environment, the policy rule would call for the federal funds rate (not shown) to remain at the zero lower bound until 2017. While this scenario is obviously not our modal outlook, we view the possibility of an outcome this bad as being uncomfortably high.

A second important risk to the outlook, discussed in your next exhibit, involves U.S. fiscal policy. A number of policy measures are slated to change next year under current law, raising the probability that federal fiscal policy will impose noticeably more restraint on the growth of real GDP next year than this. The relevant assumptions in our baseline projection are listed to the left in the top panel. We assume that the temporary payroll tax cut and the EUC program will both expire at the beginning of next year; that discretionary spending will be restrained by the caps set in the Budget Control Act and by reductions in defense spending as overseas military operations draw down; and that other gradual deficit-reduction policies will be enacted that will avoid the sharp discretionary spending cuts associated with the sequestration provided for in current law. Importantly, we also assume in the baseline that the 2001 to 2003 tax cuts, which are slated to expire next year, are instead extended, as is AMT relief.

In the alternative fiscal cliff scenario, described to the right, we explore the implications of a more-contractionary fiscal policy stance. Specifically, in the

alternative, we allow the 2001 to 2003 tax cuts to expire, as under current law, and we assume that AMT relief is not extended. And on the spending side, this scenario assumes sharper cuts than in the baseline, including no extension of the Medicare doc fix, and that the full set of cuts associated with sequestration come into effect.

The hollow portion of the bars in the middle left panel shows the effect of the baseline assumptions on our measure of federal fiscal impetus, that is, the direct effect of discretionary fiscal policy changes on GDP growth, not including multiplier effects. Under the baseline assumptions, federal fiscal policy will subtract 1¼ percentage points from GDP growth next year, and will subtract about ½ percentage point in 2014. In our alternative fiscal-cliff scenario, fiscal policy would subtract an additional percentage point from GDP growth next year (the green portion of the bars). In other words, of the 2¼ percentage point drag on GDP growth that a full-speed drive off the fiscal cliff would impart in 2013, about ½ percentage point is already embedded in our baseline outlook.

The remaining panels on this page show the effects these fiscal cliff assumptions would have on the outlook. Again, under the baseline path, the increase in fiscal drag is one reason that GDP (shown to the right) only grows about at potential next year. Under the fiscal cliff scenario, the dashed line, GDP growth is weaker still, and the unemployment rate (shown at the lower left) moves back up to 8½ percent next year and in 2014. In such an economic environment, the outcome-based policy rule would call for liftoff of the federal funds rate to be delayed until late 2015.

Finally, let me turn to the Tealbook projection for inflation, the subject of exhibit 8. The most striking news regarding inflation has been the sharp drop in oil prices since the time of the previous Tealbook, shown in the top-left panel. The latest data on core consumer prices—including the CPI for May, which was published last week after the Tealbook closed—have come in about in line with our expectations, and as shown by the red line in the top-right panel, the 12-month change in core PCE prices has edged lower in the past few months. Gasoline prices through May have reflected some but not yet all of the recent declines in oil prices. Accordingly, the 12-month change in total PCE prices (the black line) is estimated to be down to 1½ percent in May. And as shown by the thin portion of the line, we expect this 12-month change to head lower in the next few months if oil prices remain near current levels, in line with quotes in futures markets.

Looking beyond the near term, the outlook remains one of low inflation pressures. The stronger dollar and lower non-oil commodity prices in this Tealbook show through to a lower projection for core import prices (shown in the middle-left panel). Inflation expectations (to the right) remain largely stable, and the most recent information indicates that compensation costs (the lower-left panel) have been quite restrained. For all these reasons, as shown in line 6 of the table, we project core inflation to remain subdued. Given the projection for oil prices, we expect overall consumer price inflation (line 1) to be only 1¼ percent this year and then to be 1½ percent, just a touch below core inflation, in 2013 and 2014. Michael Palumbo will now continue our presentation.

MR. PALUMBO. I will begin by summarizing credit conditions facing households, then turn to a discussion of risks to financial stability in the United States.

Consumer credit—the subject of the top-left panel of exhibit 9—has increased at a solid overall pace lately, primarily reflecting ongoing increases in federally funded and guaranteed student loans, included in the green line. Auto lending (the blue line) has also expanded moderately over the past year, and—as indicated in the panel to the right—that increase appears to be broad-based, as proxies for loan originations have increased for borrowers in all three major segments of the credit score spectrum.

In contrast, credit card lending conditions continue to be quite tight for many households. Interest rate spreads on credit card offers (plotted in the middle-left panel) have stayed high for both prime and nonprime borrowers. In addition, aggregate credit limits on credit card accounts—shown to the right—dropped sharply for all types of borrowers during the financial crisis and recession, and, since early 2011, only superprime customers have seen increases in their aggregate limits.

Mortgage lending conditions also remain tight. For example, as shown in the bottom-left panel, the credit scores of borrowers able to obtain prime mortgages shifted up substantially in 2008 and 2009, and, by this metric, those tight standards have yet to unwind. Thus, although mortgage refinancing activity (the black line in the right panel) has continued to climb this year, the total volume thus far remains well short of what would be expected given the drop in mortgage rates (in blue) to all-time lows. Preliminary data suggest that the revamped HARP 2.0 program has eased some constraints for borrowers with high mortgage loan-to-value ratios, likely contributing to the recent increases in refinancing.

Turning to exhibit 10, the risk to the U.S. financial system emanating from Europe has become more proximate since the April FOMC meeting. As noted in the top-left panel, despite Sunday's election results, the possibility of a disorderly Greek exit from the euro remains a real possibility. And the mounting pressures on Spain and its banks raise the prospect of broader financial disruptions across Europe, maybe even involving runs on banks, the imposition of capital controls, and the exit of more than one country from the euro.

In addition to hits to asset prices from such disruptions, as noted to the right, a rapid exit from the euro and redenomination could stress the European payment, clearing, and settlement systems—a vulnerability to financial stability that we have not previously highlighted. Given the dependence of financial institutions around the world on these systems, an interruption of their normal operation could disrupt market functioning and impair credit intermediation—even in the United States. Perhaps in recognition of risks posed by Europe, two-thirds of the respondents to this month's Senior Credit Officer Opinion Survey on Dealer Financing Terms reported having increased the amount of resources and attention devoted to the management of concentrated exposures to central counterparties and other financial utilities. Conversations with market participants suggest that, more broadly, uncertainties

surrounding the financial infrastructure under adverse scenarios are a particular focus. These uncertainties encompass the reliance of many systems on large volumes of confidence-sensitive short-term (often intraday) credit.

In addition, despite having improved their capital and liquidity positions substantially, some of the largest domestic banking firms with globally active capital markets operations remain a systemic vulnerability. The middle panels show stock prices and CDS spreads for the six largest U.S. financial firms. The poor performance through early June reflected not only the deterioration in Europe, but also the expected credit downgrades by Moody's for some with global capital markets operations and concerns about risk-management practices in light of the sizable losses announced by J.P. Morgan last month.

One way to gauge the systemic risk associated with these six financial institutions is by way of the distressed insurance premium, or DIP. As noted in the bottom-left panel, conceptually, the DIP is the cost of a hypothetical insurance policy that would cover the losses among these financial firms should a systemic shock be realized. In practice, the DIP is a market-based indicator, keying off inputs such as firms' size, CDS spreads, and correlations among asset prices. As you can see in the chart, the average DIP among the six firms has climbed about 40 percent since the end of March, although it has also has remained well below the levels reached late last fall.

Short-term funding markets remain another important vulnerability in the financial system, given that many investors are highly risk averse and prone to withdraw in a period of stress. The top-left panel of exhibit 11 shows dollar-denominated commercial paper, which continues to provide some funding for investment-grade nonfinancial firms (the blue dashed line) and more substantial funding for financial firms and asset-backed CP conduits (in red and black, respectively). As shown to the right, the lion's share of unsecured financial CP and ABCP outstanding is issued by institutions with European parents (the green line), which dropped in 2011 and moved down further in recent weeks. Even so, at nearly $400 billion these exposures remain sizable and the tenors (not shown) are fairly short, so firms could need to quickly turn to other sources of funding should investors decide not to roll their paper.

Among the institutions that are active providers of funds in short-term markets, prime money market funds—the subject of the remainder of this exhibit—remain, in our estimation, highly vulnerable to runs by their investors and are thus a key source of concern in the present environment. As shown by the black line and the yellow region in the middle panel, institutional investors withdrew hundreds of billions of dollars from prime money funds in the time immediately after the Reserve Primary Fund—which had significant holdings of Lehman paper—broke the buck.

U.S. money market funds have taken a more defensive posture with respect to their European exposures. Nonetheless, prime money funds still held $570 billion in direct European exposures at the end of May—a level that, as shown in the bottom-left panel, was about one-third of their total assets. Holdings of euro-zone

securities—the orange and green regions—represented 15 percent of the funds' assets and were almost evenly split between exposures to France, Germany, and the Netherlands, while direct exposures to Spain and Italy remained very small. Over the second half of last year, prime money funds substantially cut their euro-zone assets—almost exclusively by reducing their holdings of riskier and less liquid securities (the orange part of the graph).

The panel to the right shows that prime money funds also have shortened the tenors of their euro-zone assets over the past year. In particular, their euro-zone holdings maturing beyond one week (the green and gray bars) dropped from $380 billion in May 2011 to $130 billion last month. Currently, about one-third of prime money funds euro-zone holdings mature overnight. While shorter tenors may be prudent from a funds' perspective, they place a key source of funding for a number of firms on something of a hair trigger.

Despite these defensive actions and the stronger liquidity positions taken by money funds, we believe additional reform is needed to address the structural characteristics that make these funds highly vulnerable to runs—notably, the reliance on rounding to maintain their stable share prices in the absence of capacity to absorb credit losses.

Exhibit 12 turns to pressures and risks for valuations in selected asset markets. Given that the prices of risky assets in many domestic and international markets have fallen in the past several weeks, valuation pressures, which were already fairly muted, generally eased further.

In domestic equity markets, the forward price-earnings ratio for S&P 500 firms—plotted in the top-left panel—moved down since the April FOMC meeting to 12, a value in the lower third of its distribution since the late 1970s. Despite the moderate equity valuations, investors appear concerned about further drops in share prices. For example, the black line in the right-hand panel plots the option-implied price of a synthetic "insurance" contract that pays $1 should equity prices fall 10 percent or more in the next 30 days and nothing otherwise. This insurance "premium" has risen markedly in recent weeks, although not nearly to the levels seen last fall.

Turning to the U.S. corporate debt market, the black line in the middle-left panel shows that far-term forward spreads on BB-rated bonds have increased since the April FOMC meeting, lifting the latest reading to the upper portion of its longer-run distribution. An elevated level of compensation for credit risk that far out the term structure suggests an unusual degree of risk aversion among bond investors. The figure to the right shows a pattern in recent bond issuance that may be consistent with a high level of risk aversion recently: While investment-grade firms (the red bars) have continued to issue a sizable volume of bonds in recent weeks, speculative-grade issuance (in blue) has slowed.

The bottom panel discusses additional risks pertaining to asset values. First, it almost goes without saying that prices of risky assets would likely plunge should one

of the more severe scenarios in Europe materialize. In such a case, the reduction in liquidity recently observed across a number of markets, and frequently attributed in part to a reduction in willingness on the part of dealers to commit capital to routine marketmaking activities, may compound the increase in volatility. However, conversations with dealers and other market participants point to generally low levels of leverage deployed by investors, with hedge funds defensively positioned and maintaining large cash cushions—developments that should reduce somewhat the extent to which forced asset sales by levered investors facing margin calls would intensify a crisis emanating from Europe.

We also continue to consider the potential risks to financial stability posed by a prolonged period of low nominal interest rates. Some market contacts report that institutional investors—such as mutual funds, insurance companies, pension funds, and endowments—continued to demonstrate an appetite for corporate credit in the form of syndicated leveraged loans and related instruments. We have also heard of institutional investors seeking to generate yield by lending against collateral, including somewhat less-liquid instruments like corporate bonds and equities, to dealers and other market participants. To date, however, the scale of these activities appears generally moderate—likely, in part, because heightened uncertainty and pronounced risk aversion are substantially offsetting other forces. Ellen Meade will now present a summary of your economic projections.

MS. MEADE.[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, under your individual assessments of appropriate monetary policy, you expect real GDP to advance at a moderate pace this year and next before picking up in 2014 to a rate that is somewhat above its longer-run value. Consistent with that view, you anticipate that the unemployment rate, shown in the second panel, will stay near levels seen so far this year for the remainder of 2012 and then edge down very gradually over the next two years. As a consequence, you generally expect that the unemployment rate at the end of 2014 will still be well above what you judge to be its longer-run normal level. Almost all of you highlighted Europe and its ongoing debt crisis as a factor influencing your economic outlook and your assessments of uncertainty and risks.

Looking at the bottom two panels, a number of you cited recent sharp declines in oil and gasoline prices as holding down total PCE inflation this year, and you generally expect that measure to come in around 1½ percent over the four quarters of 2012. In 2013 and 2014, you see overall inflation as remaining close to or below your 2 percent inflation objective, similar to your projection for core inflation.

Exhibit 2 provides an overview of your assessments of the appropriate path for the federal funds rate. As shown in the upper panel, two-thirds of you think that it will not be appropriate to commence raising the federal funds rate until 2014 or later.

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

As in April, six of you believe that economic conditions will warrant an earlier liftoff date. Most of you who favor liftoff before 2014 cited in your narratives the need to tighten rates relatively soon in order to prevent inflation from rising above the Committee's 2 percent objective, and one of you tied your earlier liftoff date to concern about the potential for a buildup of risks in the financial system. Some of you who favor liftoff in 2014 or beyond cited as reasons for a later liftoff large and persistent output or unemployment gaps coupled with inflation that is well contained and unlikely to exceed 2 percent over the medium run.

The bottom two panels of the exhibit provide your assessments of the appropriate target for the federal funds rate at the end of each year of the forecast period and over the longer run. In your June projections, shown in the middle panel, you generally appear to expect the funds rate to rise only gradually after liftoff, similar to your previous projections, shown in the bottom panel. Indeed, all of you anticipate that at the end of 2014 the target federal funds rate will remain well below what you judge to be its longer-run normal level, with 10 of you seeing the funds rate at 50 basis points or less. For the 7 participants who put liftoff in 2014, the median value of the funds rate at the end of that year is 50 basis points. And the 6 participants who expect that liftoff will not occur until 2015 judge that the appropriate funds rate at the end of that year will be 1½ percent or below (not shown). For comparison, the expected funds rate path implied by interest rate derivatives (also not shown) remains within the current target range until mid-2014 and rises to about 40 basis points by the end of 2014.

Of the 17 participants who submitted projections in April, 12 of you now judge that "appropriate monetary policy" calls for a more accommodative path for the federal funds rate this time around, involving either a lower target for the funds rate at the end of the year of expected liftoff or a shift out in the year of liftoff. Moreover, of the 19 who submitted projections for this meeting, 12 of you indicated that you think further balance sheet action is warranted at this meeting, either in the form of an extension of the MEP along the lines of alternative B or B′ in the Tealbook, or through an MBS purchase program as in alternative A. In April, only 1 of you thought that appropriate monetary policy called for additional balance sheet action at that meeting. The 6 participants who favor liftoff of the funds rate before 2014 would begin the process of normalizing the balance sheet earlier than assumed in the Tealbook baseline—generally reflecting the implications of their earlier date for liftoff in conjunction with the Committee's exit principles that were published last June.

Your next exhibit provides a scatter plot of the economic conditions that you associate with policy firming. The unemployment rate that you expect to prevail at the end of the year in which you think it would be appropriate to first raise the target federal funds rate ranges from about 6½ to 8 percent with a median value of about 7½ percent. Your projected inflation rate in the liftoff year lies in a narrow range of roughly 1½ to 2 percent, with a median rate just below 2 percent. Generally, those participants with a liftoff date of 2012 or 2013 (shown by the light blue triangles and white diamonds, respectively) see a higher level of unemployment at the time of

liftoff than do those reporting later liftoff dates (shown by the gray circles and dark blue squares, respectively).

Exhibit 4 presents more detail on your economic assessments and provides comparisons with both your April submissions and the staff's Tealbook forecast. Nearly all of you marked down your forecast for real GDP growth this year and in 2013 and nudged up your projections for the unemployment rate. The central tendency of your projections for real GDP growth, shown in the top panel, moved down about ½ percentage point for 2012 and 2013 relative to your April assessments. With a slower expansion now projected for this year and next, the central tendency for the unemployment rate in those years stands about ¼ percentage point above the central tendency of your April projections. In your narratives, many of you cited weaker-than-expected incoming data over the intermeeting period and adverse developments in Europe as the key factors leading you to mark down your projections, along with the continuation of a number of headwinds that are holding back the economic recovery. Your assessments of the longer-run rate of GDP growth and the longer-run normal rate of unemployment, shown in the last column, were little changed from April, with a central tendency of about 2¼ to 2½ percent and 5¼ to 6 percent, respectively.

The bottom two panels of the exhibit summarize your assessments for inflation. The central tendency for overall PCE inflation in 2012 is about ½ percentage point lower than in April, and, as I noted earlier, a number of you linked that revision primarily to the recent sharp decline in the prices of crude oil and gasoline. Beyond this year, your outlook for inflation is little changed, with the central tendency for both total and core inflation between 1½ and 2 percent.

By comparison, the staff expects real GDP growth and inflation to be at the bottom end of your central tendencies for those variables and the unemployment rate to lie at the top of your central tendency throughout the projection period.

Your final exhibit reviews your assessments of the uncertainty and risks surrounding your economic projections. As shown in the top two panels in the column on the left, all but one of you indicated that you judge the current level of uncertainty about GDP growth and unemployment to be higher than its average level over the past 20 years. The corresponding panels to the right show a notable shift in your assessments of the risks to real GDP growth and unemployment. Indeed, most of you now see the risks to GDP growth as weighted toward the downside and, accordingly, the risks to unemployment as weighted to the upside. In your narratives, about half of you attributed your sense of increased uncertainty and downside risks to heightened concerns about the debt crisis in Europe; other explanations included the looming fiscal cliff in the United States and concerns about a general slowdown in global economic growth, including the possibility of a hard landing in China. In addition, three of you indicated that, in the aftermath of the financial crisis, you have less certainty about the level of potential output or the magnitude of the output gap.

Turning to the bottom two panels, as shown to the left, about half of you assess the uncertainty attending your projections for total and core PCE inflation as higher and another eight of you see the uncertainty as broadly similar to the average level of uncertainty over the past two decades. Most of you continue to see the risks to inflation, shown to the right, as broadly balanced. However, five of you now see a risk that both total and core inflation could fall below your projections—marking a shift in the distribution of risks for inflation relative to April. Two of you tied the downside risks for inflation to the output gap, noting the possibility that slack could turn out to be greater or play a larger role in the determination of inflation than you now expect. Those of you who see the risks to inflation as weighted to the upside noted the highly accommodative stance of monetary policy, concerns about the timing of exit, and longer-term fiscal imbalances. That concludes our staff presentations.

CHAIRMAN BERNANKE. Thank you very much. Are there questions for our colleagues? Questions for Ellen? Governor Tarullo.

MR. TARULLO. Thank you. When we release the projections with the minutes, is everything in here? What is in this packet that is not in the publicly released summary?

MS. MEADE. The scatter plot in exhibit 3 is not.

MR. TARULLO. Okay, good. That relieves my concern. I am sure it has occurred to all of you before—but somehow I was slow, and it only occurred to me this time—that when we compare GDP or unemployment or PCE inflation levels at different stages of liftoff, they are not a comparison of like factors, right? Because my assumption would be that if we go three more years with this kind of economic growth, or lack thereof, structural unemployment really will be higher than it is today. I just wanted to make sure that the unemployment number associated with the boxes in particular is not being compared directly with those reflected in the triangles. That's all.

CHAIRMAN BERNANKE. Are there any other questions about the projections? [No response] Okay, other questions? Vice Chairman.

VICE CHAIRMAN DUDLEY. That was a lot of material to digest, and you very much focused on the key issues. It's the first time I can remember that the international piece came first, which I think tells you that it is the number one risk.

I have two general sets of questions, one on Europe and one on the fiscal cliff. On Europe, I want to understand what has changed. Is it that what before was a big downside risk wasn't part of the central forecast? Now some more things have happened that morphed the situation over the threshold, so that now it is in the central forecast? Or did something material happen in Europe between the April meeting and today? I'm trying to get a sense of whether the shift is being driven mainly by a small change in Europe that just tips you over the line or something more major that happened in Europe. That is my first question.

MR. BOWMAN. A couple of things happened. We did get macrodata for April and May. And whereas the first quarter was fairly good, the April and May data clearly show them again on the downtrend. So part of the markdown, certainly in the near term, is the result of incoming data. The other thing that has occurred—it was already occurring at the time of the April FOMC, but it is now fairly clear—is that financial conditions have gotten worse. The risk of a Greek exit probably seems clearer. We had the Greek elections—Greek election one and then Greek election two. We've gotten other data for Spain that show the deposit outflows that I talked about. We had the news about Bankia; the amount of funds that it would need was a good deal more than people thought, and now it will be in the lending program for their banks. So a number of factors have worsened, and I think they brought that tail that we always knew was out there a bit closer in.

MR. KAMIN. If I could just add to those remarks on the issue of the new developments. Back when conditions worsened in European markets between the March and April Tealbooks,

we had to decide whether this was something that actually had legs, or were we looking at normal volatility in markets? And so we worsened our forecast maybe a little bit in the April Tealbook but didn't do a lot. As financial conditions deteriorated between the April Tealbook and now, we recognized that a dynamic had now set in, in which the markets were going to continue to get worse until there was a very concerted policy response on the part of the European authorities. And that became particularly evident as we passed two events that in principle could have heartened markets—the June 9 package for Spanish banks, and then, more recently, the election for Greece. There, it was pretty obvious that the market bounce, if there was any, was incredibly short-lived. So it became much more apparent to us that basically the dynamic had set in, and the situation was going to get worse until something made it get better.

VICE CHAIRMAN DUDLEY. So it is now sort of the central baseline as opposed to something that was a risk that might or might not materialize.

MR. KAMIN. Right. But to be clear, the central baseline is one of mounting financial stresses that eventually will become severe enough to prompt a fairly aggressive European response. The central baseline is not the meltdown scenario that is in the Tealbook alternative, or the more advanced stresses that David referred to in his discussion.

VICE CHAIRMAN DUDLEY. Understood. The second question I had was on the fiscal cliff. From my perspective, it seems like you have an awfully mild impact of plunging over the fiscal cliff, especially given that you are at the zero bound with no ability to offset the fiscal cliff through monetary policy and the rest of the world is very weak. You have the European economy in contraction. For the U.S. economy you have a big fiscal contraction along with presumably a big confidence effect because if you plunge off the fiscal cliff, it is not just plunging off the fiscal cliff, but also a tremendous loss of confidence in the political process in

the United States. The CBO had, I think, a mild recession in 2013 but a deeper one than what you have. And CBO was assuming that, absent any fiscal contraction, the economy would be growing 4.4 percent in calendar year 2013. I'm curious why plunging off the fiscal cliff in your view isn't more negative than what you had. It seemed an awfully mild effect. I wouldn't want the Congress getting its hands on that.

MR. LEBOW. I can mention one thing regarding the comparison of our estimates with the CBO's. If you look at the effects that we built in over the course of 2013 and 2014 combined, compared with CBO's assumptions, they are actually quite similar. However, our models assume a gradual spending response to the tax-change parts of the fiscal cliff. The CBO was assuming a much faster spending response, so it has a bigger hit concentrated right at the beginning of 2013 than we do. That is the more important reason for the difference between our assessment and CBO's assessment.

VICE CHAIRMAN DUDLEY. So the saving rate drops a lot in the way that you set it up.

MR. LEBOW. Yes. The CBO's estimates are reasonable. Obviously, ours are our best shot, but they could be larger than we have built in.

VICE CHAIRMAN DUDLEY. Okay. Fair enough.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. Two questions. What is the Tealbook scenario for Europe going out two to three years? What I have in mind is that the periphery countries are clearly not competitive, and they need some type of devaluation, which currently is being pursued as an internal devaluation along with austerity programs. It is not hard to speculate that this is going to lead to political turmoil and be largely unsuccessful in most of

those countries. At any rate, one bookended alternative for Greece and other countries is exiting the euro and see how things play out afterwards. The other end of the bookshelf is full fiscal union where the northern European countries and core Europe agree to some sort of transfers. That seems likely to lead to political turmoil, too, among a different segment of the populace. And so I am wondering if somewhere in between is there an intermediate set of outcomes that are sustainable over some two-, three-, or five-year period; how does the situation play out, or is that the empty set? You have to be thinking about this in your outlook.

MR. BOWMAN. Yes, we are. On the empty set part, I guess we will see over time. But our baseline is—assuming that stresses will get worse this year—that if Italy or Spain, or both, need programs, they will get programs, and that will take them out of the market. They won't need to borrow at that point if the firewall prevails. And we assume, even if the current level isn't enough, that in a severe enough situation they would politically just simply raise the size of the firewall. And at that point, with whoever needs to be out of the market for at least a bit, stresses will gradually decline, though not overnight. That's one reason why our 2013 forecast is a lot worse than many others—we have these stresses only gradually declining over time, although they do decline in our baseline going out to 2014. We assume that over that timeframe the moves toward fiscal and financial union will gradually increase and that these governments will be able to improve their fiscal situations. So that by the end of 2014, we've got overall a better situation in which the fiscal outlook has improved for these countries, the move toward a more sensible monetary union is probably in progress, and then we see not stunning economic growth but moderate growth in 2014 and going forward. That's the basic scenario.

MR. EVANS. When I'm in public and I get that type of question, I also try to provide that type of hopeful response.

MR. BOWMAN. We talked about the risks to this. They are palpable. We are assuming that Ireland and Portugal will need further programs.

MR. KAMIN. The only point I would add—just to make it seem like we are not just giving you the same PR [laughter] as the people you are talking to—is that this outlook that we have written down for the euro area is actually very bleak. What we have written down is that after a couple of years of recession, economic growth in 2014 will be 1 percent. And that is for the euro area in aggregate, which is the combination of Germany doing okay and France doing not horrible, and the peripheral economies going into very steep recessions. Our baseline actually encompasses a pretty prolonged period of very lackluster economic growth, something that is shorter than Japan, but that might be the way to think about it. This is an outlook that we think is not politically impossible and not financially impossible, but it is by no means desirable, and it is not particularly sanguine.

MR. EVANS. The other question I had was related to the Tealbook's long-term outlook, where you extend it to 2017. I notice that your projection had a feature that my own projections had, which I can't bring myself to change. First, let me say that I thought that Tealbook B, was extraordinarily innovative this time because you showed some additional simulations of FRB/US with different loss functions and weights on the dual mandate: resource slack and inflation goals. And so when I looked at the optimal control response, which is solving the optimization in the spirit that it is meant to be solved—that is what I can't bring myself to do—it ends up providing more accommodative policy for a longer period of time in a way that has inflation going above the 2 percent objective for some noticeable and meaningful period. And that is true using the standard weights, but it was true even when you put a very small weight on the unemployment leg. It was also true for the nominal income targeting, but that is not related to the optimality. In

my opinion, it looks to me like this shows that any real attempt to do the optimal with regard to dual mandate objectives is going to lead to some ex ante expectation that inflation is going to go above that 2 percent threshold. But I can't bring myself to put that particular inflation path into my projections. Like the long-term outlook, I have inflation going up to 2 percent. Isn't there a tension in all of this? I mean, there must be something else at work in the Tealbook. Is the answer that you're not doing optimal policy there?

MR. WILCOX. Yes. The long-run outlook is governed by the estimated outcome-based rule, and we tie ourselves to that quite mechanically and allow the FRB/US dynamics to play out. So the medium-term outlook is a judgmental outlook. At the end of the medium-term period, we hand over the projections to the model, which we tried to tailor in some ways so that its dynamics more closely resemble what we think the analytics of the staff projection are. That being said, from the beginning of the long-term period out, it is quite a mechanical exercise, and monetary policy is represented by the estimated outcome-based rule. In some sense, this is just what is ground out by that process.

MR. EVANS. Right. So it looks like a rule that is not really grounded in any sort of optimality with respect to the objective function that the policymakers have.

MR. WILCOX. That's right.

MR. EVANS. And something that is grounded in the objective function, even with a low weight on the resource slack, would tend to have more accommodation and, ex ante, run a risk that inflation would go above the target. I mention this because, as I noted earlier, I think the Chairman does a fabulous job of fielding tremendously difficult questions in the press conference, and this is a question that he has gotten, at least for the past several press conferences. And I thought this was very helpful. Thank you.

MR. ENGLISH. Just one other point, though, on the optimal control policy. It has a lot of assumptions buried in it that we have talked about before here about the credibility of the assumed future behavior of the Committee. The Committee is assumed to be able to credibly commit to a path for the funds rate, and that path is believed by the public and taken into account by the public. And so if you wondered about the ability of the Committee to make that commitment, or if you wondered whether—even if the Committee in some sense could commit to do that—it would be believed, then this may not be a trajectory that you could necessarily get to.

MR. EVANS. Well, that is certainly true, but I don't know how that cuts. By "this," do you mean it is not possible to push the inflation projection above 2 percent? Or that taking into consideration those alternatives, you wouldn't want to do that optimally? It just strikes me as odd. And other people who have looked at something like this might argue that when you are bringing the inflation projection in from below at a time when the resource slack objective is doing so badly, you would expect that you would do more. And if I was running into some type of impediment along the lines of what you're talking about, the optimal response might be to do something wildly more in order to overcome that. I'm not quite sure what.

MR. ENGLISH. But in the optimal control exercises all you can do is push back liftoff. There aren't additional balance sheet actions here, as I think President Bullard has said in the past. But if you don't think you can credibly commit to a funds rate path way out, that may be an argument for doing balance sheet action. That's something you can do now, and it is credible. But if there are costs and risks associated with additional balance sheet action, you may be hesitant to do that. So there are constraints on the ability of the Committee that are worth thinking about.

CHAIRMAN BERNANKE. President Lacker, you had a two-hander?

MR. LACKER. Yes. So the optimal control policy reaction function differs from what you would think best fits the recent past. Am I right about that? And if so, and then it represents a one-time change that is instantly fully credible.

MR. ENGLISH. Yes, I think that's right. It represents a behavior that isn't necessarily consistent with past behavior.

MR. LACKER. It just has the past data, right.

MR. EVANS. That's what Lucas critique issues are all about. It is about trying to understand the structure of the economy, and then asking whether or not you somehow choose a policy that can achieve something different than ever has been achieved before, and then go out and sell it to people. Just because it doesn't fit, we routinely say, well, that is not structural. The Lucas critique would say we shouldn't give in to that. This is just another variant of that.

CHAIRMAN BERNANKE. President Lacker.

MR. LACKER. As you know, President Evans, this is the critique of the Lucas critique that Sims has raised—that one needs to be careful in drawing conclusions from a one-time perfectly credible policy change implemented in a model in the manner in which Lucas advocated.

CHAIRMAN BERNANKE. There could be simpler structural changes, though, in terms of the behavioral equations, for example. The Taylor rule is just an empirically estimated relationship. And if the economy has changed, it may no longer be close to optimal.

MR. LACKER. Right.

CHAIRMAN BERNANKE. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. I want to focus on the question of Greek exit. I think we are throwing around the phrase "exit" very blithely here. What does exit actually mean? And what can be achieved through exit? As you know, there are two treaties in Europe for the EU and the EMU. They have legal obligations within the European Union. Greece could abrogate those treaties if it wanted to, because it's a sovereign country, but that would have a lot of implications for the nation. It probably would not want to go that route. It is supposed to have renounced printing its own currency. I could imagine, nevertheless, it printing its own currency and having dual currencies. So I think there are a lot of issues here that suggest that exit is not nearly as clean an event. It is not like you wake up one Monday morning, and you say, "Okay. We have exited, and now we are going our separate ways." It is a more complicated thing than that. That is one thing I want to get my head around—what you are thinking on that. And the other is whether the more logical scenario is that there will just be ongoing restructuring of debt over several years, and so we gradually not pay a lot of the debt, or maybe all of the debt, for some of these countries?

MR. BOWMAN. Right. By "Greek exit," we mean an exit of Greece from the euro area. It no longer uses the euro as its currency. It is not part of the euro area.

MR. BULLARD. So what does it mean?

MR. BOWMAN. All right. As you probably know, there is no actual legal way to leave the euro area. You can leave the EU, and the ECB has interpreted that as the only legal way that you can leave the euro area because you have to be a member of the EU to be in the euro area. It's possible that Greece could in theory do it legally under the existing EU treaty, the Lisbon Treaty. Now, to do that, you have to say you want to leave, and then there is a committee, and the EU makes a proposal, and hopefully you negotiate an exit. And if after—I believe it's two

years or three years—they haven't agreed, you get to leave anyway. It's possible they could speed that up, and it could all be done legally. Other than that, you could invoke the Vienna Convention, or you could simply not invoke any law, just simply leave—impose capital controls, impose a bank holiday, redenominate outside of the EU treaties. They wouldn't really have a way to stop that. We don't think it would be in any way clean for Greece; it would be a horrible disaster.

In past currency union breakups, they have been able to do it over the weekend or over a week. You just stamp the old currency and use that. Now, we are in an electronic age. It is questionable whether they could really do it over the weekend or over a week. This is a country that can't really collect taxes—can't determine how many swimming pools people have—and the thought that it could really have a solid set of capital controls that would stop the euros from leaving is not very plausible either. We don't think that it would be in any way clean. We think it would be a big mess for Greece and potentially quite frightening to everybody else, but particularly quite a big mess for some of the other countries as people witnessed what was happening in Greece. But we are distinguishing that from a situation where it stays within the euro area but either defaults or simply sort of defaults by pushing back the amount that it pays over time. That is not what we mean by Greek exit. Does that make sense?

MR. BULLARD. What is not what you mean by Greek exit?

MR. BOWMAN. Something where Greece stays within the euro area. It continues to use the euro, but it defaults on part of its debt to the public sector or the public sector simply forgives some of it over time or just keeps pushing back the payment so that they are effectively forgiving some of the time, but that is not what we mean by exit. Those things can be messy, too.

MR. BULLARD. Is that the baseline scenario, what you just described?

MR. BOWMAN. You mean where it stays in the euro area?

MR. BULLARD. Stays in the euro but really restructures a default in various ways—by delaying payment, let's say.

MR. BOWMAN. That would depend on what the rest of the euro area does in response to that default. If, while Greece is still running primary deficits, the euro area just cut off all payments, the banks would probably collapse anyway, right? Greece could be facing a very severe recession even under those conditions. It is matter of debate whether at that point it would be better off leaving the euro area and letting its currency depreciate a lot or trying to stay in.

MR. BULLARD. There is huge support for staying in.

MR. BOWMAN. There is.

MR. BULLARD. And I think especially for the European Union.

MR. KAMIN. Just to be clear about our Tealbook baseline forecast, we are not assuming that Greece will stay in the euro area forever or even assuming that it stays in through the forecast period. Our assumption, which is a little subtle, is that basically we do not expect Greece to leave the euro area within the next couple of months. On the one hand, if it did leave the euro area that quickly, we think that could be enormously disruptive both within Greece and outside for all of the reasons that we've talked about.

But for the reasons that you and David have just talked about, we don't think it's that plausible that they would, indeed, want to or be able to leave the euro area that quickly. So the most likely chain of events that would lead to a Greek exit is one where the Greek government starts negotiating again with the European Union because the current terms of the bailout

package are viewed as too tight. Greece wants a little bit more time to achieve the fiscal goals, maybe a little bit more money, a little bit less need to repay. That set of negotiations could take weeks or months. If negotiations break down for any number of reasons, at that point, there is some period of indeterminacy, perhaps followed by Greece missing a payment to the EU because it has to repay the European authorities starting with a big payment in August. Then at some point maybe there is an actual default, and they are declared outside of compliance with the program. Then, if deposit runs have not started already, they start in earnest, and the ECB decides it cannot provide any more cash to meet that run. As things get worse, the Greek government freezes the banks, declares a banking holiday, and imposes capital controls. Some number of months down the road, then it might say, “Geez, adopting the drachma and getting rid of the euro is probably our best option because we are practically at a barter economy already.”

That is the chain of events that could lead to a Greek exit, but it is not something that we think will happen overnight. If that does happen, we think that by the time Greece actually leaves, European policymakers probably will be ready for it, and it could happen without huge disruptions to the European and global financial system. That is a scenario that is very broadly within the confines of our baseline, albeit at the most pessimistic end of it. If a year from now Greece were not in the euro area, that outcome, indeed, could be encompassed within our Tealbook baseline. On the other hand, if it somehow decided to leave tomorrow or next week, that would not be encompassed in our baseline.

CHAIRMAN BERNANKE. Okay. I have President Fisher, Governor Raskin, and President Kocherlakota, and I would urge us to move on after that.

MR. FISHER. Thank you, Mr. Chairman. To reflect, I was happy to see the international side lead the presentation, although the report was not very uplifting. And, to

include Michael's presentation on credit conditions and financial stability was a welcome addition. It is the first time we have really gone through it during this presentation and not separately. I want to thank you for that. Just three quick points on your risk asset values. You talk about institutional investors having an appetite for corporate credit. In talking to CEOs that are running companies that are high-dividend yielders, I am hearing an increasing incidence of bond funds approaching them to capture their dividends. Now, whether or not their legal charters allow it, whether they can hedge away the price risk—nonetheless there is a lot of exploratory activity. I just wanted to add these conditions as something to watch.

MR. PALUMBO. Thank you.

MR. FISHER. With regard to the presentation on inflation projections, are the projections of crude oil prices in exhibit 8 just the futures curve as usual or is that a qualitative estimate?

MR. LEBOW. We did not follow the futures curve exactly. We make some adjustment to the futures curve based on our estimate of the implicit economic forecast among market participants. If that differs from ours, for us to be internally consistent you would want to make some adjustment to the futures curve.

MR. BOWMAN. That's correct. We look at the staff forecast versus consensus, assuming that we're right and they're wrong. If we are more pessimistic, then we would expect commodity prices to fall as financial market participants learned over time that they had been too optimistic; we also correct for our forecast of movements in the dollar.

MR. FISHER. Again, for what it is worth, these are just pixels in a broader picture of the people that I talk to, but it is in accordance to what I'm hearing from the Exxons and so on. The

Saudis are very pleased with the current price range, and of course, you have this enormous production surge here in the United States as well.

MR. BOWMAN. Yes.

MR. FISHER. The third point goes back to the international side. What I am hearing from nonfinancial business operators is, of course, a concern about Europe because of all the uncertainty. But I am also hearing increasing concern about China, and that goes to your second line of exhibit 3 of the charts. And to go back to your expression, does this have legs? If you travel through the peripheral countries to China, Indonesia, all the way to Japan and Korea, or you visit with people like Lee Kuan Yew, in Singapore, there is a deep concern over China right now, much deeper than seems to be reflected in the numbers. And I am just wondering—because we have tended to be a little bit more negative in the Tealbook, which is good because you have been right. We know that there is a knock-on effect from Europe. We can see a diminution in trans-Pac cargo flows from air or sea. How bad do you think things are in China? Are they getting dramatically worse, or is it something we just need to monitor carefully? What I am worried about is that Europe is a much-discussed risk factor, but I want to make sure we are not taking our eye off the Chinese ball, which seems to be increasingly complicated and more difficult. So any comments on China? And I know that the Chairman wants to pick up the pace here, but if you could do that quickly, thank you.

MR. BOWMAN. Well, as we discussed, we believe that the risk of a hard landing has increased in China. We did want to give ample room to China in my presentation, and the April and May data were unquestionably weaker than we had expected and, I think, than markets expected. And the real estate sector has been the source of potential risk for some time, and it is the source of concern. Indicators, like the one I showed on the amount of unsold inventory, are a

worry, and there have been reports for a long time that real estate developers could be highly overexposed, which would then feed back to the banking system and feed into the nonperforming loans. The Chinese authorities, to some extent, have attempted to engineer a housing slowdown, so the price declines that we have seen so far have been gradual and largely seem to have been desired on the part of the government. Right now we don't see a severe contraction in real estate, but we are not trying to downplay the potential risks. On the other side, though, we believe that the Chinese authorities have ample room to increase monetary or fiscal policy stimulus if there does appear to be a sharp slowing in economic growth. In particular, in a year in which a political transition is going to take place, they have a lot of incentives not to see a sharp slowdown in economic growth. So we see slowing as a risk. We don't think a sharp contraction is under way right now, and we do have some faith that there is ample room for policy stimulus. It is not our baseline, but we do acknowledge that the risk has increased.

MR. KAMIN. And, in fact, if we did not think it was an important risk, we would not have put it as an alternative scenario in the Tealbook, which we have.

MR. FISHER. The only other suggestion I have is next time, Mike, when you make a presentation just conclude with, "Have a nice day." [Laughter]

CHAIRMAN BERNANKE. On that note, Governor Raskin.

MS. RASKIN. Back to the fiscal cliff. Is the question of the debt ceiling either built into the baseline or into the alternative simulation? It wasn't clear to me what the Tealbook assumes about what I would imagine would be the confidence-deflating effects of a prolonged debt ceiling debate.

MR. LEBOW. Well, even in the baseline we do have some confidence effect built in associated with the fact that our baseline fiscal assumptions are consistent with there being some delays and some degree of brinksmanship, and so on. So we did build in some sentiment effect for that around the turn of the year, but we are not assuming any particular effect on consumer confidence from the debt ceiling.

MR. WILCOX. The fiscal situation could be even worse. We have assumed that somewhere along the line, with all of the legislative vehicles that are going to have to move through the Congress, that there will be an increase in the debt ceiling along with appropriations or some other vehicle that will avert default on the U.S. debt. Even in our fiscal cliff scenario, we assume that the debt gets taken care of.

CHAIRMAN BERNANKE. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I will forgo the pleasures of getting involved in the discussion between President Evans and President Lacker until later.

I read through chart 12 and listened to the, as usual, excellent financial stability report with an eye to the following question. I think you amply describe the risks that are emerging in Europe, and that we should be concerned about them. I'm puzzled by why we don't see more of an imprint of those risks in U.S. asset markets. I look at just one picture out of very many things that we look at, the chart in the upper right in exhibit 12 showing the equity options-implied cost of insurance—these are exactly the kind of things I like to look at—and I do not see a big change since January in that at all. If I look at VIX, I don't know what it is today, but yesterday it was basically the same as in January. I wonder what your thoughts are on that.

MR. PALUMBO. It is puzzling actually. Given the proximity of these tail events especially, I would have thought we'd see a much more elevated VIX. When we were putting

this together last week, the VIX was hovering in the mid-20s. That seemed low but not outside the realm, and then subsequently the VIX moved down to 18 against nothing that I could see or even hear—there wasn't even chatter about solace over the Greek election. It wasn't as if there was delusion in the reports. They seemed to be negative and dire and focused on the adverse scenarios, but not showing up in the VIX. All I can say is it's not the first time. The VIX can—as you made clear in your speech two weeks ago—provide good information that we try to cull to get color on what investors are thinking in the tails. But the VIX is not a terrific forecaster of what's going to happen. In the summer of 2008 there were plenty of days when the VIX was trading in the 18s, more days when it was trading in the 18s than in the 30s. I think it is just one of those things where, as Brian put it, we view financial markets as in a fragile state. When you look at the liquidity reports that you are hearing about short-term funding markets, those stresses seem to be getting a little worse day by day by day, even as measures like the VIX and the overall stock price index are actually reversing course. So I do think there is an uncomfortable tension here, and at this point, I don't really take much solace from those latest moves. Right now it's in the puzzle bucket as opposed to having relieved some tension, but we will just have to keep an eye on it.

CHAIRMAN BERNANKE. Thank you. Thank you for your presentation. Nellie, did you have a comment?

MS. LIANG. I just wanted to add one point to that. One of the issues we have raised was the current level of downside risk versus, say, last October. And as we pointed out, it seems as if before the LTROs or the ECB was willing to demonstrate that they were willing to take action, there was a little more uncertainty in the markets. However, these options prices were just volatile, and, as you can see there, there was both upside risk and downside risk.

MR. KOCHERLAKOTA. Right.

MS. LIANG. So as Michael was saying, it is hard to read all of this from the VIX. But if you just think about the overall level, once the ECB demonstrated it was willing to take some steps, like the LTROs, that may have been the reason for some of what seems to be a little bit less anxiety in the U.S. financial markets. The other piece I might mention is the banking system. I think the CCAR might get some credit for taking out anxiety about the banks themselves. It is not the answer to everything, but it did work through a European scenario. At least for credit losses it appears they've got sufficient capital to withstand what looks like a pretty bad recession.

MR. KOCHERLAKOTA. Those are very helpful interpretations. I had mentioned the VIX, but if you go through the entire book it is hard to pinpoint big changes.

MS. LIANG. Absolutely.

MR. KOCHERLAKOTA. But I think those are very helpful interpretations. Thank you.

CHAIRMAN BERNANKE. Thank you. On this general topic we have an item now, which is called an opportunity to talk about financial stability issues, either to continue the discussion or to raise issues that didn't come up in discussion. And I have President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. My question emanates from exhibit 10 on the 5-year CDS with a list of firms. I know I talked a little bit about this last time, but looking at the broker–dealer CDS from the largest banks, particularly Morgan Stanley and Goldman Sachs, if I were asked what stress scenario that I would do if I were a risk manager at a large bank, it would be a Greek exit that's not as managed as Steve highlighted, combined with a run on Morgan Stanley whose credit default swaps are quite elevated at this time. In addition, they are likely to be downgraded. We do not know by how much, and it might be coincident with

problems in Greece and Spain. So you can easily tell a story where you start having a very serious disruption in wholesale credit that is very focused particularly on one very large institution. The questions I have for you are: How would you view the likelihood of that kind of scenario? How far out in the tail do you view it? And if it were to occur, can the primary dealer credit facility be focused? You could offer it to everybody, but if only Morgan Stanley showed up, would that be a problem for how we have been instructed to do 13(3) type of facilities?

MS. LIANG. Picking up where David and Steve were in terms of our Tealbook forecast, and in some sense probably where the central tendency of your forecast is, the exit you are raising is a disorderly exit, not an exit that might be several months down the road and might have some backstops and might involve Spain and Italy getting some support from some programs. This one is clearly, in our view, less likely—I almost hesitate to say that. It is a more disruptive one, and one we are considering not within the Tealbook forecast.

We have an internal staff working group that is considering a number of alternative scenarios so that we can think through where the stresses are—the weak points, the operational choke points, so to speak—if you had something disorderly and you started to get runs on certain institutions. To get a sense of what the disruption to the system could be, we are working through various scenarios to help identify which institutions may be able to handle a re-denomination quickly and smoothly, which ones cannot, and what kinds of contingencies they are planning for. The idea would be to identify actions we could take now to mitigate the bad consequences if they were unexpected. That work is in early, early stages. These are tough scenarios, and we haven't thought through all of the consequences. You have mentioned concerns about broker–dealers in the past, and they obviously do not have direct access to the discount window; 23A is a little bit stricter than it used to be pre-Dodd–Frank, and as you just

mentioned the 13(3) authorities are somewhat more limited. Scott would have to address the issue you raise that if only one came, would that meet our standard.

MR. ALVAREZ. I appreciate the opportunity to talk at the FOMC meeting. It doesn't happen very often for lawyers. [Laughter]

The 13(3) authority is really much stricter now, and the difficulty we have is that while the facility has to be broad based in its eligibility, it cannot be for the purpose of aiding a single failing firm. We can certainly set up a PDCF in a way that is broad based in its eligibility, but I think folks will be looking at the participation rate and the circumstances around setting up the facility in deciding whether or not it really is for the purpose of aiding a particular firm. I think that the risk is less a legal risk and more a political risk. There is no requirement that more than one person actually access it, but clearly the Congress would be looking at how broad based the access is and how many people come to the facility. Indeed, the PDCF when we set it up the first time around had periods of time when only one firm went to the facility, though over a period of about nine months virtually all the firms used the facility. How it is viewed is going to depend a lot on the facts and circumstances, and whether the scenario was bad enough that it is going to attract more than just one firm's attention.

MR. ROSENGREN. Just a follow-up; the other way you can address that is to price the facility so lots of people want to use it. Even if it primarily is focused on a run at one firm, if it is very attractively priced, presumably lots of firms might show up, and it might offset some of the stigma, in some sense somewhat like the TAF was priced attractively enough that even people that didn't necessarily need it would take advantage of it. If you priced it very attractively so more people showed up, would that address that concern? How does that factor into the decision of whether or not it is broad based?

MR. ALVAREZ. Clearly, we will design it in a way so that it is broad based in its eligibility so that a group would be able to come—all the primary dealers, for example—and we think that is a broad enough group. The point is that there will be a lot more political scrutiny about the facilities immediately upon their activation—something that we experienced somewhat in 2008, but I think we will experience more this time around.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. Just to follow on in the vein that Eric was in, one problem in setting up a facility that is really attractive from a pricing perspective when there are not a lot of strains on the market is how then does the facility wind down automatically to exit? In addition, it's not really the facility becoming a backstop that is crowding in private investors. It is essentially pushing private investors out. You could do it the way you describe, but there are some downsides to that. Another alternative, of course, is to introduce the facility a little bit earlier, before the markets are really melting down and the firms are in distress, so that at least there is a period of time when the facility is maybe a backstop. It is keeping private investors in the game, and only if things deteriorate do people actually turn to the facility. So there are two different models that you could use.

The issue, though, of Morgan Stanley and the Moody's downgrade is very, very relevant to the outlook because it could intersect with the deterioration and events in Europe, and the broker–dealers in particular are very vulnerable because they don't really have a secure lender of last resort, and they depend on wholesale funding. Now, the good news is Morgan Stanley has done a lot of good things over the past few years; it has lot more capital and a much bigger liquidity buffer. But the credit rating downgrade, if it gets the full three-notch downgrade, could definitely undermine not just its near-term liquidity resources, but also how people perceive it as

a viable firm from a trading perspective. We don't really know the answer to this, but it could be that a P2 short-term rated major broker–dealer actually cannot be successful in this space, and so it may call into question the broader viability of the firm in its current form. If so, then the question is, well, how does the firm shrink? One way is Title II OLA. That is completely untested, and, in my mind, it is not clear that that would work on a cross-border basis. You still might want to have some sort of facility that allows you to wind down the firm in a more orderly way. But it is definitely a real risk from a financial stability perspective.

I also wanted to turn to Europe a little bit and develop the implications a bit further. I really do think this is the key issue, and not just because of what it implies for U.S. GDP, but also because it could lead to a tremendous amount of disruption from a financial stability perspective. I think the staff is broadly in the right place in terms of how they're thinking about this. The problems go far beyond Greece, and what I would like to highlight is why I see this as likely to get worse as opposed to get better. From my perspective, the Europeans are caught in a series of very bad dynamics. The first bad dynamic is that the fiscal austerity measures that they are undertaking lead to poor economic performance, which leads to slippage in terms of the budget outcomes, which in turn increases the questions about fiscal sustainability. It also erodes the political support for maintaining the program. As a result, you don't get the fiscal outcomes that you're shooting for, and political support for further fiscal austerity melts away. The second bad dynamic is that the private claims are increasingly being replaced by public claims, and when this happens, the way they have set it up, the remaining private claims are viewed as subordinate to the public claims, which increases the incentive for the private-sector investors to withdraw further. I think that this is why the market took the re-capitalization program in the case of the Spanish banks as a negative; they said, "Oh, God, we're starting the subordination

process." As people view their claims as becoming subordinate, the countries then quickly lose market access, which we have sort of started seeing in the case of Spain where 10-year standard sovereign yields have climbed to around 7 percent. The third bad dynamic—and this is probably the one that is receiving a bit less attention—is that as the countries lose market access, the burden increasingly falls on those who are left. There has been a presumption all along that, well, Germany is big and strong and has a tremendous amount of fiscal resources. But as the center gets smaller and smaller and the claims on the center get bigger and bigger, there is some question about whether the center actually is viable as well.

How do you escape all of these bad dynamics? What people widely recognize is that you need a broad leap to much greater political and fiscal integration, but the problem is there is no stomach for that politically at this point because it would require countries to give up their sovereignty in terms of their budgets and the regulation of their banking systems. Moreover, it would require the core countries, such as Germany, to be explicit to their populations about the fiscal burden that they have to take on for the rest of the euro area. Right now they're taking on the burden, but it's not really explicit from the point of view of the general electorate.

In absence of relief, I don't really see what stops these poor dynamics from continuing. Some people have talked about a pan-European deposit insurance regime and pan-European bank supervision as a possible means of slowing down the dynamic, but it is not clear how you bring those into play quickly. And, even if you did it, you have to do it in a very particular way to eliminate the risk of currency re-denominations. You could have a deposit insurance scheme in which all of your deposits are insured, but in terms of what? "Am I going to get back euros, or am I going to get some other currency?"

I just want to touch briefly on two other issues that I don't think have received sufficient attention. The first is that core country finances are already deeply entwined with the rest of Europe through the ECB liquidity facilities, through the Emergency Liquidity Assistance lending, which is called ELA, or through the EFSF. Let me just give you some recent figures. These are dated, largely May, figures, and where we are today is quite a bit bigger than this. The figures show €395 billion have been committed to the periphery via the EU and the EFSF. Commercial banks in the periphery have borrowed €932 billion through their national banks, €826 billion through the standard ECB refinancing operations, and €106 billion through the Emergency Liquidity Assistance programs. For Germany, the size of these balances doesn't match up directly with these other numbers, but is evident in TARGET2, which is the EU payments and settlement system. As of May, the Bundesbank had TARGET2 claims of €699 billion, and that number is going up. Now, they don't have full responsibility for that €699 billion. If there actually was a problem, these claims are supposed to be parceled out across Europe based on their share of GDP, but it's not even clear that that would happen in extremis.

Second, as the situation worsens, these claims, of course, just continue to increase, and one of the important channels is via the banking system when deposits flee out of the periphery. As this occurs, banks first take their unencumbered collateral to their national banks who participate in the ECB liquidity facilities. Then when the eligible collateral runs out, they turn to the ELA facilities, and these borrowings through the ELA are essentially unsecured claims from the national bank funded by increases in TARGET2 imbalances. So you ask yourselves the question: How long can this go on, and how does it end? Now, in principle, the ECB could bring this all to an end, at some point, by refusing to sanction further ELA lending, and then the banks wouldn't have any euros to hand to their depositors. You would probably have massive

bank runs, and the whole system would shut down. But it's difficult for the ECB, which is one of the true pan-European institutions, to pull the plug. If they don't pull the plug, then the process just keeps going, the ELA lending increases, and the implicit burden on the core countries increases.

I look at this, and I try to be optimistic, but the only silver lining I see in any of this is that the core countries now are really deeply implicated already, and if the situation deteriorates, their exposures are going to increase further. You may be past the point where they have no choice but to go all in to save the project, as opposed to the alternative of throwing the peripheral countries out and trying to limit their losses. Now, a darker view would be that the longer this goes on, the more deposits flow out and the bigger the core claims become. There are two difficulties in that scenario. First, if the core countries are unable to get to "yes" on fiscal union, they could decide that it is still better to cut their losses. And, the thing that I worry about is that, second, market participants might believe that at some point the core itself isn't money good in terms of all the claims. We are not at that point, but you could imagine if you run this down the road that, at some point, people are going to start to question the fiscal ability of Europe to handle all of this.

I want to end on an optimistic note. We did have some pretty interesting events in 2008, 2009, and they led to Maiden Lane. We should have called it Maiden Lane I, but we didn't know there was going to be a Maiden Lane II. And those were the last really huge bouts of financial instability. The good news is that Maiden Lane II was paid off earlier this year and that Maiden Lane and Maiden Lane III were paid off over the intermeeting period. We still have a few assets left to sell, but the Federal Reserve is going to lose no money on any of those special interventions. We are actually going to make a reasonable profit for the taxpayer.

I think one lesson in this is that if you buy assets when illiquidity risk premiums are really high and you have the ability to hold those assets until the illiquidity risk premiums have narrowed—even if the underlying loss performance of the assets is terrible—the situation can work out. The economy actually performed a lot worse than we thought it would when we acquired those assets, but the assets actually outperformed relative to the prices at which we bought them because the illiquidity risk premium shrank dramatically. I don't want to do this again. Given all the scrutiny the Federal Reserve got about these special facilities, it's really a good story for the Federal Reserve that we managed down these facilities, that the loans were completely repaid, and we're going to make a decent profit to the taxpayer. And I just want to thank all the people at the New York Fed and the Investment Support office and the people here at the Board who helped us work through this problem and get these loans paid off.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. By the way, Mr. Chairman, Vice Chairman Dudley, at a Conference of Presidents meeting a long, long time ago when we first embarked on it, said, "We will make money off these." No one believed him. Now he has been proven right. Thank you.

I want to come back very quickly to U.S. asset valuations on junk bonds because, as you showed in your charts, the healthy issuance in the early part of the year has dried up, and the spreads have widened. I've been worried about this, although I comfort myself in the fact that as a result of our policy, one could argue that if you're high quality or just an A-rated investment credit, you can borrow five-year money at an all-in cost of around 1½ percent or seven-year money around 2 percent—that's pretty darn attractive. Should we worry about this widening in spreads? Is it signaling something, or is it just that basically investment grade credits have been improving their balance sheets and are much more attractive to finance? I think we're outside of

the historical norm in terms of the width of that spread, and I'm just wondering what signals you're picking up from that.

MR. PALUMBO. One thing about the issuance, first. Because a lot of this gross issuance has been for retiring existing debt, the net increase in debt almost throughout the credit spectrum has been much smaller. Even in February and March when the high yield bonds were being issued at these strong paces, a lot of that was for retiring existing debt. The gross numbers here are trying to give us a sense of investor appetite as much as for companies adding debt to their balance sheets—they grossly overstate how much debt is being added to the balance sheet. In fact, I believe that the overall positions of net corporations, across size spectra and across credit ratings, are also below their historical norms. And as you probably know, the default rates on the stock of junk bonds are actually quite moderate, especially given the state of macroeconomic performance. The way I would think about the spreads is that there is a less-than-usual overall appetite for reaching down in the credit spectrum and that is evident in the price dimension. Even so, pricing is clearly not so prohibitive, especially given the levels of yields; these are spreads relative to the lowest Treasury yields that we have ever seen. I think it is conducive to fundraising in a way that is lowering debt burdens for most firms that are in the market, while satisfying some investor portfolios.

In terms of the reach for yield, what we worry about are behaviors that are going outside the instruments and the practices that the money managers really have experience with managing. The things we're looking out for are slippages in covenants, which we haven't seen very much to date or reaching across what seem to be securities and positions that are not in the manager's own experience. That's the kind of thing that we haven't seen too much of now, but we definitely hear about. Our sense is that with many institutional investors under tremendous

pressure to make nominal returns, there's going to be a natural tendency for some of them to go beyond what they really have the capability to manage. That's what we're trying to monitor in the aggregate. We haven't gotten to a stage that has us tremendously concerned, but we have to ask the questions and try to stay ahead of that.

CHAIRMAN BERNANKE. Why don't we break for coffee and come back in 20 minutes?

[Coffee break]

CHAIRMAN BERNANKE. Welcome back. We're ready for our economic go-round, and we'll start with President Lacker.

MR. LACKER. Thank you very much, Mr. Chairman. The economic outlook has clearly weakened since our April meeting. The May employment report may have gotten the most attention, but an array of other indicators also seems to point to a noticeable slowdown in economic growth. Retail sales ex autos and gas have been flat for two months. Auto sales have come off their first quarter peak. Manufacturing, exports, and business investment have all lost some of the forward momentum they were showing last year. Tracking estimates of current-quarter GDP growth have been pulled down, and forecasters are marking down the projections for the remainder of the year as well. I've marked down my forecast, too. I wrote down 2.0 percent real GDP growth for this year as a whole, and that's pretty close to the average private forecaster.

The continued turmoil in Europe is obviously front and center as a macroeconomic concern for us. One should never be too sanguine, and a variety of adverse scenarios are possible. I think the staff has done a really good job of thinking through a lot of them and filling us in. I thought we had a very rich discussion and a very good one. I don't have much to add

that's informative about that. I'll just make two or three observations. One is in thinking about the effect of Europe on the United States, the way I like to go about it is to separate the real spending flows from the financial contagion. They are obviously related at some level, but as an initial matter, just separate the two and try to think these through. And my sense is that the most likely outcome is that the real U.S. fallout will be mostly limited to the direct trade effects, and those could be modest or substantial, but I think those are well captured in what the Tealbook quantifies, and so that gives me a little bit of heart.

As for financial contagion, I think the staff is right to highlight some serious vulnerabilities, particularly in the money fund complex. I thought Vice Chairman Dudley's discussion of all the ins and outs of policy over there and the ways that might evolve was excellent. Financial contagion in Europe seems to be driven by the things he was talking about—by fluctuations in inferences about what policymakers are going to do next or are going to be willing to do in the next country. Now, because of that, I think the implications for that type of financial market volatility or that kind of contagion are potentially pretty limited for the United States, and this may explain the puzzle that President Kocherlakota talked about—the somewhat limited extent to which volatility has risen in the United States.

And the third thought I'd offer is that as we go through this, it is worth thinking about parallels, to the extent they exist, to the 1998 Asian crisis where the real fallout proved to be much less than we feared and policy ended up being more expansionary than we wanted up through the middle of 1999. But as I said, one should never be too sanguine, and a variety of adverse scenarios are certainly possible.

Turning back to the United Sates and our District, until the past couple of weeks the tone of the anecdotal reports has been somewhat at odds with the weakening macroeconomic data

flow. Our business contacts had been reporting that conditions, though still weak, were improving, and the Beige Book contacts painted a similar picture. Our most recent opportunity to connect with the business leaders from our District was last week's meeting of the combined boards of our Bank and our two Branches. This meeting did have a noticeably softer tone that we had been hearing previously, but even so, I'd characterize it as a mixed set of reports with some positives related to tourism and travel and some signs of improvement in housing. Some of the negative reports had to do with looming cutbacks in defense spending, and that is a concern that is especially relevant around the District of Columbia region here. Large defense contractors are said to be preparing now for the January 2 sequestration, and they're said to be making arrangements to send out the mass layoff notices. These are legally required to be sent out, depending on the state, at least 60 days in advance of the layoff, which interestingly would be November 2, right before the next election. A contact in the aircraft industry reported that airline traffic is off in Europe and Asia, and that in response Airbus has scaled back plans for production increases at the end of the year.

We also continue to hear business people, sometimes adamantly, link their capital spending plans, or lack thereof, to uncertainty about the resolution of the U.S. fiscal imbalance. I know I mention this fairly frequently—and I'm probably sounding like a broken record on this subject—but these comments are common, and they're quite unprompted. The latest reports distinguish between upgrading existing facilities or equipment, which they find worth doing, and building entirely new production facilities for some new operation or product, on which they're holding off. For example, one contact, the CEO of a medium-size company with an array of manufacturing facilities—they're mostly high density plastic, so think swimming pool noodles, and they're dominant in the artificial wine cork business—is complaining that he's not starting

up any new facilities because he “just can’t do the math.” In other words—I probed him on this—the relevant tax rates and health care costs are simply too hard to forecast. And, by the way, I don’t interpret this as Knightian uncertainty. I just think it’s unprofitable given his beliefs about the probabilities of various policies.

On a more quantitative side, we’ve got the bulk of the responses to our manufacturing survey, which won’t be released until next Tuesday; the deadline is tomorrow night. The preliminary figures for the manufacturing side suggest a further decline in the overall index to a reading of negative 5. This is the third time this index has dipped to around zero in this recovery; it was a bit above zero last month. The services sector, however, seems to have experienced a step-up in activity in June, and the employment indexes in both surveys remain relatively positive.

Overall, as I said, our most current anecdotal reports are mixed rather than uniformly gloomy. I read them as consistent with an economy that has slowed and faces some headwinds, but where there do remain some sources of underlying strength. Household spending has been all the more remarkable, given the downward revision in disposable income. Part of the hit to real disposable income in recent quarters stemmed from energy price increases, which are being reversed. The resulting boost to real income will support consumption in the short run. Over the medium term, further employment growth even at a subdued pace should help bolster household income and spending. Equipment and software investment probably won’t grow at the 8-plus percent rate we saw last year, but 4 to 5 percent that many, including the Tealbook, are forecasting is not too shabby. Exports, too, have grown more rapidly than the economy as a whole over the past two years and are likely to slow, but still export growth above 3½ percent, as in the Tealbook, would contribute meaningfully to overall growth. I do think a case can be made

that economic growth will gradually pick up after the end of the year, too, and I'm a bit more optimistic than the Tealbook for 2013 and 2014 as a result. We have seen growth soften three times in the past three years after surges of various magnitudes, and the more that happens the more weight we should place on the idea that they represent natural variations around trend rather than incipient disasters nipped in the bud.

The inflation outlook has certainly changed somewhat due to the unexpectedly large decline in energy and other commodity prices. Headline inflation is falling, and we are likely to get lower readings on core inflation in the short term as a result of the strengthening dollar and the usual bleed-through from energy prices. But if you take a step back and look at the longer record, I think it is more likely that inflation is fluctuating around 2 percent as opposed to beginning a persistent downward slide. We often see short-run pass-through from energy prices to core inflation, but the effect is always temporary. The same is likely to be true of the effective changes in the value of the dollar. Another reason to view the current move in inflation as temporary is that measures of inflation expectations do not appear to have been perturbed much by the recent developments. So I'm projecting that energy prices will flatten out in a couple of months, and that both core and headline inflation will return to about 2 percent by the end of the year. If a broad-based decline in inflation persisted, it would be a concern that might warrant further action by this Committee, but I don't think we're close to that point yet. Thank you.

CHAIRMAN BERNANKE. Thank you. President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. Since our previous meeting, there has been a notable change in the incoming data. Concerns about a global slowdown and escalating European problems have caused Treasury rates here and in other safe havens to fall, oil prices to decline, and consumer and business confidence measures to retrace earlier gains. These trends

are also reflected in my forecast, which envisions less business fixed investment and employment than I had in my April forecast. Business fixed investment was already weakening before European problems heated up, and my contacts with businesses around the District indicate no desire to increase investment or hire more workers until the uncertainty in the outlook is reduced. Because of concerns among some firms that have significant trade exposure to Europe and others who will be affected by reductions in federal research and military spending, many of my contacts are more focused on possible retrenchment than possible expansion. I now forecast the unemployment rate to remain at or above 8 percent through 2013 and the total and core PCE inflation rates to remain below 2 percent. These outcomes are achieved conditional on assumption of appropriate monetary policy that both extends Operation Twist and engages in additional purchases of mortgage-backed securities.

However, even this gloomy forecast is conditioned on Europe avoiding a severe outcome that would undoubtedly spill over to the United States. This assumption is consistent with enlightened self-interest in Europe and seems consistent with the results from the recent Greek election. Nonetheless, this assumption is becoming harder to maintain. In discussions with Europeans since our previous meeting, I have been struck by the hardening of their positions and the view that it was not whether but when Greece would not be able to satisfy the conditions for continued aid. This is in sharp contrast to views being expressed by Europeans last year. Despite their increasing resignation about Greece’s likely failure, few Europeans seemed confident that effective firewalls are being built.

In safe havens around the world, longer-term interest rates have fallen below the inflation target set by the respective central banks. In the United States, the 10-year Treasury rate declined rapidly as Greek and Spanish problems escalated. For investors to purchase 10-year

Treasury securities well below our inflation target implies either significant skepticism that we will be hitting our inflation target or the expectation of a protracted period of a negative real policy rate, or both. These assessments are, no doubt, motivated by financial market participants' assessments of the probability and possible severity of unfolding European problems.

Similarly, wages and compensation continue to surprise on the downside, highlighting that labor costs are likely to continue to be very well contained. Firms are describing being inundated with qualified applicants, causing them to lower the entry-level wages they are offering. Discussions with officials at colleges and universities in New England continue to highlight the very challenging hiring environment for new graduates. Many new graduates are forced to accept underemployment to avoid unemployment.

The domestic economy is not growing fast enough. With global pressures likely to continue to impede growth, with increasing signs that we may significantly undershoot our inflation target, and with fiscal restraint likely to increase, we should provide more monetary support for the economy, a topic for discussion tomorrow. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. It's my sense that this is an awkward juncture as regards evaluating the direction of the economy for policy purposes. Even with a very modest number for economic growth in the first quarter, I would argue that a data-grounded forecast just a few weeks ago was decidedly more positive than now. The situation seems to have changed noticeably in a short period of time. This is reflected in the Tealbook and, to a lesser extent, in my outlook. The reason I think it's an awkward moment is it is still early to draw conclusions about the persistence or temporary nature of the developments indicated in the

weaker data. In our recent discussions with directors and business contacts in my District, we probed for indications of slowdown, deteriorating outlook, change of business plans, and changing consumer behavior. The results of these conversations suggest some amount of disconnect between how the economy feels on the ground and what the data indicate. Reports from our business contacts remain mostly positive and suggestive of an economy that is still improving, if gradually. There was broad acknowledgement of significant downside risks, but I detected no fundamental shifts in the consensus outlook.

Consumer spending remains a mixed picture. Auto sales and tourism-related spending remain strong. Retail spending more generally is holding up but was characterized by most retailers as modestly positive. A large restaurant management company reported that patronage had softened a bit, except for the highest-end format where receipts remained strong. A large national discount retailer targeting lower-income households reported strong sales reflecting their value proposition. This firm intends to open a number of new stores. My sense is that the mindset of consumers, if one can generalize, is they continue to spend with caution and purpose, increasing their credit load only when necessary to fulfill basic needs.

Turning to business spending, the majority of respondents to our survey on capital expenditure plans signaled plans for modest increases over the next 6 to 12 months. Most said their plans were based on higher sales expectations or the need to upgrade IT equipment. Those not planning to increase spending cited greater uncertainty as the basis of their cautious approach to capital spending. Continuing caution was also reflected in our contacts' responses to questions about hiring plans. A large national home improvement retailer said that while it is forecasting increasing sales, it does not plan to add to its workforce at all for the next three years.

As regards inflation expectations, our June business inflation expectations survey shows a small decline in unit cost assumptions for the year ahead. The slight moderation in cost expectations of businesses seems to be tied to the recent drop in commodity prices. Commodity users talked about using this development as an opportunity to improve margins that were squeezed last year. Overall, firms continue to report modest gains in sales and orders, with little change in inflation sentiment. The data suggest more weakness than we heard from contacts in my District.

Turning to my assessment of the national economic outlook and my forecast for this meeting, I marked down my economic growth forecast in reaction to three developments: softer-than-expected incoming data, a weaker global growth outlook, and uncertainty about the fiscal situation that won't likely be resolved for several months. The broad contours of my forecast resemble the Tealbook, but I'm not yet ready to assume as much deterioration given the ambiguity of current circumstances and the more-positive tone in the feedback from contacts. I have not yet seen enough evidence to cause me to make a major shift in my growth forecast, particularly for 2013 and 2014. I've adjusted upward my outlook for unemployment, but again, not as much as projected in the June Tealbook, and I don't see much reason yet to make a material change in my inflation outlook, which is close to the Committee's target of 2 percent over the forecast horizon. At this juncture I'm drawing a clear distinction between my outlook projections and my assessment of risks. I think this is a fair characterization of the approach being taken by the business community as they look to the second half. The risks are potentially significant, even huge, but I have not factored the most severe speculative downsides into my baseline outlook. I don't think we have enough clarity to make wholesale changes to the

outlook. Nonetheless, the balance of risks for both GDP growth and inflation has shifted to the downside in my view. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. Incoming information suggests that the pace of the economic recovery in both the Third District and the nation has moderated over the intermeeting period. As a result, I have revised down my near-term forecast since April and now project economic growth to be about ½ percentage point slower than in my previous forecast. Importantly, and unlike the Tealbook, which marks down growth rates for the next two years because of the recent data, my medium-term forecast for 2013 and 2014 has not changed. I continue to expect GDP growth to be close to 3 percent for 2013 and 2014, and that is just slightly above my longer-term trend projection of 2½ percent.

While the most recent employment data were weaker than we wanted, weather-related factors probably overstate that weakness, and labor market conditions continue to improve, albeit slowly. Employment growth has softened, but remains positive. I would remind us that month-to-month changes in nonfarm employment are quite volatile, and revisions can be quite large. One-step-ahead forecast errors for changes in nonfarm employment typically have standard errors of well over 100,000 jobs. With that in mind and the magnitude of the revisions that can occur, which the BLS puts at plus or minus 100,000, we should be cautious about relying too heavily on the most recent data as we formulate policy. Job growth in the Third District has been running somewhat below that of the nation, but that's typical. Interesting, the pattern across our states has changed rather dramatically. Employment growth in Pennsylvania has slowed somewhat this year, while New Jersey's has picked up considerably. I continue to

project that job growth will be sufficient to gradually reduce unemployment by about another 2 percentage points by the end of 2014.

As to inflation, I had expected the run-up in inflation due to higher oil prices early this year to abate, and indeed it has. Energy prices have come down, and will probably stabilize. So I have had to change my forecast for inflation very little. I expect inflation to run near our target of 2 percent over the next three years. But this does assume a somewhat steeper funds path than is incorporated in the Tealbook or suggested by our current forward guidance. I continue to be somewhat uncomfortable with the idea that our accommodative policy will have little or no consequences for inflation for the next several years, as it does in the Tealbook baseline.

As I mentioned, I'm reading the recent weaker-than-expected data as having less of an implication for the medium-term outlook than the Tealbook does. I do admit that the confidence bands around my forecast have widened since April. This reflects the recent data and the continuing unsettling news from Europe as governments try to deal with their fiscal and banking crisis. As we've been talking about, the high level of uncertainty about how the European situation will play out and its likely effect on the U.S. economy, as well as the uncertainty about how we will handle our own fiscal issues looming at year end, are palpable drags on the recovery in the near term. Like President Lacker, I believe the direct trade effects of the slowdown in Europe are likely to be small for the United States, but it's the financial risks that loom large. The businesses are reading newspapers every day about the impending implosion of Europe and about our own fiscal cliff. Can we really expect them to want to increase hiring and investment with that type of uncertainty looming? Do we think that another few basis points on longer-term rates will suddenly entice businesses and consumers to put aside these concerns and start to spend and invest? I doubt it, but these near-term downside risks also suggest some upside risks

over the medium term if the global fiscal issues are handled responsibly. Additionally, the drop in oil prices and higher house prices also provide some upside risk.

Recent anecdotal information from our business contacts and the data that we've received since April indicate continuing moderate growth in the Third District, but uncertainty around that trajectory has increased. The most troubling piece of data comes from our manufacturing sector. Manufacturing has been one of the bright spots in the economy over the past couple of quarters, but in May the general activity index of our Business Outlook Survey turned negative, and preliminary data suggest it will remain negative in the June results. This is obviously disappointing. Many respondents commented on the increased uncertainty, making it difficult for them or their customers to make hiring and investment decisions. The decline in oil prices has hurt some of our manufacturers who service the oil drilling industry. Obviously we will be keeping our eye on this, but I note that last August and September we had two negative readings, even more negative than the ones we have now, and activity came back fairly well. So we're hoping for better things as the year goes on. A brighter note in our survey is that indexes of future activity of the manufacturers remain positive and look reasonably good. Thus, our manufacturing firms are expecting this to be a temporary lull rather than an out-and-out recession, and they believe that activity will strengthen over the next six months. Also encouraging is that our retail contacts remain positive and that the outlook for nonresidential and residential construction in our District has improved.

All in all, while my near-term outlook has dimmed somewhat since April, this is mainly because of the effects of uncertainty over the European situation and our own fiscal problems, not to mention the impending election. I am not convinced that a change in monetary policy can

do much to address this uncertainty, but I'll speak more to that in our next go-round. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. Anecdotal information from the Eighth Federal Reserve District economy suggests a continued sluggish pace of economic growth. Agriculture continues to be an area where prospects seem bright. Improvement in housing markets, quite substantial in some areas, has given rise to a cautious optimism. Retailers continue to expect improvement during 2012. The District unemployment rate based on 16 District MSAs is running at about 7.7 percent, somewhat below the national average, and down from 8.1 percent in January. Initial claims in the District have fallen more since the peak of the recession than in the nation as a whole, and so are running somewhat lower. Large transportation companies in the District indicated that business has been slower and more mixed in recent weeks. This may have more to do with the Asian markets and slower-than-expected economic growth in China than with Europe and the United States. This echoes comments made by President Fisher earlier. In Europe volumes have remained robust, but pricing has suffered because of trade-down effects. In the United States, on balance, demand seems to be holding up relatively well. Contacts remain exceptionally concerned about and attuned to a variety of national issues. Among these are political gridlock, the fiscal cliff, and the European situation, as President Plosser just discussed. They note that lower gas prices are an important factor going forward for many households and are a bright spot.

In the national outlook, while the recent data have been somewhat disappointing, the general tone of sluggish economic growth seems reasonable to me. Longer-term interest rates are down substantially from where they were expected to be at the time of the previous

Tealbook. For reference, see page 4 of the Tealbook A, top right. Usually, lower long-term rates are bullish for the U.S. economy. This reduction in rates has been far more than the typical estimated effects coming from actions taken by this Committee in recent years. The flight to relative safety coming from Europe is more powerful in the current circumstance than a monetary policy action. I think the U.S. economy can benefit from this impulse going forward through the remainder of 2012. Oil and other commodity prices are also down substantially from predicted values at the time of the previous Tealbook, about 20 percent according to one chart. This is normally quite helpful to the U.S. economy, especially as lower gasoline prices continue to filter through to U.S. households. I would read this as a somewhat more bullish factor than the Tealbook does.

Obviously, the situation in Europe is driving many developments in global markets. My view is that very little has changed or, in fact, is likely to change. We should expect continued turmoil and continued brinksmanship. Eventually debts will have to be restructured as, to some extent, they have been already. I agree with the excellent comments from President Dudley on this matter. I expect the situation to end not with a bang but with a whimper. We should factor in a modest pace of restructuring as a baseline scenario that will continue on for several years. I want to echo President Kocherlakota's comment that the stress in global financial markets does not seem to have shown up in U.S. markets. The St. Louis Financial Stress Index is up but only slightly, and it is not particularly high compared with previous values even from last fall and is certainly nowhere near 2008–09 levels. However, it certainly bears watching.

On unemployment, I want to reiterate that, despite the recent reports, we've made substantial progress over the past year. Last year at this time the national unemployment rate was 9.1 percent versus today's value of 8.2 percent. This is considerably lower than most

forecasters had in mind. In addition, compared with the past two recoveries, this one has been relatively good. In 1991, at the end of the recession, unemployment was 6.8 percent. Three years later, which is where we are now, it was 6.5 percent. In 2001, at the end of the recession, unemployment was 5.5 percent. Three years later it was 5.4 percent, almost no progress. Those were the two jobless recoveries. In 2008 and 2009, at the end of the recession, the unemployment rate was 9.5 percent; three years later, it's 8.2 percent. I attribute part of this progress to especially aggressive action on the part of this Committee. I do think those of you who listen to what I have to say—which may not be that a high number—know that I think that there was a structural break in labor market behavior in the 1980s. I don't think you should look at earlier recessions; I think you should only compare with the past three recessions. Unemployment levels are obviously higher this time, but that's because the shock was so gigantic. Nonetheless, the progress has been substantial, and we should keep that in mind when we're looking at labor market data.

Inflation has fallen, but remains close to target for now. The five-year TIPS expected inflation rate, the last time I checked, was about 185 basis points, not too far from our inflation target. I do think it bears watching, and I agree with President Lacker that if inflation declined dramatically, we would definitely have to defend our inflation target from the low side.

We have the ability to respond to a contagion effect. We can take further action if necessary and, in particular, I'm an advocate of QE as a very effective action that this Committee can take. However, I do not believe it's necessary at this point. Further balance sheet expansion would be taking exceptional risk for the FOMC, pushing us further into uncharted territory with unknown consequences. If it comes to that, we'll have to do it, but I don't think we're there yet. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. I would like to make some quick comments on my District, then talk about my business interlocutors, and then conclude with a comment on inflation.

According to my District, our job growth has slowed. Texas job growth is 2.4 percent year to date through May—a percentage point faster than the rest of the United States, but slower than we expected. And the second note about my District that is of concern is that our real exports have declined by 3.4 percent in April and May. We are the leading export state by a significant margin, and it is not unimportant that given our export mix—particularly because the growth markets for our exports have been South America (excluding Mexico) and China—the weakness has only partially been offset by a 13½ percent increase in Mexican imports from our Texas ports. So the situation within the 11th District is somewhat weaker than it was before, although relatively strong.

With regard to my interlocutors, this time I spoke with 43 CEOs outside of my District in addition to our boards of directors. And I just want to give you a quick summary there because it is a bit of a cacophony. Going back to what President Lockhart was saying, the situation seemed to have changed radically in a short period of time, but there is a disconnect or some cacophony between what you hear from your business operators and what you see in the broader data. I like, as you know, to start with the rails and the ships and the way things move. In terms of rail activity, coal has been the killer. If you take out the coal drag, you would have in April and May about 4½ to 5 percent growth in rail freight delivery. But with coal as a drag, you are up 0.4 percent through June 11. In the shipping business, in terms of Panamax, the big bulk carriers, and cape-size vessels, barely a pulse. The transpac trade has disappeared for all

practical purposes, as I mentioned earlier, and the China-to-Europe trade has disappeared as well. With regard to the express deliverers, a split: If you talk to the Atlanta-based company, whose name won't be mentioned, it is running about 4 percent unit volume year to date, which is a pretty good number. And if you talk to their major competitor, it is running about 2 percent. With regard to air cargo, the market is absolutely flat. The only good news within air transportation has been passenger traffic, which is running at 5 to 6 percent year over year, but that is because that is revenue seat miles, and they have decreased significantly their overall carrier capacity.

As far as those that I consider to be logistics companies, I will summarize with what I hear from the CEO of Fluor who noted that there is much greater weakness than is reported in the numbers, with the exception of the oil shale plays, liquefaction of gas, and so on—$30 billion projects alone active in the Gulf area. But in terms of other activity, it has pretty much ground to a halt according to reports. And then, another index I like to look at is the Architectural Billings Index. These are important numbers for companies like U.S. Concrete, for the utilities, and so on. It was running up eight straight months through April, and has since fallen below 50, which is an indicator of contraction, not expansion.

Regarding commodities other than soy and meal protein, which is about 20 percent of the market basket, we have seen a significant sell off—as everybody has reported and was shown in the chart on nonfuel commodities in the staff presentation. We have talked about energy previously, and I do think it is important not to underestimate the impact that the surge in gas plays, liquids, and of course oil production here in the United States is adding to that pressure. And my industry contacts indicate that it is unlikely we will see significant upside price pressure going forward, and that natural gas, which is trading, as you know, at historical lows, is unlikely

to pick up from its current levels as well. The cost to the consumer should continue to be mitigated.

One positive bit of news—and I am looking at Governor Yellen as I talk about this because you know one of my favorite subjects is housing, and we had a substantial discussion about that before—rail traffic of lumber is up 17 percent through June 11, which is not insignificant. If you talk to the rails in terms of their own calculation of what this means for housing starts, they estimate that this typically translates historically to about 770,000 housing starts. Now, that is a bigger number than when we were down in the pits, but certainly nowhere near the big number of 2.3 million, as I recall, in January of '06. And I did take some comfort in the permits numbers that were issued today. So I think we have definitely seen a turn in that market. The question is how sustainable it is.

Lastly, with regard to consumers, again, there's a cacophony in the data. If you look at the MasterCard SpendingPulse data, which I consider to be a good base—MasterCard itself is outperforming these data—the estimate ex-auto, ex-gas showed a pickup from April to May and is running at 7½ percent year over year. That is a number I would not have expected. And 10 out of the 11 sectors are positive, and the only sector that is negative is electronics. As far as that database is concerned, you have seen some positive pickup in spending behavior. And what is very noticeable both in terms of what President Lockhart mentioned about the discount stores as well as with regard to your restaurant point, President Lockhart—what is known I think euphemistically in the industry as casual dining—is that you have seen a rotation out of the casual diners down to the very low budgets, the McDonald's, and so on, and a rotation down from the medium-priced stores down to the Walmarts. Walmart had a record year-over-year performance this May, at least the best in the past four years, largely driven by value items, as

you mentioned, President Lockhart. So there is a mix in terms of consumption, but clearly a drive toward value.

I should say that with regard to price pressures, they don't exist. This tracks what I have been reporting with the trimmed mean that the Dallas Fed calculates on the PCE. I have not been worried about inflation for quite some time. I think the comments made earlier starting with President Lacker indicate that we have certainly moved to the 2 percent or lower level. Oil and gas prices are expected to stay where they are, and there is no pricing power whatsoever in most areas. With large retailers such as Walmart reporting that they expect to see price rollbacks among those who pushed through price increases last year, and reporting that those companies have lost significant market share, I would imagine we will see some price rollbacks amongst consumer products companies.

So no real inflationary pressure and timid economic growth. I would expect fully that the estimates of top-line growth of the S&P 500 companies, as well as for private companies that are tracked by the bond rating agencies, will decline. And yet of the 43 CEOs that I spoke to, not a single one was in favor of additional monetary accommodation. They are using us to rebalance their balance sheets. Many have run the course. Those that are in the best shape will use whatever they can in the bond markets to increase their dividend payouts and buy back their stock. And the direct quote of one of the CEOs in whom I have the greatest confidence, "I won't hire a single worker until I determine"—what President Lacker referred to earlier, and others—"what the cost of my doing business will be, and I won't know that until we get through the health care legislation, or the Supreme Court ruling, and until I understand what fiscal policy is going to be." In summary, Mr. Chairman, it appears that we are running in a three-legged race with a one-legged partner. That is, monetary policy authorities seem to be carrying the rest of

the house. And until we see a little bit more responsibility on the other side, I believe we are pushing on a string. I will argue tomorrow against further monetary accommodation, and I thank you for tolerating my comments.

CHAIRMAN BERNANKE. You're welcome. [Laughter] President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I did not hear you in the cacophony, as you know. This is the wild corner of the table here. [Laughter]

I would like to say welcome to Governors Stein and Powell, both alums of Old Nassau like myself. In fact, Governor Stein and I were classmates back at Princeton, so it is a special pleasure to have them with us today and going forward.

In the intermeeting period, I read in Chairman Bernanke's thoughtful and wonderfully clear December 2004 speech what he termed feedback- and forecast-based approaches to monetary policy. Between these two approaches, I certainly continue to favor simple feedback rules as a benchmark by which to guide our decisionmaking. A number of people around this table have made compelling arguments in favor of that approach, and the Chairman, in fact, noted many of them in his 2004 remarks. Nonetheless, I found it helpful in terms of the next two go-rounds to frame my current thinking about policy in a forecast-based approach. Accordingly, my remarks will be based on my current modal forecast. But, of course, as I have emphasized before in these meetings, I stand ready to adjust my views about the economy and my policy stance in response to information that suggests a need to change that modal forecast. And as you will hear from what I say, information about downward pressure on inflation would certainly be a reason to change my views. But for today, as you listen to my remarks, it may be helpful for you to know that I am number seven in the SEP. I will spend my time explaining my outlook for appropriate policy and my outlook for the economy under that policy. And that is described

numerically in the SEP. The core of my explanation is twofold. First, even though the Tealbook has yet again reduced its estimate of potential GDP, I still see the output gap in the economy as being less negative than is reflected in Tealbook estimates. Given the Committee's planned policy path, the low amount of slack will generate inflation above 2 percent in the next two to three years. Second, because there is less slack, we can reduce future inflation back down to 2 percent with relatively little consequence for the unemployment rate.

Let me start with the first part. Why do I believe the output gap is less negative than the Tealbook? I have been through this before: The behavior of prices continues to play a key role in my thinking. A highly negative output gap represents a large excess of supply relative to demand. Such an excess would put downward pressure on prices and give rise to inflation running below its long-run trend, a long-run trend that hopefully is being determined by our target of 2 percent. Some observers have argued that one reason we are not seeing that is because of sticky wages and other kinds of anchoring effects in price-setting. But, of course, we actually did see this downward pressure on inflation in the second half of 2010. I found that very persuasive at the time, and the Committee rightly responded with the second LSAP. But since that time, core inflation has risen back to 2 percent. While this behavior in inflation is quite informative, there is additional evidence that supports my view about the output gap. Average hours worked per week is now above its level in the fourth quarter of 2007, and the rate of capacity utilization is near its late 2007 levels. All of this pushes me in the direction of thinking that the output gap is less negative than in the Tealbook. How does that affect my outlook? I project that under the policy path described in the FOMC statement, inflation will steadily rise above our target. By 2015, I would expect that core inflation will be around 2½ percent. Given

this outlook, a less accommodative policy than what is described in the April FOMC statement would be desirable because it would reduce future inflation back to our publicly stated target.

Suppose we followed a policy that reduced inflation in, say, 2013 to 2014, by 25 basis points. What would happen then to unemployment, to the other side of the dual mandate? My thinking on this is shaped by the literature on nonlinear Phillips curves—and here I spent my time reading Governor Yellen's very nice presidential address to the Western Economics Association, which was a good entrée into that literature. The idea in this literature is that once the economy is close to capacity, adding monetary accommodation can have at most a limited impact on output and so on employment. That's what it means to be close to capacity. The converse is that if the economy is close to capacity, then reducing monetary policy accommodation will result in only a small change in unemployment. As I have argued, I see the economy as being relatively close to its capacity constraints. And given that we are so close to capacity constraints, I see reduction of accommodation that results in a 25 basis point fall in inflation over the next couple of years as having little impact on unemployment.

All told, this is why I currently favor a less accommodative policy than that preferred by the Tealbook. I am one of the three that favor an interest rate increase by the end of 2012. I anticipate that my version of appropriate policy will lead to inflation being 2.1 percent in 2013 and 2.2 percent in 2014, instead of the higher inflation that would result from the FOMC statement's path. That is a forecast-based version of my approach to policy and the outlook that is in my SEP submission.

Mr. Chairman, I am going to close by switching gears and offering some reflection of what my SEP submission says about my objection function with respect to unemployment and inflation. As I have said, the projection that I submitted to the SEP includes a forecast that

headline inflation and core inflation will be above 2 percent in 2014. I think I am the only one of the 19 participants who submitted a forecast for inflation under appropriate monetary policy that had it above 2 percent in 2014. It is important to emphasize that this projection of above-target inflation is not related to my perspective that there is relatively little slack. As we all know and as I have said several times already, my projection about 2014 inflation is based on the assumption that the Committee is following what I view as optimal policy. In formulating that optimal policy, I knew that the Committee had tools available—raising rates even more today, for example—that would serve to bring inflation in 2014 down below my forecast of 2.2 percent. My SEP submission tells the rest of the Committee that I see it as inappropriate to use those tools. Instead, my submission communicates to other participants, and rather indirectly to the public, valuable information about my loss function over inflation and unemployment. In particular, it makes clear that I am willing to tolerate—and "tolerate" is really the wrong word. I believe it is optimal to follow policies that will lead to inflation above 2 percent in order to bring unemployment down somewhat faster. I see such an objective function as entirely in keeping with the consensus framework statement that we released in January.

I think these remarks echo those that I made in our discussion of consensus forecasts. Each of our individual SEP submissions is based on the assumption that the Committee is following what that individual views as appropriate policy. Once we get to a forecast horizon that is outside the lags associated with monetary policy, our submissions become ways to communicate with each other and with the public about what we believe to be the goals of what we consider to be appropriate policy. It follows that there is valuable information in our SEP submissions about our loss functions over inflation and unemployment. I found that information

useful when I thought about our current policy choices, and I will build on that in the next go-round, Mr. Chairman. Thank you.

CHAIRMAN BERNANKE. Thank you. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I would like to say that President Kocherlakota's comments about the SEPs are potentially very important. Using those to somehow communicate amongst ourselves would be very helpful, but, in fact, I don't think we are able to do that, because we don't identify our forecasts. I can't tell Narayana's forecast from somebody else's. As I mentioned during the question and answer, I just can't bring myself to put forward an appropriate monetary policy assumption that would lead to a very high inflation forecast in the SEP just because I think it would be misinterpreted given the way we are currently reporting those. I think that it would be very useful to somehow address that, and I very much agree with Narayana on that.

My long-standing concerns have not changed materially. Resource slack continues to be unacceptably high, and inflation indicators point to undershooting our longer-run target. In my opinion, the Committee's modestly optimistic April SEP outlook now seems severely challenged. I find the constellation of risks that we face today to be truly frightening. The Tealbook did a good job in conveying these risks—the European crisis, the fiscal cliff, and a hard landing in China. All of these scenarios came up one way or another repeatedly in my conversations with directors and other contacts. Given all of this, when I put together my forecast this round, I couldn't in good conscience write down anything meaningfully stronger than the Tealbook projection. Previously, I had been a bit more optimistic, assuming 2½ to 3 percent economic growth over the next 24 months. Frankly, my current outlook of 2 percent probably contains too much hope relative to the expected outcomes for Europe and the U.S.

fiscal policy debate. The Tealbook says the probability of a recession over the next four quarters, based on the forecast errors over the past 30 years, is probably around 20 percent. The historical average must understate the potential shocks we face now. Today's recession odds could frankly be over 40 percent. Accordingly, I think the risks are still skewed to the downside, and I now believe even more strongly that more monetary accommodation is essential to provide as strong a buffer as possible against the downside risks to the outlook.

My conversations with business contacts uniformly highlighted all of these risks that we are facing. Keeping in mind how modest our outlook for 2012 has been, many directors and CEOs reported that U.S. economic growth was softening. To be sure, they were not seeing large declines yet, but all were highly concerned about the outlook, and the degree of uniformity in their worries was striking. Not surprisingly, a lot of the worries centered on international developments, and the irony of the commentary was very thick. Although they were unhappy with the U.S. softening, CEOs of corporations with a global footprint said their U.S. activity was practically a beacon of optimism compared with other global markets. U.S. performance easily exceeded Europe, China, and emerging market economies. Let me just cite one example that reinforces the "Hard Landing in China" scenario. A prominent heavy equipment manufacturer described China as "dying on the vine." Inventories were piling up, and factory production would be seriously curtailed unless new, promised stimulus programs took effect soon. He is large enough that he was talking directly with the Chinese officials, and they were basically guaranteeing him that within 90 days the stimulus policies would be taking strong effect. Some global corporations also will likely see real knock-on implications for their U.S. operations, even apart from direct trade linkages. For instance, in order to offset poor corporate performance abroad, one of my directors with a broad client base noted that many corporations were planning

to cut costs at U.S. operations just to make things look better based upon how bad things were abroad.

As for the domestic fiscal cliff situation, no one I spoke with expects the Congress to address the fiscal cliff before the November elections, and the implications could be huge. For example, two CEOs cited National Association of Manufacturers' estimates that defense spending sequestration would lead to 1 million fewer jobs. Moreover, no one is betting on a clean resolution of the fiscal situation soon after the election. The bottom line is this: There are tons of downside risks to the U.S. economy, and businesses are highly attuned to them. As each month passes without resolution, this uncertainty will intensify, further restraining hiring and investment. Others have mentioned that already. And with that, the likelihood of a robust business expansion will fade even more. With regard to inflation, no one expressed any worries that inflation was going to be higher. There is no measurable pressure from wages, and there were many reports of lower prices for energy and steel.

This brings me to our recurring debate over the role of structural factors in limiting the recovery and risking higher wages and inflation. For quite some time, I have been skeptical of arguments that place a lot of weight on reported skill shortages and high vacancy-to-hire rates—these are used to argue that labor market slack is significantly less than indicated by the 8.2 percent unemployment rate. So I spent additional face-to-face time this round discussing these questions with my contacts in the employment services industry, and I am fortunate enough to have the Manpower and Kelly Services CEOs on my Chicago and Detroit boards. First, they told me that reports of skill shortages often sound much broader than they really are. For example, one of them noted that general statements about a generic lack of engineers were often really references to a more specific lack of petroleum engineers. It's a small niche, and shortages

can’t be surprising, given the major expansion in that sector, like up in North Dakota. And another overstated example refers to shortages of welders that, according to my Kelly sources, existed even before the recession. Second, both Kelly and Manpower say that employers are exceedingly picky these days; they both said that because demand is low, firms require perfect matches. Firms post vacancies for high-skill positions and then kick out huge numbers of applications on the basis of tiny deviations from skill and experience descriptions. They will only take perfect matches. They can do this because they are not losing output or performance at the moment. These are desired hires. They are not essential ones, they said.

Similarly, I also heard that employers were trying to stockpile talent for the future, again, looking for those perfect, high-skill workers so that they will have them available when the time comes to ramp up activity. Apparently, they are willing to pay for that. Also, these employment firms often get a small number of orders for a high-skill job, but then post that vacancy over and over again with different subsidiaries within their firm and with slightly different job descriptions and keywords for skills. They describe this multiplicative process as part of their employment supply chain for clients. We scratched our heads in our office wondering how that affected the JOLTS data. Various experts suspected that this probably didn’t affect the numbers that much, but it makes you worry. Contacts at Kelly think that this means that the number of job openings reported to the BLS may exceed the actual number of orders they have from client firms. We are hoping the law of large numbers and the central limit theorem somehow get it right.

All of these issues seem problematic for the skill mismatch story, but are consistent with the Davis, Faberman, and Haltiwanger finding of low recruiting intensity for vacancies during this recovery. A lot of the reported vacancies right now appear to be what the authors refer to as

"fakancies." [Laughter] That is, fake vacancies—openings that firms aren't trying very hard to fill. Our industry contacts seemed to agree with that assessment. Our speculation that labor shortage reports are overstated is also consistent with the fact that for all of the complaints about a lack of skilled labor, employers are not showing a willingness to pay more to attract these allegedly scarce workers. As economists who are strongly sympathetic to assuming markets function well to address imbalances, this has to make us suspicious of stories of widespread skill shortages. As both my Manpower and Kelly directors indicated, these types of reports are typical during economic downturns with sluggish recoveries. Whenever demand really picks up, these firms will stop being so picky, and they will magically find acceptable pools of workers to fill their actual vacancies.

Putting this all together, the current amount of slack in the economy seems huge to me. And given the anemic economic recovery and significant downside risk to the forecast, there is little hope of closing resource gaps for some time. We should be providing much more monetary accommodation in order to insulate economic recovery from these dangerous headwinds—one could even say wind shears—that confront us. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. The reports from my District business contacts have been mixed, but they are still consistent with ongoing moderate growth. Motor vehicle assembly, aerospace component production, and shale gas suppliers are all supporting growth in my District. But beyond these industries, the outlook is more guarded. Many businesses are concerned about a potential slowing in the rate of growth. However, most of my business contacts are still planning for some growth in their own production.

Like others have mentioned, I think the national news since April has been mixed, but the news on output growth has been weaker than I was expecting. In response, I have revised down my forecast for output growth, particularly for 2012. I now expect growth of 2.4 percent this year, with only a moderate pickup in growth in 2013 and 2014. The downward revisions are disappointing, but in a broader perspective the pace of recovery still looks to be about where I was expecting it to be in January. There have been no incoming data so negative as to suggest that the medium-term recovery will be significantly weaker than I had expected in January. The Tealbook has taken the recent economic data and the expected impact of European developments on U.S. financial markets as reason to make larger downward revisions to the medium-term outlook than I have made. It has been difficult to decide how to incorporate the European financial stress and the weaker growth in Europe into my baseline outlook. It seems that private-sector forecasters participating in the Blue Chip survey are taking a less pessimistic view than the Tealbook. And my view of the impact of the European situation is closer to the Blue Chip forecast than to the Tealbook.

In my assessment of the unemployment outlook, I still expect that we will make gradual progress over the next couple of years, although I don't expect further improvement on the unemployment rate in 2012. While the May report for payroll employment growth was surprisingly weak, I want to be careful to keep it in perspective. The household survey continues to show job gains generally around the rate of population growth this year. This is slower than ideal, but the surprising swings in the unemployment rate have been due as much to the variation in participation as to changes in employment growth. In this light, the household side of the May employment report was not so discouraging, with new participants up 800,000, exceeding the household employment growth of 400,000. Increases in the employment-to-population ratios are

as important as an indicator of improvement in resource utilization as are decreases in the unemployment rate. Finally, continued positive signs in job openings and listings in recent months suggest the potential for some recovery in employment growth.

Turning to inflation, I have nudged my forecast for both core and headline PCE inflation down a little since April, roughly in line with my January projections. I now project inflation to run a bit below but still close to our longer-run target. Over the past three months, the median CPI and the trimmed mean have been running very close to 2 percent, which is consistent with core PCE inflation running a bit below 2 percent. The key factors behind the downward revisions to my outlook for inflation are a little softer near-term core inflation data, much softer energy prices, weaker growth in GDP, and the associated weaker growth in labor costs. There is the potential for the weakness in the economy to create more disinflation than I currently expect, and lower inflation could be reinforced if inflation expectations dip over the medium term. The Cleveland model of expected inflation, which adjusts for the inflation risk premium, continues to show inflation expectations significantly below our target rate of inflation. The latest reading of our model for 10-year inflation expectations is about 1.2 percent. This represents a decline of nearly 30 basis points since March.

Estimating inflation expectations these days in a world of extremely low nominal Treasury rates is more complicated. It requires dealing with two unusual circumstances—the current extraordinary low level of real interest rates and the flight to quality. The Cleveland model suggests that the real rate is just above zero, while a reading off of TIPS, for example, puts the 10-year real rate at minus 58 basis points. In this environment, the Cleveland model may be underestimating inflation expectations a little because the model treats the unprecedented decline in real interest rates as unlikely. So it attributes more of the decline in real rates to

inflation expectations than might be warranted. Nevertheless, the direction of change does seem reasonable. For example, even if unadjusted, inflation expectations estimates of the breakeven rates from TIPS and from inflation swaps have dropped since late March by as much or more than the Cleveland model suggests. My staff will continue to study these issues, but a shift in inflation expectations looks to be a developing risk.

In summary, compared with April, the risks to economic activity now seem to be primarily to the downside, with more uncertainty surrounding the outlook. A severe recession in Europe and the additional financial stress that the recession could cause would significantly slow growth and raise unemployment in the United States. Of course, all of the scheduled tax and spending changes associated with the fiscal cliff also pose a significant risk of a dramatic slowing of the economy. For inflation, uncertainty remains higher than normal, and I see the risks as now tilted to the downside. In my view, the modal outlook still shows progress on employment and price stability, but the risks are looming larger. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. Since the previous meeting, the 10th District economy has continued to expand at a moderate pace. Consumer spending gains were solid in the retail and tourism sectors, and the beginning stage of recovery for the housing market appears to be taking shape. Energy activity continues to provide a boost to the District economy, even as an oversupply of natural gas led to declines in natural gas drilling. Tenth District employment growth over the past two months has slowed relative to the solid pace of growth in the first quarter, although the manufacturing sector has continued to expand at a slightly faster pace in May, and contacts were more optimistic about future levels of activity. Expectations for future production and shipments were at their highest level since February 2011, just before the

Japanese tsunami and supply chain disruptions that slowed manufacturing activity last year. The value of agricultural exports remained at historically high levels, and recent sales for the next marketing year suggested that agricultural exports would continue to be strong through this year and 2013. Finally, regarding housing market conditions, the CEO of a national realty firm who serves on our Denver Branch Board of Directors reported much stronger signs of a national recovery for the housing market, noting increased homebuying activity by both households and investors. According to this CEO, the increased presence of investors suggests that they view the market as having hit bottom and beginning the process of recovery.

Turning to the national outlook, recent data releases indicate that the pace of expansion has slowed. Some of the slowing may be payback from increased activity in warm winter months, but rising concerns about Europe and evidence of slower economic growth worldwide suggest that broader factors are contributing additional headwinds to growth. As a result, I have revised down my forecast and now expect a more moderate pace of GDP growth in the near term that slowly builds over time. Several factors, as others have noted, continue to pose downside risk to my outlook. Obviously, the uncertainty surrounding Europe and possible spillovers to the global economy remain a key risk, as well as our own fiscal issues, which continue to be a significant source of uncertainty and potential risk. Turning to inflation, I expect that a gradually improving economy and stable inflation expectations will keep core 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.

In comparison with my April SEP, I have revised down my forecast for GDP growth by about ¼ percentage point in 2012 and 2013, and my path for the unemployment rate was raised by ¼ percentage point. Based on research from my staff, I have also lowered my estimate of

longer-run real GDP growth from 2½ percent to 2¼ percent, reflecting lower expectations of trend growth for both the labor force and labor productivity. In comparison with Tealbook, I expect that growth will produce a gradual reduction in the unemployment rate, whereas Tealbook expects little change in the unemployment rate over the forecast horizon. Thank you.

CHAIRMAN BERNANKE. Thank you. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. A principle of economic forecasting is never to react too much to a single data release—or two or even three. [Laughter] But since our previous meeting, the disappointing news has accumulated. The weak April and May employment reports, the downward revisions to retail sales, the decline in industrial production, and weak durable goods orders all suggest that the economy has lost momentum. And this downshift is relative to an outlook that wasn't all that strong in the first place. Of course, on top of this, Europe's crisis has taken a turn for the worse. U.S. financial markets are already feeling the effects—the stock market has slid, high-yield bond spreads have soared, and the dollar has appreciated.

Relative to April, I have lowered my forecast for GDP growth both for 2012 and 2013 by about ½ percentage point each year, a little bit less of a revision than we saw in the Tealbook. I expect growth to only gradually pick up from about 2 percent in the second half of this year to 2¼ percent next year. And given this forecast of output growth close to potential, I expect the unemployment rate to remain at or above 8 percent until the second half of next year. Importantly, I expect no progress on closing the unemployment gap until 2014. This is because the modest decline in the unemployment rate that I anticipate over the next year and a half is matched by a decline in the effective natural rate of unemployment, because of the waning effects of the extended UI programs.

Now, with regard to unemployment, a key issue is whether the long-term unemployed are experiencing permanent damage to their job finding prospects. Like President Evans on a related issue, I went out and asked my contacts about their views on what is going on in the labor market, and specifically what their experience was around the loss of skills, scarring, or other effects associated with long-term joblessness. They said that being out of work for a long time does matter for selected occupations in which skills and contacts depreciate rapidly, such as IT and sales. But for most jobs, my contacts reported that a long spell of unemployment wasn't much of an issue when they look at job candidates. As one person said, "My HR folks recognize that this is a really tough labor market, and people are unemployed through no fault of their own." These anecdotal reports are consistent with research that I discussed last September on the job-finding rates of the long-term unemployed. My staff updated that analysis, and they find that workers get jobs at about the same rate whether they have been unemployed for six months or two years. Moreover, the rate at which the long-term unemployed are finding jobs has risen over the past year and a half and is higher now than in either 2009 or 2010. So that suggests that much long-term unemployment is due to weak demand and not a consequence of stigma or atrophy associated with long-term unemployment itself.

I also asked my contacts about the business climate. And consistent with my forecast, and many of the comments we have already heard this afternoon, they reported that they see little momentum in demand. Some sectors that have been growing rapidly, such as IT manufacturing, are now growing more slowly. A major electronic component supplier said that IT hardware spending is now below its long-run trend after a burst of deferred replacement investment earlier in the recovery. Meanwhile, the fiscal cliff is already having an effect. As Presidents Lacker and Rosengren already mentioned, in our District, too, military contractors tell me they are

already trimming employment in response to cuts that could come early next year. More generally, my contacts tell me that concerns about the looming fiscal cliff make businesses reluctant to take on new projects.

Against this backdrop, downside scenarios from Europe loom ever larger. A few months back, the LTROs and other policy actions brought some temporary relief, but the snowball continues to careen down the hill and is approaching ever closer. This time Europe cannot avoid taking dramatic steps to stem the crisis, but unfortunately I am not confident that European policymakers will act boldly or soon enough. And if the crisis spins out of control, our financial system and the economy will inevitably suffer the consequences. This scenario is illustrated very nicely by the Tealbook alternative simulation called "European Crisis with Severe Spillovers." This simulation assumes a high degree of spillover from European to U.S. corporate bond spreads, contributing to a deep U.S. recession. Research by my staff finds that the degree of spillover to U.S. corporate bond rates that is assumed in that simulation is entirely plausible. Over the past few years, when European corporate debt spreads have widened, U.S. debt spreads respond about two-thirds as much. That is a very sizable response, and, again, consistent with what is assumed in the alternative simulation.

Turning to inflation, in my view, the situation has altered significantly since April. Oil and gasoline prices have fallen dramatically, reflecting dimming prospects for global demand. In addition, the dollar has strengthened, and compensation growth remains subdued, reflecting the sizable and persistent slack in labor markets. Taken together, these factors have caused me to lower my inflation forecast somewhat. I now expect overall PCE inflation to come in at 1.3 percent this year, and to be 1.7 percent in 2013 and 2014. The fact that it doesn't fall by

more than that is based on my view that inflation expectations remain well anchored, and that is restraining a further fall in inflation that could happen.

In light of the downgrade of the forecast for economic activity and inflation, I move the anticipated liftoff for the funds rate out to the very end of 2014. I have the funds rate ending 2014 at 50 basis points. In addition, I assume an extension of the maturity extension program through the end of this year. And for those people who study the SEP carefully, I am respondent number 14. Thank you.

CHAIRMAN BERNANKE. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I certainly agree with others that the forward momentum of the economy has slowed. It seems that the earlier conundrum of relatively rapid job creation and a sizable decline in the unemployment rate versus more sluggish real GDP growth is being resolved by job growth slowing down and the unemployment rate flattening out rather than by GDP growth picking up. But I also think that taking the most recent figures completely at face value may be a mistake because, as I have noted at the past two FOMC meetings, unusually mild winter weather may have pulled activity forward, so that now we are seeing some payback. If this is indeed the case, then activity would look artificially weak during the payback period. Moreover, I think that there is some scope for a pickup in consumer spending, given that we have had a sharp drop in gasoline prices. That will be providing a temporary boost to real disposable income, which until very recently had been quite anemic. Nonetheless, I am still very worried about the outlook for economic growth and the lack of progress we have been making toward our objective on the employment side of our dual mandate for several reasons: One is what I see in terms of the economic data. Another is the fiscal cliff that President Lacker and others have commented on. In our discussion with business people,

they really do say that the uncertainty about how the fiscal cliff is going to be resolved is slowing growth now in terms of hiring and investing, irrespective of whether the fiscal cliff gets resolved in a good way or a bad way. I think, if anything, that is going to intensify over the next six months. In addition, I am obviously very concerned that the downside risks to economic growth have increased significantly. People do see that, and I think that has an independent effect on household and business confidence.

On the inflation side, I think we are likely to fall short of our 2 percent objective. Not only is headline inflation falling quickly now because of the drop in oil and gasoline prices, but there is also little inflation pressure elsewhere in the system, notwithstanding some recent firmer readings on core inflation. For example, many commodity prices have fallen recently—it is not just oil and gasoline prices. Labor compensation cost trends remain unusually muted. If you put in a 1½ percent productivity trend, unit labor costs are roughly running about ½ percent a year. And the dollar's recent strength should be another factor limiting import price inflation.

In terms of downside risk, given what I said before, it is no surprise that I view Europe as the most significant one by far. And I cannot overemphasize how dangerous the situation is. I actually think that the Tealbook might be optimistic about how bad the effect on the U.S. would be if Europe broke up in a particularly messy way. If the situation in Europe goes the wrong way, we could see capital controls, ring fencing, and a total breakdown of financial market functioning. And if that were to happen, the repercussions on us would be severe. I think we understate the number of the different channels by which we would be affected. It would affect our imports, the perceived health of our financial institutions, the state of financial conditions, general household and business confidence, market functioning, and possibly the credit intermediation process. I am a little skeptical that any model really captures all of those effects.

Obviously, we need to get ready for this as best as we can, and that means contingency planning—and that is very much under way—to deal with worst case scenarios. The other thing we need to do with respect to Europe is think through now, if things go badly, how would we escalate on the policy front? There are really two elements of policy that we need to think about. One is the monetary policy accommodation, supporting the macroeconomy, but two is how we would intervene to support financial market functioning. I think we need to get that worked out in our minds today, so that if things go badly, we can respond in a timely way. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. Incoming information over the intermeeting period has been almost uniformly discouraging. In addition to disappointing readings on retail spending and labor market conditions, and the slowdown in global economic growth, there has also been a significant tightening of domestic financial conditions, including lower equity prices, higher risk spreads, and a stronger dollar. Indeed, as I suggested might be the case at our April meeting, we are now experiencing yet another instance of "déjà vu all over again"—the third year in a row in which the economy seemed to be picking up early in the year and then began sputtering into stall speed. Recognizing the pitfalls of jumping the gun, I held off from significantly marking up my economic growth assessment at our previous meeting. I also kept an open mind about the possibility that further monetary accommodation might be needed, and my outlook now involves an extension of the MEP as well as a postponement of the likely date of liftoff until late 2015. For those reasons, I have only made modest downward revisions to my projections for economic activity and inflation.

Governor Tarullo has repeatedly emphasized that the U.S. economy has never really gotten out of the mud since the financial crisis, and I consider that the unfortunate truth. Our medium-term forecasts have consistently envisioned a strengthening recovery powered by the healing of past imbalances, improved confidence, and the impetus of a highly accommodative monetary policy. But such virtuous circle dynamics have been more hope than reality. Instead, the headwinds to recovery have proven tenacious, and economic growth has been persistently slower than either the FOMC or private forecasters anticipated. One way to illustrate the magnitude of the disappointment is to compare Blue Chip forecasts for real GDP growth made two years ago with those made more recently. In early 2010, private forecasters anticipated that real GDP would expand at an average annual rate of just over 3 percent from 2010 through 2014. However, actual growth in 2011 and early 2012 has turned out to be much weaker than expected, and private forecasters now anticipate only a modest acceleration in real activity over the next few years. The Tealbook forecast and our SEP forecasts exhibit a similar pattern. For example, in January 2010, the FOMC central tendency for GDP growth in 2012 was 3½ to 4½ percent. The central tendency for 2012 now stands at just 1.9 to 2.4 percent. Similarly, our 2013 growth forecast has been revised down from 3½ to 4½ percent in November 2010 to 2.2 to 2.8 percent this round.

Both my forecast and my judgment concerning appropriate monetary policy are shaped by my view that the restraints on aggregate demand due to the housing bust, ongoing fiscal drag, slower global economic growth, and ongoing financial market stress will not dissipate over the next several years. This is a substantial departure from normal cyclical dynamics. Indeed, I now anticipate that aggregate demand is likely to remain relatively weak throughout the remainder of the decade. An implication, in my view, is that the economy's equilibrium real federal funds rate

is now probably well below its historical average. In this round, I have marked down my estimate of the longer-run nominal federal funds rate to 3 percent—you will be able to identify that I am participant number 4—corresponding to a real rate of 1 percent. I am interpreting longer run here as 7 to 10 years.

My estimate of the equilibrium real rate seems consistent with financial market indicators. For example, the Blue Chip consensus forecast released in March—and that was before the recent rash of weak data and downward revisions to economic growth—showed the real three-month Treasury bill rate settling down at only 1¼ percent late in the decade. That is down 120 basis points from the long-run projections made before the recession. In addition, our staff's three-factor yield curve model currently estimates that the expected nominal short rate 10 years ahead stands at 3.07 percent, well below the staff's 4¼ percent assumed equilibrium nominal rate. Because survey evidence suggests that longer-term inflation expectations remain firmly anchored at 2 percent, that staff estimate of the far forward nominal short rate implies that the expected real short rate 10 years ahead is about 1 percent. Moreover, the one-year forward TIPS rate 10 years ahead is currently only 0.7 percent, far below its historical norm of 2¼ percent. Of course, the intercepts in Taylor-type policy rules are supposed to approximate the equilibrium real short rate. A failure to fully adjust for this decline would leave the prescriptions of Taylor-type rules significantly too restrictive now and for some time to come.

Turning to inflation, I think it is interesting that the Tealbook inflation forecasts for 2011, 2012, and 2013 reveal a consistent pattern of upward revisions. One possible explanation is that staff estimates of the slope of the Phillips curve turned out to be too high, and labor market slack has been exerting less downward pressure on inflation than staff had anticipated. Of course, an alternative interpretation—and it's the interpretation that President Kocherlakota just

articulated—is that the stability of inflation in the face of high unemployment in recent years constitutes evidence that much of the remaining unemployment is structural and not cyclical. I would like to articulate the other side of this argument. In this regard, I think it is worth noting that the U.S. experience mirrors that in other countries that have had large output gaps for a prolonged period. The common finding is that once inflation falls to low levels it tends to stabilize. In other words, in low inflation environments, inflation is notably less responsive to downward pressure from labor market slack than when inflation is elevated. That is, the short-run Phillips curve appears to flatten out at low inflation rates.

One important reason for such nonlinearity, as President Kocherlakota noted, is downward nominal wage rigidity—that is, the reluctance or inability of many firms to cut nominal wages. And this is a phenomenon that two recent studies suggest is currently at work in the United States. One study by Bill Wascher and his Board colleagues looks at the distribution of nominal wage changes for individual jobs based on ECI data. They document that during the depth of the current labor market slump a relatively high percentage of workers saw no change in their nominal wage, and relatively few experienced modest wage cuts. In other words, the wage change distribution shows a pile-up phenomenon at zero, and missing mass in the negative portion of the distribution, suggesting that many firms that might ideally have cut wages instead left them unchanged. A second study by Mary Daly and Bart Hobijn at the San Francisco Fed found the same pattern in individual data from the Current Population Survey. These results suggest that even when the unemployment rate was around 10 percent, many firms were reluctant to cut nominal wages. In the absence of this barrier, nominal gains in wages and unit labor costs would have likely been even more subdued given the severity of the economic downturn, with the result that inflation would probably now be running at a yet lower rate.

Importantly, downward nominal wage rigidity is completely consistent with the view that today's high unemployment reflects labor market slack due to a shortfall of aggregate demand and not an increase in structural unemployment.

In summary, my modal outlook involves slow economic growth and only very gradual progress in lowering unemployment toward normal levels, even with additional monetary policy accommodation. I also envision inflation remaining in the vicinity of 2 percent. Unfortunately, the bulk of the uncertainty around that outlook is due to downside risks. Even in normal times, the nearly uniform negative readings on the domestic economy would be unsettling. However, as illustrated in the Tealbook alternative scenarios, we are also facing a number of other distinct risks, including the approaching fiscal cliff, the possibility of a hard landing in China, not to mention potential spillovers from Europe. Each of those scenarios would have significant adverse consequences for the U.S. economy, but it is not hard to imagine that several such events could converge into a so-called perfect storm. Thus, as I will reiterate in tomorrow's policy go-round, we should certainly remain prepared to take further actions as warranted over coming months.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. Compared with my April submission, my forecast is significantly downgraded, but unlike others I'm not going to identify my number in the hopes that my downshift will be blamed on one of the two new Governors. [Laughter]

I really tried hard to find something to challenge in the Tealbook baseline forecast. I still believe there is pent-up demand for autos, but the baseline already includes a steady increase in auto sales. And while the bottoming in house prices that I've been looking for seems increasingly more likely, this, too, is already incorporated into the baseline. As always, I looked

at the faster recovery scenario, but it was just too big a leap for even my optimistic nature, although I will say that it does still offer a glimpse of the strength that could show through if fiscal issues here and abroad could finally and miraculously be resolved. The growth rate that I'm left with in my forecast is disappointing for sure, but given that I am still a glass-half-full kind of gal, I think it does indicate that there's some growing sturdiness in the recovery of the household and business sectors that even this level of growth can be expected in the face of increasingly weak assumptions about the government and external sectors.

Let me turn now to the current condition of banking and credit. With the exception of mortgages, home equity, and some remaining workouts of primarily construction and land development CRE, credit quality metrics have returned to normal or even better than normal. Using the flow of funds data to compare the recovery of credit volumes in this cycle with those observed in other recoveries reveals a number of interesting patterns. Consumer credit seems to be recovering in a way that's not dissimilar to other recoveries, but I'm not sure how to adjust for the fact that most of the growth in consumer credit is really federally funded student loans. Growth in nonfinancial business credit has been lagging other cycles until the recent pickup in C&I lending seems to have moved it back to nearly the range of the other cycles. Residential mortgage volumes are starkly below the levels experienced in any other downturn, but are remarkably similar to the pattern faced by commercial mortgages in both this recovery and the one following the savings and loan crisis. Certainly you would expect lending volumes to drop when the prices of available collateral drop sharply, but given that real estate price declines in 1991 were not nearly as sharp, I do think it has to do with the level of losses in that category of lending and the role of that lending category in widespread institution failure.

Credit standards remain quite tight for all types of credit, but it seems to be primarily due to an aversion to taking on credit risk rather than liquidity or capital constraints in the banks. Indeed, by every measure, capital levels are quite high, and in the wake of continued deposit inflows, banks have steadily reduced deposit rates and reliance on wholesale deposit and nondeposit funding, which indicates to me that banks actually have access to more liquidity than they can deploy in acceptable lending. Within the boundaries of acceptable credit quality, competition for new loans is reportedly quite fierce, and most bankers admit that what loan growth they are getting comes at the expense of other lenders. These data offer little evidence of higher-than-expected loan volumes as a result of our actions, but the benefits of refinancing longer-term debt at low rates will be realized by households and businesses over quite a long time, and low long-term rates have probably provided support for real estate prices and are probably responsible for the stabilization of demand.

With respect to bank profitability, interest margins have been trending down for some time now and are at historical lows. With loan demand weak and available securities investments unappealing, bankers continue to lower their cost of funds. Noninterest income is lower, as a result of regulatory changes that affected overdraft and debit interchange income. Indeed, if it were not for strong income from mortgage loan origination and servicing, the income picture would be even bleaker. Loss reserves are still adding to income, but that source is drying up quickly. Net income is low compared with historic rates and certainly insufficient to earn acceptable returns on high levels of capital. So investors are losing interest in the banking industry. They’re no longer scared off by worries about credit problems. Reportedly, they don’t even ask about credit quality anymore in investor conferences. Investors are looking for companies that can find new levers to pull—to cut expenses, exit businesses, and refocus

strategy. I look for banks to do a lot of that going forward. Right now, there is a lot of capacity to lend if high-quality demand rears its head, but I expect the cost of carrying that capacity will become increasingly problematic if loan demand remains persistently weak. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I've listened to the first 14 participants today in an effort to identify where our important points of difference are, and I have heard three, with the differences more important in two than in the third. First is in the basic frame of reference that we've got—the narrative as to where the economy is going and how strong the underlying momentum of the economy is or would be absent the big downside risks. Second is the issue of the output gap, that is, regardless of how fast we're going, how far do we have to go to get there? And third is the relative seriousness of the downside risks not only in terms of their current effects but also in terms of the level of negative effect were the full negative risk to materialize. I want to say a few things about each of those three, and because many people have already made many good points, I will try to incorporate a bunch of them by reference.

First, with respect to the basic frame or the strength of the underlying economy, Janet has already referred to the less-than-elegant metaphor that I've been deploying for a couple of years now—that I thought we were basically in the mud and hit occasional stretches of dry pavement rather than basically going well and hitting occasional soft patches. Early this year, I thought that we might be at a point where things would be different because a considerable amount of progress had been made in working off problems on balance sheets, both households and financial institutions, and that still may be the case. But as I said in the previous meeting, I think that there are some reasons to doubt how strong the underlying momentum would be even in the

absence of these big downside risks, and I would just mention a couple of additional factors now. One, even if housing has—as I think it probably has—bottomed and is starting to recover, residential investment is now only about 2½ percent of real GDP, which is half the level it was pre-bubble, not pre-crisis but pre-bubble. Even fairly significant percentage increases in that activity are not going to produce the kind of huge boost in the economy that we might have seen with similar percentage increases four or five years ago. Second, with respect to personal consumption expenditures, household balance sheets are definitely in better shape, but people do need income for spending to increase on an ongoing basis. I know that we are a bit surprised by the level of spending in the face of fairly unimpressive personal income growth, but I think there's at least some chance that we can attribute that to households' not changing their spending habits on nonfuel items, even as fuel prices went up substantially. Looking at the data on purchases of things like clothing and automobiles and other nonfuel purchases seems to back that up. If that's the case though, it may be that as gasoline prices go down, we won't actually get a burst in consumption expenditures because people may just keep the basic pattern of nonfuel spending and just be spending less on fuel and have their saving rates revert to where they were before the gasoline price run-up. My own view is that although maybe we're not stuck in quite as much mud as we have been for the past couple of years, and unlike the past couple of years where I think you could explain the early-year bursts based on the impact of some combination of particular monetary and fiscal policy measures, it still does not feel as though there's a lot of underlying momentum that would get us moving very quickly.

That leads, of course, to our second important point of difference, how far is it that we have to go? I would say this may be the single most important issue that is susceptible to a good back-and-forth that relies on data and more or less technical arguments. We saw the beginnings,

maybe a little more than the beginnings, of that today with Narayana's framing of the issue, and then Charlie and John and particularly Janet giving a different perspective, citing both existing theoretical and empirical work to help us think that through. It seems to me that's the kind of exchange that could productively be done, whether in the context of discussing a consensus forecast or otherwise, because it represents a very important difference in people's views as to how much could be done with additional monetary policy measures. It comes as no surprise that I am much more aligned with Charlie, John, and Janet, but that debate is important, and the things that Narayana identifies—and I'm sure there are others—need to be addressed, and people need to understand whether and how much those points have force for them.

I would just add a couple of things to what others have said. I see a problem in trying to assess what has happened and project what will happen because we don't really have any precedents for the kind of recession and unemployment that we've experienced recently. I agree with Jim that it's not particularly useful to go back to the severe recessions of the 1970s and early 1980s because the labor market has changed, but I disagree with Jim that the past two recessions are a better indicator. Those were very shallow recessions in which there were not large-scale layoffs and in which most declines in employment were by attrition, which continued during the recession and then thereafter. I think we've got to construct our own model, as it were, of what's going on right now without the benefit of past precedents. The other thing I would add is, as 16 of the 18 of you know, U-6 is one of the indicators I've been looking at the most. U-6 remains very high by historical standards and, as has been the case consistently over the past few years, the high level by historical standards is substantially attributable to the high level of those working part time for economic reasons, which again is the antithesis of a mismatch problem.

The only other thing I'd note is that the JOLTS report released this morning shows job openings down significantly from the March level and below consensus estimates. Even putting aside Charlie Evans's concerns about whether the job openings number may overstate the real number of openings, we've actually seen a decline now.

The third point of difference that I noted is the effect of the downside risks, particularly Europe and the fiscal cliff. I've been in Washington on and off—mostly on, unfortunately—for 30 years now, and business people almost always complain about taxes, regulation, and uncertainty no matter what the underlying state of the economy. Having said that, I actually think right now there is real force to those kinds of concerns, and that they're having a real effect on decisions right now. With respect to Europe, it does seem to me as though the situation is already having a substantial inhibiting effect on decisionmaking, certainly at the corporate level. At the major financial institution level, there is no question about that. As I talk with CEOs of the big financial firms, almost every single one of them talks about two things. One is the degree to which they have de-risked or are trying to de-risk, and the second is the absence of an appetite for risk on the part of their clients. They attribute that, not overwhelmingly, but substantially to Europe. I think Jeff and Bill have both given anecdotes that buttress that, even though it is really hard to dig into the data and find actual evidence that that's the case.

What about, though, the question of the effects if some of the bad scenarios in Europe develop? I'm not so sanguine that what happened with the Asia financial crisis in the 1990s would be repeated today—that we would see such a modest effect within the United States. First off, one important difference is that in the mid-1990s, with that fabulous economic team in the White House, [laughter] we were growing at a substantially higher rate than we are now, our economy was strong, and our deficit was declining. It was just a very different economic

environment, and of course, the other major economic center of the world, Europe, although it was not doing quite as well as we were, was basically solid. Another important difference is, as each of the countries, first in Asia and then in Latin America and Russia, confronted problems, there was operationally the ability to get a program together reasonably expeditiously and then—and I don't think there's a way around saying this—to present it, more or less, on a "take it or leave it" basis to the affected country, which invariably took it. They took a lot of pain as a result, but the snapback was pretty quick, and the amount of money deployed was enough to reassure markets.

As Bill and I were discussing yesterday, one of the biggest problems with this crisis has been the failure of the Europeans to ever get ahead of the problem, and to just do enough to keep up with the problem means that the markets are asking for more and more. That's why the half-life of each measure taken in the past couple of months has been so short. The markets are now looking to see solutions for the underlying sovereign problems, and they don't see the numbers of euros on the table necessary to deal with those. For that reason, I think that the uncertainty about Europe and, at best, the halting and muddling through pattern are going to be with us for a while. I think the best, realistic case scenario is a considerable amount of tension and uncertainty for a while but avoiding a real, full-blown crisis.

With respect to the fiscal cliff, it's less clear whether it's sufficiently in view today to be a substantial current drag on the economy because of the motivation of businesses to defer investments and of households to potentially defer major purchases. On the one hand, the dealer survey suggested it's not being priced in or impacting current business decisions. On the other hand, the Morgan Stanley survey of business conditions noted that one-third of their equity analysts reported it was affecting investment decisions in the industries that they cover, and I

heard several of you report anecdotally that people—at least businesses—are already being affected by the prospect of the fiscal cliff.

At a theoretical level at least, it would seem as though there are very rational reasons for businesses and consumers to put off major investments for the rest of this year, more compelling than in a lot of uncertainty cases. First, there are lots of different possible outcomes. It's not a binary thing; if it's binary you either go X or Y. In this case, you might be tempted to take a bet on X, but there is such a panoply of potential outcomes that it is very hard to figure out how you'd even bet. Second, there is a reasonably clear decision point in the lame-duck session. From a lot of people's point of view, this uncertainty is not going to be with us indefinitely and, therefore, at some point we've just got to learn to live with it. Instead, why not wait and see what happens first on November 6 and then in the ensuing lame-duck session. I think, ironically, that the biggest reason why this effect might be fairly small would be that Europe's problems were so dominating people's worries that they didn't have time to focus on the fiscal cliff, but that's not a particularly good outcome either. My final point here is that I actually think that the real economy effects of the fiscal situation—once they are addressed in the lame-duck session, early next year, or both—are likely to be greater than the Tealbook baseline. I won't burden you with my political analysis for why I think that's true, but I've tried to think through the alternatives of an Obama reelection or a Romney election and think in terms of how they and their political advisers will see the opportunities that this set of issues presents to them. The way I come out for both, for different reasons and in different ways, is that the net fiscal drag is quite likely to be greater than in the Tealbook baseline, which, by the way, is the baseline that a lot of private economists are using as well. If I'm right about that, then there will probably be a bigger negative effect next year.

All of this leads me to have a view of an economy with underlying strength that is really still pretty modest, on the one hand and on the other—and perhaps more importantly for present purposes—an expectation not only that these two downside risks will present a drag on the economy just by being out there, but that each is likely to be persistent and to have effects that extend well beyond the next couple of quarters. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. My outlook, already bleak, has been downgraded further. While this downgrade reflects the continued disappointing news regarding real disposable income, it also reflects the uncertainties emanating from Europe, which are doing nothing to counteract a loss of household and business confidence. The way that uncertainties in Europe interact with and layer on top of existing uncertainties to produce a loss of confidence here and how that loss of confidence affects the real economy concern me and damp my outlook. While these effects are most profound in the alternative simulations of the Tealbook, I have stuck with the Tealbook baseline because my level of uncertainty is so high that, frankly, I found all of the alternatives equally horrific and could not imagine stepping into their abyss.

My comments today, as with several earlier comments, focus on the confidence channel, both the low levels of confidence in the business sector that are holding down investment and hiring and the low levels of confidence among households, which continue to hold down consumption. But now I wonder what happens when pessimism emanates from many sources—not just from Europe, but also from continued slow growth, problems with credit access, the distrust that is part and parcel of a presidential election year, the fiscal cliff, and the demoralizing effects of long-term unemployment.

Consumer confidence as measured by the Reuters/University of Michigan survey remains low and, at the last reading, dipped again. The preliminary June reading, which came in Friday, is the lowest for 2012. Prior to this pullback, the index had risen for nine consecutive months. This month's drop pulls the index from a four-and-a-half-year high in May to a six-month low. Employment expectations deteriorated sharply in early June. Just 22 percent of respondents expect unemployment to decline in the year ahead, while 28 percent expect it to increase. This negative differential of 6 percentage points is substantially weaker than the 5-point positive differential in May, and it represents the most negative balance of opinion since the end of last year. The Conference Board, too, is reporting a decrease in confidence about business conditions. In addition, we now have high-frequency data on consumer confidence from Gallup, which were based on daily surveys of 500 Americans. Around the time of the debt ceiling debate, these surveys showed that confidence began falling right around May 11, 2011, when the Speaker of the House first announced he wouldn't support increasing the debt limit. It went into free fall as the political stalemate worsened through July, and over the entire episode, confidence declined more than it did following the collapse of Lehman. After July 31, when the deal to break the impasse was announced, consumer confidence stabilized and began a climb that brought it back to its starting point. But that rebound occurred almost a year later. In the meantime, employers held back on hiring; growth in nonfarm payrolls decelerated to an average of 88,000 per month during the three months of the impasse, compared with an average of the 176,000 in the first five months of 2011. At the time, other factors in addition to the debt ceiling debates could have accounted for last summer's plunge in confidence, but now we are dealing with many more potential confidence-deflating events. One recent manifestation of this depressed confidence is the fact that new filings for jobless benefits remain perniciously high. In

the week ended June 9, they increased 6,000 and now stand at approximately 386,000. Labor markets, already weak, seem to be weakening further, both reflecting and causing a loss in confidence.

To be evenhanded, when I probe the depths of household confidence, I see some aspects of a reinforcing pessimism and some aspects of a resiliency. For example, in the first quarter of this year, American households increased the pace at which they are shedding debt by paying down their mortgages. From a household perspective, paying down debt makes good sense. But these actions may be a result of household insecurity about future income prospects, or a reaction to an inability to take advantage of low interest rates and refinance. How many stories are we hearing of homeowners not being able to refinance a 6.35 percent 30-year mortgage because a house is worth less now than it was when it was bought, coupled with appraisal problems and new fees? Trying to refinance now can be an anxiety-provoking experience, and the inability to take advantage of low borrowing costs could be reducing confidence and the ability to feel better about the future. I see manifestations of a crisis in confidence, a sense that households are close to the precipice, and at the same time, a spirit of resiliency, suggesting that households are finding some workarounds and patches. That self-help and mutual-aid strain in the American psyche historically spawned groups like Alcoholics Anonymous, Overeaters Anonymous, Co-Dependents Anonymous, Clutterers Anonymous, Emotions Anonymous, and even Crystal Meth Anonymous. Now it has spawned a new group: Underearners Anonymous. This group consists of people so demoralized by joblessness or low wages that they've given up searching for work and are using their time to identify with each other's stories about powerlessness in the job market. Are these meetings a signal of hopelessness or a signal of resiliency? I suppose we need to look at whether it's the same folks returning day after day or whether these groups are

sparking an optimism in which sharing stories of one's lowest moments seems to work as a kind of salve and spur an optimism that permits people to stay in the labor force. I don't mean to lean too heavily on these sociological phenomena, but only attempt to look for the so-called animal spirit that needs revival in today's economy. Something needs to happen that works on these expectational pathways in order to change the dynamic of slow growth.

Of course, more household and business resiliency by itself doesn't seem to be sufficient for more economic growth, but it could be confidence building. In this regard, from the perspective of household resiliency, there are blog postings with loyal readerships that have titles like "Feeding Your Family from a Dumpster," "How I Stopped Worrying and Learned to Love the Dumpster," "Will Everything Be All Right?" "Dude, Where's Our Car?" and "Dude, Where's Our Car?—Part II." These blog postings are surprisingly upbeat. They are noncynical attempts to pick oneself up by the bootstraps and respond in a no-nonsense, can-do way to the despair of being a dispensable part of the 21st-century economy. Perhaps these stories of resilience will spark a sense of adaptability and control that will feed into consumer and business confidence channels and spur the levels of consumption and investment necessary to preempt the huge downside risks. However, in a recent article called "The Damage of Debt," Katherine Porter suggests that debt burdens of Americans have grown tremendously in recent decades and that consumer behavior is driven less by overindebtedness itself and more by the effects that accompany overindebtedness. These effects relate to people's capabilities, when they are heavily in debt, to achieve aspects of welfare, such as access to financial markets and labor markets and health care and education. She doesn't argue that financial measures of debt should be displaced, but instead suggests that overindebtedness is accompanied by other effects that relate to how overindebted individuals live, work, parent, plan, learn, and participate in society.

In terms of where we are, I think that a financial crisis of this magnitude and duration, accompanied by a troubled housing market and a constantly almost-boiling-over European crisis, may have created both positive and negative effects that suggest that the economy is reacting in both intuitively obvious and less intuitively obvious ways to what strikes me as a barrage of confidence-depleting events.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. First, if I could just take a moment, I'd like to say how happy and honored I am to be joining this group, and I look forward to working with all of you.

In terms of the outlook, the broad narrative that strikes me is one where, on the one hand, there are signs—not overwhelmingly strong, but nevertheless signs—of the private sector making meaningful progress in moving past some of the underlying fundamental problems that got us into this mess in the first place. Banks are stronger; credit supply conditions are not improving across the board, but I would say, on balance, they're improving; and even household balance sheets seem to be strengthening. On this last point, because the household balance sheet drag on consumption has really been such a central part of the story, I found the data that Michael Palumbo mentioned particularly interesting. A very related piece that I saw indicated that not only are auto sales strengthening, but in the first quarter of 2012, they were strengthening particularly among the groups with the worst credit ratings, in the highest leveraged counties, that sort of thing. So, it's one quarter, and you wouldn't want to over-read it, but it feels as though there's a little something going on that's potentially positive in the private sector.

Now of course, as everybody has observed, weighing very heavily against all of this are both the fiscal headwinds that have been mentioned and the enormous uncertainty associated with the situation in Europe. This uncertainty made it very hard to think about a modal outlook, and, presumably, in many ways makes the modal outlook less relevant from a decisionmaking perspective when one wants to think about the downside. Nevertheless, I'll try to just venture a couple of observations. First, in the near term—I'm thinking of, through the rest of this year—the expected degree of drag created by Europe seems to me as though it's reasonably well captured by the Tealbook, and I'm in accord with the Tealbook. As I understand it, this drag is coming importantly through the appreciation of the dollar and the decline of the stock market. So I would say I'm pretty much on line with the Tealbook there. Second, over the medium run—that is to say, 2013–14—not a large difference, but I would say—again, it's very important to qualify by saying "in the modal outlook"—I have a modestly faster growth projection than the Tealbook baseline for a couple of reasons. One is that I understand that asset price movements and, in particular, the dollar have played a strong role in the Tealbook forecast. And in looking at events in markets and the very strong safe-haven effects, it feels as though some of that dollar effect wants to mean-revert—that is to say, it's a risk premium rather than a random walk type of expectation. So, feeding that through, that would lead me to slightly attenuate the negative effects that the dollar is having on exports, say, in 2013, 2014—not a big effect, but a slight attenuation. Second, I want to pick up on something that Governor Tarullo just mentioned and others have alluded to as well, about the extent to which we have this strong effect where uncertainty is holding back corporate investment through the specific what you might call option-value-waiting-to-invest channel—that is to say, firms are sitting on positive-NPV projects, but they say to themselves, "Look, let me get past the next six to nine months and see if

the world is going to come to an end, and then I'll pull the trigger." If you believe that, it obviously has very negative implications in the shorter run, but has more-ambiguous implications going forward, because, of course, they're accumulating a backlog of these deferred projects. So if the uncertainty resolves itself in an on-average way—that is to say, neither good nor bad, and we go to what Dan referred to as a chronic muddle scenario—I think you have to, by the logic of this thing, think that there's going to be a little bit of an upward tick. Again, that leads me to push my forecast up slightly—and we're not talking about a big effect—maybe two- or three-tenths of a percentage point on GDP growth relative to the Tealbook. Qualitatively, I have pretty much the same dismal picture, only a little bit different. I would say I'm also pretty close to the Tealbook on inflation—that is to say, subdued, likely to come in on the low side as opposed to the high side.

Let me just make a final observation. If we take literally this uncertainty-making-you-delay-investment hypothesis, I think it follows that when you're in an environment with extremely high uncertainty, investment is going to be less responsive to interest rates than it usually is. This is a point that a couple of other people made or extracted from some of their business contacts, which is, it's not that things aren't bad—it's just that they may be a little less responsive to interest rates than usual. Think about a manager who is sitting on a project that's already positive NPV, and the question is not, do you do it or not, now or never? Instead it's, do you wait six months and see how things resolve? And the interest rate is not going to play a big role in that. I have no basis for thinking about whether this is a quantitatively big effect or small effect. However, it does resonate a bit with some of the points that other people are making, and I just suspect it would lead to some attenuation of how much kick one can get out of a policy action on the interest rate at the current time.

CHAIRMAN BERNANKE. Thank you. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. And let me echo Governor Stein in saying that it's great to be here. It's a great honor. I look forward to working with everyone. It's been a busy couple of weeks, as you can imagine, but I did have a chance to speak to some of my contacts in the industrial patch, which was my specialty for most of my investing career. I spoke to a modest-sized group of companies—let's say more than 4 and fewer than 43 [laughter]—that are active globally and serve a dozen or so diverse industrial end markets in both manufacturing and services. It's quite a broad group of sectors, including automotive, construction, food processing, mining, aggregates, et cetera. What's interesting to me is that most of these companies are coming off of one or two great years, which is very different from when I was in the business. What's happened, as many of you know, is that our productivity has improved, Chinese wages and wages in emerging markets have gone up substantially, the dollar has weakened, and suddenly we're more competitive, and my contacts expect that that will continue. So it's a bright future in manufacturing, which I think is terrific. But for now, it's clear that the strong economic growth has slowed. The general sense of it is that businesses that were growing in double digits are now growing in mid-single digits, and businesses that were growing in mid-single digits are flat. My contacts see Europe as at the heart of that story, including particularly the effect on China and Brazil and other trading partners as well. And these companies say, across the board, that their hiring is on hold. So that anecdotal picture squares very well with the run of weak data that we've seen since just before the previous meeting, including industrial production, retail sales, consumer confidence, employment, et cetera.

Therefore, I am in broad agreement with the 2012 part of the Tealbook baseline. I see economic growth in the range of 2 percent and little progress on unemployment. Interestingly,

like Governor Stein, for 2013 and 2014, I projected growth that was modestly above baseline, with faster declines in unemployment and slightly higher inflation. I am simply not persuaded that the slowdown will carry into 2013. The channel may be asset prices, as Governor Stein indicated, but I think it's too early to say. My underlying view is that the headwinds will continue to gradually abate, and so that growth will strengthen if we can just avoid more setbacks, either the imported kind or the self-inflicted kind. In the baseline, the fiscal cliff takes a full point out of GDP growth, as Governor Tarullo was indicating, and that and worse outcomes are certainly possible. I think it's also possible that the Congress will choose to defer the pain; that has been known to happen. However, the underlying point is that the range of outcomes is exceptionally broad, and that only adds to the uncertainty. As for inflation in the near and medium term, I generally see the risks as weighted to slower economic growth rather than higher inflation. I see growth slowing and inflation declining all over the world. I also note the reports of skilled-worker shortages, as I think President Evans was noting, but I don't see anything in the wage numbers yet. And of course, inflation expectations remain stable.

Moreover, I also agree that the economy faces an unusually long list of near-term potential downside risks. In fact, I think we almost have to stop calling them tail risks because cumulatively they're no longer the tail. If I've got anything to add to the discussion of these risks as the year goes on, it may be on the fiscal cliff and the debt ceiling, which are what I spent the last two years of my life on. And the fiscal debate is one we need to have, but my experience as a participant in the debt ceiling drama of last summer leaves me with serious concerns that the episode next time may be even more disruptive. In fact, the only certainty is that there will be increasing uncertainty as the year goes on, and I see that as likely to damp risk-taking in the markets and among households, businesses, borrowers, and lenders.

Finally, in an attempt to end on a positive note, I will say that I served at Treasury 20 years ago during difficult economic times, and I felt pessimistic as we left Washington at the suggestion of the American voters in early 1993. [Laughter] It was said at that time that the housing crash and the S&L crisis and the banking failures had done lasting damage to our productive capacity, and I thought that was probably right. Of course, it didn't turn out that way in the low-inflation boom of the 1990s, or maybe the point is that the NAIRU and potential output can be quite dynamic over time. I do realize that today is different and not in a good way. Still, I remind myself that upside surprises do happen. Thanks very much.

CHAIRMAN BERNANKE. Thank you very much. A good debut by the new Governors, and I thank everyone for useful, interesting comments. I'll take a few minutes to summarize the discussion, but in light of the hour, I'll wait until tomorrow morning to give my own views on the economy. The near-term outlook has clearly weakened, repeating a springtime pattern we've seen for a couple of years. We've received a lot of weak intermeeting data—employment reports; retail sales, including auto sales; industrial production; consumer and business surveys; and investment—and notably, financial conditions are tighter. Progress in reducing unemployment seems likely to be slow going forward, given the more moderate GDP growth forecast. There was an interesting discussion about the extent to which the medium-term outlook for economic growth ought to be marked down. Many people said they had not changed their medium-term forecasts very much, but Governor Yellen and a few others cited the Tarullo stuck-in-the-mud hypothesis and noted that there are persistent headwinds and risks that may last well into next year. Europe is the primary source of downside risks, of which there are many, but there are also fiscal uncertainties, a broader slowing in the global economy, and a lack of

household and business confidence. Of course, whether risks will materialize is not yet known, but a perfect storm is possible.

Turning to the household sector, those who commented on consumers actually were a little bit upbeat. It was noted that consumption spending has held up despite weak income growth, and lower gasoline prices will help there. Auto sales are good, value shoppers have been active, and it was noted that household balance sheets are stronger. All that said, it was pointed out that part of the extra spending might have been the result of households dissaving to pay for higher gasoline prices, and that effect may disappear. It was also noted that confidence is quite low and was damaged by the debt ceiling crisis last year.

In the labor market, employment growth slowed during the intermeeting period, although weather and statistical noise may account for some of the slowdown. U-6, another measure of broad underutilization, remains high, and Underearners Anonymous is quite active. There was another interesting discussion today of slack in the labor market. It was noted, for example, that on the one hand, slack in the labor market may be less than thought, given the stability of inflation over the last couple of years. On the other hand, there were a number of arguments made that slack is actually important. Some anecdotal reports on skill shortages suggested that they may be overstated and that, in fact, employers are very picky and are not recruiting with much effort. It was pointed out that a long spell of unemployment is not necessarily disqualifying for most jobs, which would also mean that the long-term unemployed represent real slack. And studies were cited to the effect that inflation and nominal wages can be downward sticky when they approach very low values. Obviously, this is a topic that we've been talking about for some time, and like Governor Tarullo, I welcome ongoing contributions on this issue.

House prices and activity have risen in some areas, leading to cautious optimism. But it was also noted that residential investment is very small relative to GDP, and so we shouldn't overstate the benefits of that. However, I would note parenthetically that house prices are also part of consumer wealth, which is obviously a bigger factor.

The characterization of business activity was a bit more mixed. There was some relatively upbeat commentary. Businesses are seeing modest gains in sales and orders, and a number of people noted that their contacts and the Beige Book reports were a little bit more upbeat than the data were. All that said, there were a lot of comments about caution and about uncertainty. Europe is having effects both through general uncertainty and through demand. Fiscal, regulatory, and political uncertainty are all playing roles as well, although it was pointed out that if uncertainty is resolved, a backlog of projects may, in fact, create a stronger economy in the future. In terms of the various sectors, agriculture, freight excluding coal, energy—despite price declines—and some services were relatively strong. Included in the weak category were defense contractors who are concerned about sequestration and may be laying off workers. Some manufacturing surveys were generally a little weaker, as were comments on IT activities. Architectural billings were down. We heard mixed reports today— positive and negative— about export growth and foreign demand. Concerns were expressed that China is "dying on the vine." In any case, the global slowdown does appear to be having effects, at least on certain industries and companies.

There was a lot of interesting discussion about Europe. I think, broadly speaking, that most people acknowledged the potential for Europe to have very significant effects on the U.S. economy. Those effects could happen through trade as well as through confidence. And on the financial side, asset price volatility, declines in stock markets, money funds, and other factors

would transmit some of the stresses. It was noted, however, that safe-haven flows have lowered Treasury yields and that indicators of stress remain well below 2008–09 levels. The way I would characterize that discussion is that the baseline scenario, in which Europe remains a source of volatility but doesn't blow up, encompasses a range of views on how much effect Europe will have on the U.S. economy in the medium term. The comparison to the Asia crisis was made, but, to the extent that there are much worse outcomes possible in Europe, it seems unlikely that we could escape those effects.

Bank credit quality metrics, excluding mortgages and construction lending, have returned to normal or better. Credit standards remain tight. Banks have lots of liquidity, and they face low loan demand. In general, they're having problems generating income. Fee income is down, and so are net interest margins. But it doesn't seem as though credit supply is the problem at this juncture.

With respect to inflation, many people commented that the declines in energy and commodity prices, as well as the higher dollar, will bring down headline inflation and would possibly affect core inflation as well. Inflation expectations remain stable to slightly lower, and firms have no pricing power. It was noted that the five-year TIPS compensation is at 185 basis points. The Cleveland model has inflation expectations at 1.2 percent for 10 years, but that model may have some anomalies related to safe-haven flows and other factors. Wages and compensation continue to surprise on the downside. The hiring environment remains tough, especially for new graduates. In all, inflation was expected by most people to be close to target or maybe even a little bit below, and a dramatic further decline in inflation would require policy action. All that said, accommodative monetary policy, together with fiscal imbalances, does pose a longer-term upside risk to inflation.

Those are just some observations trying to pull together the discussion, which, again, was very informative. Any questions or comments? [No response] Okay. If not, we will recommence tomorrow morning at 8:30. We have dinner, starting immediately, for those of you who want to join us on the terrace. See you tomorrow morning. Thank you.

[Meeting recessed]

June 20 Session

CHAIRMAN BERNANKE. Good morning, everybody. For my contribution to the go-round, I'd like to talk a little bit, at a 30,000-foot level, about the economy and about our policy tools. To be quite honest, I think the situation is a pretty agonizing one. On the economy, I think that I would associate myself with what's becoming the Tarullo stuck-in-the-mud hypothesis—that the recovery is being held back by a number of persistent headwinds. Those include problems in the housing market; wealth destruction and deleveraging; fiscal policy; financial conditions, which have recently gotten more tight; and of course, Europe. And a new issue is, as a number of people have noted, the emerging global slowdown. All of these factors are preventing the recovery from being what it otherwise might be. I would also draw attention to the point, which others have made, that this recession was not caused by tight monetary policy in the same way that those in 1981–82 and 1973–75 were. In that respect, the easing of the tight policy has not been the source of propulsion that it was in some earlier recoveries. So, for a number of structural and external reasons, the recovery that we're in now—almost three years into it—is disappointing.

A second observation is that we've been following carefully the machinations of the Okun's law relationship between economic growth and employment. The data over the intermeeting period seem consistent with the view that Okun's law is reasserting itself, not just in the payroll numbers but in UI claims and other variables as well. If that's correct, then unemployment will improve only very slowly at best. The Tealbook has the unemployment rate not really improving much at all over the next two years. There is at least one complication in the outlook, which is that extended unemployment benefits are now actually very actively disappearing. Because they are tied to unemployment rates in a number of states, they are ending, and if you look at the number of individuals receiving extended unemployment benefits,

it is dropping quite noticeably. It'll be very interesting to see how those folks react. Do they leave the labor force? Do they find work? Do they become unemployed? Moreover, we have a downward trend in labor force participation that is going to make the assessment of labor market conditions more difficult and will, at the same time, slow the gains in income that otherwise would occur. So we have a difficult labor market situation, with some complexities associated with participation, but I think that the unemployment rate, the most basic measure of utilization, is not likely to improve at the same pace it has over the past year.

My third general observation, along the lines that President Fisher has been pushing for a number of years, is that inflation, to a first approximation, is now a globalized phenomenon. Commodity prices and the dollar have been central to recent swings in inflation. From that perspective, I think we can expect inflation to be well controlled for the foreseeable future. I've taken, in the past few meetings, to mentioning the CRB spot price index, which is the non-energy commodity price index. That index is flat for the year and down 18 percent from its April 2011 peak, and of course you know what's happened to energy prices. We have also seen how commodity prices do feed through to some extent, at least temporarily, into core prices. All of that suggests moderate inflation for the short to medium term. Of course, I'm not in any way denying that monetary policy is the primary source of U.S. inflation in the longer term.

And my final observation—again, I'm really repeating things that people have said—is that the risks to the outlook for economic growth are clearly to the downside. There's been an enormous amount of discussion of Europe, which I found very instructive. I would just add that I think the most likely trigger point at this time might be the banking system. As the Vice Chairman discussed, the Greek banks, in particular, are now living on the Emergency Lending Authority, which is at the discretion of the ECB's Governing Council, and the Spanish banks

may soon be in that position. There's a question about how far the stronger countries will be willing to go in essentially extending indefinite support to the banks of the periphery. I hope that the discussions at the G-20 will lead to steps toward a banking union, a euro-zone-wide regulatory deposit insurance and restructuring regime, but I think that may take some time to occur.

In the risks category, I would also point to some that I would call endogenous risks. As I've talked about in years past, when the economy is growing very slowly, the internal dynamics may be such that there is a risk of slipping back into a weaker growth or recession state. In that regard, I note that real disposable personal income rose only 0.4 percent during 2011, was revised significantly downward in Q4, and is currently shown as growing at an annual rate of only about a ½ percent in Q1. Lower gas prices will help there, but with low income growth and low labor force participation, the virtuous dynamics are hard to achieve.

Taking those just very general observations, which are consistent with what many people around the table said, I think that if the federal funds rate were currently 3 percent, it would be a pretty straightforward call. With economic growth slowing, with unemployment not improving, and with inflation risk declining, it would be quite a straightforward call for us to ease further at this point. And indeed, it's quite difficult to explain to the public why, given our projections, we're not doing more. Of course, on the other side of it, we know why it's not so simple. The federal funds rate is not at 3 percent. The tools that we have are of variable efficacy, and, as we've discussed, they have various costs and risks. Let me just say a couple of words about those costs and risks, and I'll focus on balance sheet actions. I do think there's still some scope for communications, but the idea of simply extending the forward guidance is probably not going to be very effective. So on the balance sheet side, I'd point to four issues that I'm sure we'll hear

a lot more about also in the policy go-round—capital loss risk, risks about exit, financial stability risks, and market functioning risks. I don't consider the first two to be extraordinarily important. Capital losses are a concern for the Federal Reserve because of our institutional need for independence, but it should not be in our objective function as we look at monetary policy. Fortunately, we appear to be in pretty good shape in terms of unrealized capital gains, and this is not likely to be a problem, as some of the preparatory material showed. On exit, I think the main risks are that we have confidence problems—that people worry about the size of our balance sheet and that we will not be able to exit quickly. Personally, I think that we do have the tools—the IOER, the ability to sell assets—that will allow us to exit when we need to exit. But we have seen some effect of the expanded balance sheet on inflation expectations, the dollar, international capital flows, and the like.

Financial stability is, I think, a very important issue. Some of the concerns raised on financial stability would be those associated with any kind of low interest rate policy—risk-taking effects on institutions like banks, life insurance companies, and pension funds. We are monitoring those issues, but they remain. One, in particular, that I'm sure will be discussed and is worth discussing is the question of the term premium on the 10-year bond. Brian's presentation showed it at remarkably low levels, negative levels, and one reaction might be, (a) can we make that any lower, and (b) if we do, are we risking some kind of snapback that would be destabilizing? I've thought about that quite a bit, and I would say a few things. One thought is that, of course, we don't measure term premiums very well. There are alternative measures of term premiums that are not quite so dramatic. I would say also that the declines in the term premiums come from a lot of sources, including, of course, flight to quality and changes in correlations between different assets. In fact, I believe that the decline in the term premium

that Brian showed began last summer. That doesn't really line up very well with our own policies, and so I'm not sure that our policies account for much of that movement. And there may be other basic factors at work. The other point I would make is that, even if term premiums are about as low as they can go, that does not mean that asset purchases don't have effects on the economy. There's still the portfolio balance sheet channel that causes investors to move into other types of securities.

The final concern about balance sheet policies, which came up yesterday—President Fisher asked a few questions about it—is market functioning. Because we are limited to Treasuries and agencies, beyond a certain point our holdings will begin to dominate the market. That's not only a problem for market functioning, which is important, but, if markets are no longer serving a price discovery mechanism, the efficacy of the action may also be compromised. Now, there may be ways around this—for example, using the discount window or other tools to expand our balance sheet in different ways. But I think that, barring some change in the authorities that the Congress chooses to give us—which I'm not counting on—this will be a constraint at some point in the future.

With all this in mind, it is clear that the calculations are very complex, and this is not at all easy. It's not at all a straightforward situation of responding to a change in the outlook by cutting the federal funds rate. Now, where do I come out on this? My own assessment is that while our remaining policy space is not infinite—it's certainly limited, and it comes with costs and uncertainties—I think that we still do have a meaningful amount of policy space left. We do have the capacity to expand our balance sheet somewhat more, and there are other things that we probably could do. But we should keep in mind that, unless I misunderstand the situation, our policy capacity is not infinite from here. Therefore, the question for today's meeting and for the

near term is to some extent tactical. Given the outlook, what can we do that will, as much as possible, maintain confidence and show that the Federal Reserve is engaged, while at the same time maintaining our policy tools in reserve as needed? In particular, as we discussed today, at least one possibility would be a European meltdown that would have significant consequences for our economy. Certainly these are very challenging problems that I know we'll be hearing a lot about as we go around the table. No one should doubt the difficulty of these issues, and I hope we can work together and try to find a reasonable solution that will let us meet our goals, given the limitations on the tools that we still have available.

Let me stop there. Unless there are questions, I'll ask Bill to introduce the policy round.

MR. ENGLISH.[6] I'll be referring to the handout labeled "Material for FOMC Briefing on Monetary Policy Alternatives."

Turning first to alternative B, page 4, as Ellen discussed yesterday, most of you indicated in your SEP submissions that you've marked down your economic outlook since April, and many of you noted increased downside risks from the crisis in Europe and the fiscal outlook at home. Accordingly, many of you also indicated that appropriate monetary policy, as you defined it, now called for providing additional accommodation through balance sheet action. Alternative B would do this by continuing the maturity extension program (MEP) through the end of the year. This alternative might be attractive even to those who feel that a larger policy action might ultimately be needed. Such policymakers may see the continuation of the MEP as an appropriate immediate step to bolster confidence in the current uncertain environment, while allowing the Committee to wait for additional information before deciding on whether a more substantial step might be called for.

The first paragraph of alternative B updates the April language to take account of the recent data on employment, household spending, and inflation. The second paragraph downgrades the longer-term outlook for economic growth slightly but is otherwise essentially unchanged from April, as is the third paragraph about the target range for the federal funds rate. The fourth paragraph details the extension of the MEP through the end of the year. The statement does not indicate the total size of the continuation of the MEP. Given that the total, $267 billion, is noticeably smaller than past programs, and that the intention under this alternative is to take a modest policy step while waiting to consider the possible need for further action, the Committee may prefer to simply indicate that the MEP will continue through year-end. The last

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

sentence of paragraph 4 has been changed to suggest a somewhat greater willingness on the part of the Committee to take further action if appropriate.

Alternative B provides an optional fifth paragraph—also included in alternatives B′ and A—indicating that the Committee is carefully monitoring developments in Europe and that the Federal Reserve stands ready to deploy its tools as needed to support the U.S. financial system and economy. Such a paragraph might be most helpful in volatile or unsettled market conditions.

Committee members may agree with the policy decisions in alternative B but prefer the language provided in alternative B′ (page 6). Reflecting the memo from Presidents Kocherlakota, Plosser, and Williams, this version of alternative B reorganizes the information on the incoming data and outlook in paragraphs 1 to 3 and provides a more detailed assessment of the risks to the outlook in paragraph 4. Following the subsequent paragraphs on the policy decisions, paragraph 7 provides the rationale for those decisions in terms of the economic outlook. Some participants may see this new structure as likely to improve the public's understanding of the conditionality of policy. However, others may be concerned that the change could confuse the public or suggest to some that the Committee now saw the threats to the outlook as extremely large. Moreover, you may want to consider this approach further at a future meeting before making such a substantial change to your statement.

An announcement along the lines of alternatives B or B′ would likely have muted effects in financial markets. Market participants appear to put significant odds on additional balance sheet action at this meeting, with an extension of the MEP seen as most likely but an additional LSAP also seen as a real possibility.

Members who see the economic outlook as having deteriorated more significantly may prefer alternative A, page 2, which provides for a greater degree of policy easing. That view might be supported by the now-larger gap between your unemployment forecasts in 2014 and in the longer run. Moreover, the unconstrained optimal control simulations in the Tealbook call for considerable additional accommodation. Consequently, the Committee might want to undertake a new large-scale MBS purchase program to put downward pressure on longer-term rates and improve conditions in mortgage markets. Alternatively, or perhaps in addition, some of you might want to change the forward guidance in the statement to push out the expected timing of the first rate increase. Moving this date out would be broadly consistent with the changes in many of your federal funds rate projections in the SEP. However, you may be concerned that a projection for the funds rate so far ahead would have little credence with market participants, and therefore little effect on financial conditions or the economy.

Relative to the language of B, alternative A is a little more downbeat regarding recent employment growth and suggests that inflation has been below expectations; it omits the indication that economic growth is expected to pick up.

Regarding the policy decisions, alternative A provides a number of options. In paragraph 3, you could choose to either leave the forward guidance unchanged or lengthen it to "at least through mid-2015." Paragraphs 4 and 4′ provide the stock and flow alternatives for balance sheet action: Paragraph 4 announces the purchase of an additional $500 billion of MBS over the next year; paragraph 4′ announces a program to purchase MBS "initially at a rate of about $40 billion per month" and indicates that the Committee would adjust this program as needed to foster its objectives.

Although market participants put some odds on the possibility of a new LSAP, they'd be surprised by the adoption of either of the purchase programs in alternative A. Long-term interest rates would likely fall, MBS spreads would likely tighten, and equity prices increase. These effects could be larger if the Committee chose to both undertake a new purchase program and move out the date in the forward guidance.

Alternative C, page 8, might be attractive to members who judge that, smoothing through the month-to-month fluctuations in the data, the economic recovery remains on an acceptable path. Moreover, some participants may judge that the financial crisis has, at least temporarily, impaired the productive capacity of the economy such that providing additional stimulus risks an undesirable increase in inflation. And others, while acknowledging the weak economic outlook, may question the efficacy of balance sheet actions. For any of these reasons, they may wish to make no change to the forward guidance and allow the MEP to end as scheduled. Indeed, some may see the monetary accommodation already in place as likely to pose significant inflation risks over time and so want to begin moving toward tighter policy at this meeting by changing the forward guidance in the statement.

The first paragraph under alternative C is more sanguine about developments in private domestic demand and the labor market than is alternative B, and the second paragraph retains the language from the April statement on the longer-term outlook for economic growth and unemployment. It also foresees medium-term inflation as being near the mandate-consistent level. There are two versions of paragraph 3: The first, which may be attractive to those wanting to make only relatively small changes to the statement, essentially maintains the forward guidance from April, but with the option of leaving the reference date unchanged or pulling it forward to "late 2013." The second option, labeled 3′, replaces the existing forward guidance language, including the date, with more-general language about the factors that the Committee would consider in determining the appropriate time to raise the target federal funds rate. The final paragraph announces the completion of the MEP and suggests a more-balanced outlook for policy.

Asset prices would likely respond significantly to the adoption of a statement along the lines of alternative C, with stock prices falling, and short- and intermediate-term interest rates increasing along with the foreign exchange value of the dollar.

Draft directives for each of the alternatives are presented on pages 10 through 13 of your handout. Thank you. That completes my prepared remarks.

CHAIRMAN BERNANKE. Thank you, Bill. Any questions? [No response] Seeing no questions, we will start the go-round with President Rosengren.

MR. ROSENGREN. Thank you, Mr. Chairman. I am supportive of alternative B, though I think there is a strong case to be made for alternative A. My earlier remarks about the economic outlook imply that we should provide more monetary accommodation, and extending Operation Twist will provide some modest support. However, I strongly suspect we will need to do more. I remain very concerned about the international economic and financial outlook. Because we're likely to miss on both elements of our mandate through the forecast horizon even without a crisis, ideally I would pursue asset purchase policies that expand our balance sheet. However, I would support using swaps as the tool of choice if most expect us to remain close to our inflation target but continue to miss significantly on the unemployment target. In terms of swaps, if that is the preferred choice at this meeting, my own preference would be to swap short-term Treasury securities for mortgage-backed securities. The housing market is showing some tentative signs of improvement, and we should provide additional support for an area that is both interest-sensitive and one of the sectors that has been an impediment to a more robust recovery.

It seems to me increasingly likely that Greece will not meet its obligations to Europe, that Spanish banking problems will worsen, and that we and other central banks will need to act more forcefully. I also expect that at that time, we will need to consider 13(3) facilities, with the primary dealer facility the most likely candidate, because I am concerned that broker–dealers will once again find it difficult to obtain short-term wholesale financing should we have another crisis. We should begin to consider more-creative use of the discount window to focus on where asset spreads are particularly wide. Finally, we need to be prepared should international conditions seriously impair our outlook. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Plosser.

MR. PLOSSER. Thank you, Mr. Chairman. As I noted yesterday, in light of the recent data, I have marked down my near-term forecast a bit, but there's been little change to my medium-run forecast, which I believe should be the focus of our policies. At this juncture, I see no compelling reason to institute another round of maturity extension programs through the end of the year as suggested in alternative B. Several factors shape this assessment. First, I do not think that the modal medium-term outlook for economic activity, employment, or inflation has changed significantly enough to warrant such action. The Tealbook projects 2 percent to 2¼ percent economic growth over the next two years, picking up to around 3 percent in 2014. This pace is about on or slightly above trend, as they estimate it. Indeed, the baseline outlook is similar to, or marginally better, I think, than what it looked like the last time we changed policy, which was in January. I note that the outlook marginally improved in March and April, which we did not react to, and we didn't reduce accommodation. Thus, I see the fact that going back to an outlook that we had in January, when we last made a policy decision, seems consistent with having policy about the same as it was then.

Second, in my view, the risks around the medium-term forecast have edged up, but I'm not sure they've moved up sufficiently for us to take action at this time, particularly of the nature that's being proposed. Some might call the extension of the MEP program buying insurance. But what insurance is it really buying? The main uncertainties are coming from the European fiscal situation and the impending fiscal disruptions in the United States. I do not see how a new round of the maturity extension program would do anything to protect us from those uncertainties, shore up confidence, or elicit more spending and hiring. And if these downside risks actually do come to pass, then the maturity extension program is unlikely to be the

appropriate tool. If the European crisis results in financial instability here, then we might have to provide significant amounts of liquidity to the banking system and the markets. As Brian Sack noted yesterday, proceeding with the maturity extension program does have implications for what our balance sheet looks like in terms of its maturity structure, and may have implications for the tools that we have available to us later on should a crisis arise. Of course, a blowup in Europe might have the opposite effect. We might find a flood of liquidity coming to the United States looking for safe havens. There we might not want to consider a larger action, but it would depend on the nature of the shock. If a larger fiscal drag materializes at the turn of the year, we might need to consider a larger action as well, perhaps involving outright unsterilized asset purchases. Such actions would have to be assessed depending on the nature and magnitude of the shock. In addition to the benefits, each of our actions would have costs—perhaps higher inflation or perhaps creating the perception that we are funding fiscal irresponsibility. On the other hand, if inflation were to take a serious plunge downward, we also may have to react to defend our inflation target. But none of those events have materialized yet, and our responses will depend on when and if they materialize.

Third, we seem to suggest in the statement that extending Operation Twist would put further downward pressure on rates and thus help speed and support the recovery. But the estimated effect is extraordinarily small at best. Based on a recent study, long rates might move less than 8 basis points as a result of the program. The Tealbook estimates that the program would reduce the unemployment rate by 0.1 percentage point after two years and raise our inflation by a similar amount. How would the public view our action if they knew that we thought we were only going to lower unemployment by 0.1 percentage point in two years? To me, this is the ultimate in fine-tuning. Given the expected size of the effect, it’s misleading for

us to suggest that such a program is being implemented to support a stronger recovery or even to take out insurance, which I don't think it does in any true sense of the word. It appears that we're doing something because we can, not because we think it will accomplish anything. I think that seriously undermines our credibility. I would note that the European situation has already resulted in longer-term rates falling nearly 40 basis points since our last meeting. Do we really expect to accomplish anything by moving rates down another 5 to 8 basis points?

Fourth, some might ask, what are the costs of further action at this time? I think the costs largely revolve around our credibility. If we continue to take actions that have minimal or no impact, we dissipate our credibility. We set up false expectations, or worse, we feed the view that we're merely trying to satisfy the financial markets. This is not confidence inspiring. This is particularly important because, as we've discussed, the economy faces some real risks. If those risks manifest themselves, lower credibility will harm our ability to take effective actions when it is most needed. To me, the prudent course of action today is to allow the maturity extension program to be completed at the end of June as previously announced. Should European developments lead to liquidity problems in our financial institutions, we should be prepared to act and act aggressively to solve those problems and lend to solvent firms on good collateral at a penalty rate. If the economic recovery further stalls because we fail to resolve our own fiscal problems at year-end and deflation sets in, again, there may be cause for action. Those have not materialized as yet.

Let me now turn to a few comments about the language. I'm concerned about the way in which the change in the maturity extension program is described in alternative B. I find that the language is very misleading. It suggests that this is just a continuation of current policy rather than a new program. The staff analysis and our public statements have indicated that the effects

of quantitative easing are mainly via stock effects, not flows. Yet the statement language seems to suggest that the continuation of the MEP is about flows, not about stocks. I think this is potentially very confusing to the public. Which is it? Are we working off of stocks, or are we working off of flows? It sends a confusing message about what we think the mechanisms at work here are. I also think, in terms of language, that paragraph 5 about the European situation, which has been added at the end, is potentially dangerous. We've already acknowledged earlier in the paragraph the strains in global financial markets. The bracketed paragraph seems just to restate that, and it actually may be disconcerting to markets and upsetting to them. The other boilerplate language we use in alternative B is also, I find, troubling. I find the bracketed language that we use to talk about satisfactory progress in labor market conditions to be vague, not very precise, and not very helpful because we can't define it very well.

Finally, let me give my reaction to alternative B′. First, I want to thank both the Board and the staff for obviously taking the memo that Presidents Williams and Kocherlakota and I circulated. Indeed, our effort was to try to restructure our language to be clear about the linkages between what we see in the economy and what our actions are—that is, a kind of verbal reaction function, if you will. And our idea was to try to improve the way the statement was written in order to be able to make that clearer to the public and improve our communications. Unfortunately, my own assessment of B′ is that it doesn't really capture the essence of what I thought we were trying to accomplish. Again, our intent was to create a structure that makes these linkages more clear. I don't think that B′, as it's written, accomplishes that as effectively as it might. It remains a little vague—it talks a lot about goals and objectives, but it doesn't talk much about the mechanisms by which to link those two. So, for example, if today's action is about taking out insurance against significant increases in risks, and the consequences of those

significant risks for the outlook, then we ought to be making an explicit link between those actions and why this action is related to providing insurance and what are the mechanisms by which it would do that. Presumably, it would do that by improving the economic outlook, which should be the mechanism. I don't think we ought to try to restructure the statement at this time, and in fact, I don't think that was our intention. Rather, we wanted to put this on the table to give it some thought. If the Committee is interested in exploring this way of writing statements, I think Presidents Kocherlakota and Williams and I would be willing over the next several meetings—after the meeting is over and after we come up with a statement from the Committee—to take a stab at rewriting that statement in the framework that we've tried to suggest, and circulate that and let the Committee see how we envision this might evolve. And that would challenge us to consider how would we want to do this in various scenarios, because we may get different policies? I think we can build a little more robust way of looking at this over a period of time that might be helpful to the Committee and might get people more comfortable in thinking about and writing the statement in this way. If the Committee is interested, we would be happy to undertake that initiative. That's all I have, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Kocherlakota.

MR. KOCHERLAKOTA. Thank you, Mr. Chairman. I'm going to divide my comments into two pieces. I'm going to presume that the Committee will in fact adopt an extension of the MEP to the end of the year, and I'll comment on how best to craft the statement in light of that decision. And then I'll talk about some more-general communication issues. Mr. Chairman, I have to say, I'll be deviating somewhat from my prepared remarks in light of the comments that you made about the limitations on our balance sheet tools. I think those are very important

considerations to keep in mind, and it really makes communication even more important than ever.

Let me start by supposing that the Committee is going to adopt the extension of the maturity extension program as its policy action today. I have three recommendations about how the Committee might craft the statement given that decision. First, in terms of alternatives B′ versus B, as President Plosser just talked about, President Williams, President Plosser, and I circulated a memo describing an approach to rewriting the FOMC statement in a way that establishes a clearer link between the evolution of the economy, the actions being undertaken by the Committee, and what the Committee is trying to accomplish—focusing on this idea of a verbal reaction function. I think B′ moves in that direction, and certainly we thank the staff and the Board for being responsive to our concerns in this way. Ultimately, I agree with Bill English that this is a notable change in what we're doing, and I think that we want to be deliberate about undertaking that change. And, as President Plosser has said, I don't think B′ gets at what exactly we had in mind. As I read B′, I don't feel that it highlights the kinds of changes in the outlook that I heard highlighted around the table yesterday. If you go to the middle of paragraph 4, the sentence after the semicolon there is a key phrase: "these risks have become somewhat greater since earlier this year." We haven't heard everyone, and everyone has a say, of course, but that's going to be a key consideration as people think about why they're adopting this policy action.

MR. LACKER. Where is the semicolon?

MR. KOCHERLAKOTA. We're in B′, paragraph 4. We're in sentence 2, after the semicolon. It says: "these risks have become somewhat greater since earlier this year." And there's also a sense, I think, among some people that certainly the economic outlook is worse than earlier in the year. But my point about how we would rewrite the statement is more about

highlighting the things that have changed that make the Committee undertake this action. To follow on what President Plosser said, I think the right way for us to proceed on this, if the Committee will indulge us, is to track the FOMC statement with our own version of it. Also, in hindsight, if I had to do things again, I would have written a little bit more about why we like our statement better than the FOMC statement. That would have helped make things clear. That'll be good for us to be doing going forward as we circulate our KPW versions of the FOMC statement for this meeting. I was thinking about this meeting and the next one, but we'll see. It's a good challenge for us, as Charlie had said, to try to figure out how you write a statement when we have a reaction function that doesn't really react to every change in conditions. After that, I think the right step is to talk to the communications subcommittee and plan a way forward based on that. Maybe the result will be that we won't do anything. But at least for myself, I think this will be helpful, and I hope it will be for the rest of you. However, for today, I would recommend B over B′, in terms of a statement.

Now, my second recommendation—and this will build into my theme about communication—relates to comments that Governor Raskin made yesterday about expectations. I would strongly recommend that the Committee adopt paragraph 3 of alternative A, as opposed to paragraph 3 of alternative B. The difference between these two paragraphs is that in paragraph 3 of alternative B, the Committee is highlighting the fact that it expects conditions to remain weak as a reason for doing the action, whereas in paragraph 3 of alternative A, the Committee is highlighting what it hopes to achieve—"in order to support a stronger economic recovery and to help ensure that inflation, over time, is at the rate most consistent with its dual mandate." Rather than theoretically, I am going to talk about it practically. I talk on an ongoing basis to business contacts who say, "When the Committee says it's going to keep rates low, and

it couches it in the way that it has, the takeaway is, boy, aggregate demand is going to be weak going forward, and so I should make my business decisions accordingly." The language in paragraph 3 of alternative A, I think, is more appropriate—it emphasizes how the policy is fostering faster economic improvement and price stability. So I would recommend that.

My third recommendation gets to a point that Bill mentioned—about the lack of clarity in the current version of alternative B on the size and characteristics of the program that is being implemented. I feel very uncomfortable with undertaking a new policy action without seeing exactly what it is. How much are we planning to buy? What does "about three years" mean, as opposed to "three years"? This really gets to the heart of transparency and clarity. I think we should be as clear about this new program as we were about the original program in September.

So those are my three recommendations: B over B′, paragraph A(3) over B(3), and be more specific about the nature of the program being contemplated.

Let me talk a little bit, then, about the SEP and communication. And this is going to get back to some of the comments I made at the end of my economic go-round. As I highlighted at the end of the economic go-round, other than myself, all other FOMC participants project that under appropriate monetary policy, headline inflation will be 2 percent or less in 2014, even though unemployment will be above 6.3 percent. Now, these are, again, forecasts being made under each participant's choice of appropriate monetary policy. There are a couple of reasons why people could be doing this, and people can answer for themselves, I guess. One possibility is that people feel we're out of tools, that this is the best we can do—to have inflation at 2 or less and unemployment as high as this. That contradicts the analysis we get on an ongoing basis in the staff memos and in the Tealbook, that appropriate policy can actually do better if we take into account the communication channels that I think do remain available to us.

The other possibility is about objective functions, and that's what I'm going to talk more about. Any FOMC participant could instead report projections that are based on more accommodative policy than policy having inflation at 2 or less and unemployment at 6.3 or above. But the cost is there, too; more-accommodative policy generates higher inflation—either the modal outlook or the risk of inflation being higher than 2 percent. By saying that this is your choice under accommodative policy, you're saying either that we don't have the tools to do better or that the objective function is asymmetric, in the sense that having above 2 is worse—I would say much worse—than being below 2. Now, last September, Mr. Chairman, I tried to initiate a conversation within the Committee about objective functions, about loss functions. And after the release of our consensus framework statement in January, I think that conversation is more necessary than ever. That consensus framework statement really suggests that the Committee views 2.1 percent inflation as not being all that much worse than 1.9 percent inflation, or at least that was my reading of it. At least to me, the fact that the SEP has everyone at 2 and under, except for myself, while unemployment is above what appears to be consistent with our mandate, suggests that participants have a much less symmetric objective function over inflation deviations. Now, this is where it gets important—that's what we're communicating to the public about what we're willing to do in terms of providing accommodation to the economy. That's going to cut back on how much stimulus we're providing today as well. So I think this conversation about objective functions is not just of intellectual interest, which it of course would be, but it's also of enormous policy interest. I think it is necessary to get a discussion going on this. If we all agree that our framework statement has built into it some notions of symmetry that small deviations in inflation should be tolerated to get faster reductions in

unemployment, that shared understanding will make differences in our communication and make differences, then, in terms of policy outcomes as well. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you very much. Just for your information, the Desk will release a statement, at exactly the same time as the FOMC statement, with all of the details of the program. So that information will be out there.

MR. KOCHERLAKOTA. If you don't mind, Mr. Chairman, thank you for clarifying that; it's good that it's going to be there. But I don't understand why we're choosing—and maybe others will be able to clarify this for me—in June to describe the details of the program in that way, in the directive, whereas in September, we actually had it in the statement itself.

CHAIRMAN BERNANKE. Well, we can discuss it, but I think the idea is to express the continuity of the program with what we have been doing.

MR. KOCHERLAKOTA. Thank you.

MR. TARULLO. Mr. Chairman? May I ask Narayana a question?

CHAIRMAN BERNANKE. Certainly.

MR. TARULLO. Narayana, could you repeat the reason why you favor the alternative A language for paragraph 3 over the alternative B language for paragraph 3?

MR. KOCHERLAKOTA. When the Committee says they're going to keep rates low through late 2014, there are multiple ways to interpret it, but I will emphasize two ways. One is that the Committee is saying, the economy is going to be really bad for the next two and a half years, and so we're going to keep rates low. Many people think of us as having lots of private information about how the economy is going to evolve, and then their take-away from that is, "Boy, the Fed has this private information that things are going to be bad." The other way, which I think is how it's intended, is that we're trying to actually provide stimulus to the

economy to generate a faster recovery. I think a small step to try to correct this perception is to adopt the language in A(3).

MR. TARULLO. I'm sorry—what's the specific language difference?

MR. KOCHERLAKOTA. If you go to the very end of the last sentence of B(3), it says something about "economic conditions—including low rates of resource utilization and a subdued outlook for inflation over the medium run." Whereas in A(3) that's been crossed out, and it says that we're "maintaining exceptionally low levels for the federal funds rate . . . in order to support a stronger economic recovery and to help ensure that inflation, over time, . . ."

MR. TARULLO. I'm sorry. So you mean moving what's the introductory clause of paragraph 3 into the action sentence? Do you think that's the difference?

MR. KOCHERLAKOTA. That's correct. Yes, that's right.

MR. TARULLO. Okay. I got it. Thank you.

CHAIRMAN BERNANKE. You said, just replacing B(3) with A(3).

MR. KOCHERLAKOTA. That was what I said, yes.

CHAIRMAN BERNANKE. May I ask you to think about the following? We've been very clear that our guidance is conditional on how economic conditions evolve. And A(3) could be interpreted as an unconditional statement, and that may be something people could reflect on that as we go through. President Williams.

MR. WILLIAMS. Thank you, Mr. Chairman. I support alternative B. The economy has slowed, and progress toward closing the large unemployment gap over the next year appears to have stalled. Furthermore, the drop in oil and other commodity prices and the absence of wage pressures have shifted the outlook for inflation lower. Thus, we will be falling short on both employment and inflation for years and missing from the same direction each part of our dual

mandate. And the risks to the outlook for economic activity are overwhelmingly to the downside. So this situation tilts the balance toward action. The question is, should we conduct more large-scale asset purchases, as in alternative A, or additional maturity extension, as in B? Maturity extension is directionally correct. It helps support low long rates, as we've already seen. Now, I agree it won't do much on its own, and there are inherent limits to how large a move we can make. But it will signal that we're vigilant and we're ready and willing to do what is needed. So for today, I support continuing the maturity extension program envisioned in alternative B.

I do have one suggestion for the statement. In responding to President Kocherlakota's recommendation, first, let me just say I would actually stay with B(3). But I do think it is important to provide the rationale for our policy action in our statement. As we all know, paragraph 1 just describes the data. Paragraph 2 covers the outlook but does not explain clearly how or why the outlook has changed. In essence, the policy action is justified in the statement by the addition of the modifier "very" in front of "gradually" and then by replacing "gradually" with "only slowly" in the next sentence. I find this unnecessarily subtle. I think, from our discussion, that we have a more fundamental shift in our view about both the economy and about the developments in Europe and financial strains. I propose that the second sentence of paragraph 2 be augmented to summarize the rationale for the change in our outlook, which would obviously set up the change in policy. So my suggestion is that the sentence would read, "With somewhat less recent momentum in domestic demand and greater strains in global financial markets, the Committee expects economic growth to remain moderate over coming quarters and then to pick up very gradually." To me, this connects the data and our views about what's going on in Europe to our outlook, which then sets up the policy rationale.

MS. YELLEN. Could you read that again?

MR. WILLIAMS. Of course. The sentence would read, "With somewhat less recent momentum in domestic demand and greater strains in global financial markets, the Committee expects economic growth to remain moderate over coming quarters and then to pick up very gradually."

CHAIRMAN BERNANKE. If you did that, would you cut the sentence that starts "Furthermore"?

MR. WILLIAMS. I thought about that. It repeats that phrase, but I would keep the "Furthermore" sentence as the risk. It seems, at least in my view, that what people here are talking about and what the Tealbook said is a big part of the change in the outlook, is actually developments in Europe and changes in global financial conditions. In addition, I would layer on top of that that the data have been somewhat weaker. I was just trying to capture that in my suggestion for B. Thank you.

CHAIRMAN BERNANKE. Thank you. President Lacker.

MR. LACKER. Thank you, Mr. Chairman. I do not believe that the current situation calls for any further monetary policy action by the Committee. Headline inflation is certainly falling, driven by the decline in oil prices, and we're likely to get lower readings on core inflation in the short term as a result of pass-through of energy and import prices. But I think the dip in inflation will be temporary. As I noted yesterday, we often see short-run pass-through from energy prices that results in transitory movements in core inflation. Measures of inflation expectations have been well behaved, so at this point, the behavior of inflation, in my view, doesn't warrant further monetary policy ease. A more persistent and substantial decline in

inflation below our 2 percent target would warrant action aimed at ensuring that inflation returns to target, but that's not the situation we face today.

The labor market clearly has been disappointing. You used the word "agonizing," Mr. Chairman, and I think that's apt. And I think we all share that sense of excruciating dislocation and loss at what labor markets could have done had they lived up to our expectations a couple of years ago. But I don't think we have any options now that are going to make a substantial difference in the path of the unemployment rate without also raising inflation by more than would be desirable and in a way that would ultimately raise the costs of achieving our inflation objective over the longer term. As a general matter, policy actions that affect labor market outcomes will affect inflation as well. I think that's just the economics we all understand. We need to take both effects into account, and we laid out how we do so in our consensus statement in January. We seem, though, to have adopted a lexicographic approach in which policy depends solely on whether we're satisfied with the pace at which unemployment is falling. I don't think that's a good approach, and I don't think it's helpful to describe our policy as depending entirely on the rate at which unemployment is falling, without reference to inflation.

You mentioned a couple of other objectives for this policy move, Mr. Chairman. Maintaining confidence—with all due respect, I don't see how our action can have much effect on views about fundamentals or about the likely choices of fiscal policy authorities, either here or abroad. President Plosser pointed out some adverse effects that this policy action could have on confidence in us and on our credibility. And President Kocherlakota pointed out ways in which this policy action could damp expectations about future growth. You also cited showing the Fed as engaged; that's something President Williams cited as well. The flip side of that is

that it encourages people to believe that we believe that we have far more effect on the real economy than we really do. So I think the appropriate stance now would be to wait and watch for evidence that inflation expectations are likely to erode, or that there's a shortfall in inflation below target that's likely to be persistent. If further easing is warranted, an extension of the maturity extension program would not be my preferred tool. I think that the theory behind the interest rate effects of the MEP is tenuous and the empirical evidence of such effects is unconvincing. And I question whether any policy action that attempts to work through lowering longer-term risk-free rates can be expected to have much effect in the current environment. Moreover, this policy raises the question of, why not ask Mary Miller to do it? Should we want to provide further stimulus, I think we would need to either increase aggregate reserve balances or change banks' incentives to hold reserves by changing the interest rate on reserves.

And one final note: I have pushed back my expected date for the funds rate liftoff, but it's still well earlier than late 2014. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Lockhart.

MR. LOCKHART. Thank you, Mr. Chairman. I will support alternative B. As I said yesterday, my own outlook is more optimistic over the forecast horizon than that in the Tealbook. I agree that the balance of risks to growth is to the downside, but I'm not yet convinced that the environment has deteriorated enough to justify more-aggressive action at this time. I view an MEP extension as an acknowledgment of some change in the outlook and a shift in the balance of risk. With the risks elevated and weighted to the downside, I think it's appropriate to signal that we are highly attentive to developments and unwilling to remove any accommodation at this point. I view the extension of the MEP as serving this purpose. I don't expect that extending the MEP will have a lot of sustained incremental impact in isolation. If the

situation worsens, in all likelihood it will be because of developments in Europe and the global economy. In such circumstances, safe-haven flows will likely put more pressure on long-term rates than MEP purchases. Because I'm supporting this policy action more for reasons of posture maintenance than because of any expectations that it will turn things around, I actually like the way the decision is presented in the statement as a continuation of policy. I hope it suggests some amount of conditionality and leaves open the possibility of scaling back or suspending the program if the economy surprises us to the upside.

Regarding alternative B′, I do not favor moving to the statement structure of B′ at this time. I'm sympathetic to what the alternative format is trying to capture and accomplish, and could support going in that direction at some point. But as unsettled as markets are now, I'm worried that any nontrivial change in the structure of the statement would create more noise than clarity. I'd like to play it safe for the moment and to stick with the alternative B formulation and defer something along the lines of B′ to a later date.

Regarding the last paragraph, the question is to include it or not to include it. I'm inclined to include it, but I will point out that it creates the issue of whether to repeat it, revise it, or pull it—and under what circumstances we would do that and what would be the interpretation of whatever we do with this paragraph in future meetings. Every time we put in something like this, it creates the follow-on questions in the minds of the market. Still, I think the situation does call for comment, and so I will support inclusion of the last paragraph. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Fisher.

MR. FISHER. Thank you, Mr. Chairman. First, I want to say that I think we've set a record in that on four separate pages in today's *Wall Street Journal,* what we seem likely to

decide was discussed broadly—on page A6, page C1, page C4, and page C14. And I do think that whoever is responsible for it is doing this Committee a disservice. In fact, I could see, if you base on the experience of buying on the rumor and selling on the news, that even the announcement we're about to make might have zero impact whatsoever and might be reversed by the marketplace. The market has already discounted what we have in B. However this is getting out, I just would ask the Committee and the staff and the Desk and whomever else to at least preserve the options for discussion at this Committee. But I've never seen this much anticipation and actual coverage on the day of a meeting as we saw in today's paper.

On the positive side, Mr. Chairman, I want to thank you and also Bill English, who always does an incredibly professional job, for rewording alternative C in light of some of the recommendations that I made. I know it won't be accepted, but I'm most appreciative. I'm also very appreciative, Mr. Chairman, of the very thoughtful way in which you expressed yourself this morning and the issues that you noted for the Committee.

On the 600th anniversary of the University of St. Andrews, I gave a speech, which I circulated. I doubt any of you read it, but I referred to Edvard Munch's painting *The Scream* and its recent auction, where it went for almost $120 million. I must say, after yesterday's staff presentation, I felt like adopting the posture of that individual in that particular painting. And I want to quote from a note that the artist wrote, because it is exactly how I felt after yesterday's presentation. He said, "I stopped and leaned against the balustrade, almost dead with fatigue. Above the blue-black fjord hung the clouds, red as blood and tongues of fire. My friends had left me, and alone, trembling with anguish, I became aware of the vast, infinite cry of nature." One is very aware of the vast, infinite cry of anguish and nature in the markets, particularly after our discussion of the European situation, the Chinese situation, and our own predicament here in the

United States. But we have to keep our composure, and I think that to reflect this anguish or this distress is undermining confidence, not building confidence.

I took note from two comments made yesterday by two of our Governors. One was by Governor Duke, where she said there's little evidence that our actions have resulted in greater lending. I believe I got that correct, and of course, she had other points, but that struck my ear. And then Governor Stein gave a rationale for what I was reporting in terms of the microeconomic activity of individual businesses—again, as I always say, reflecting the fact that mine are just little pixels in the broader picture. But if I got you correct, Governor Stein, you were saying that investment would logically be less responsive to interest rates under the conditions that we observed. It's against that background that I really worry about the efficacy of both additional monetary accommodation and an extension of Operation Twist. So I'd like to quote—if I may for just one second, because I want it on the record—my favorite economist, me. And I want to go back to the hue and cry of the financial markets and the distress that we talked about yesterday in the staff presentation. We know that trillions of dollars are sitting on the sidelines. They're not being used for additional lending. They're not being used for job creation. We know that in areas of the country where fiscal and regulatory policy incents business to expand—I believe that happens in my District and some other Districts and perhaps the Kansas City District—accommodative policy is more likely to be put to work than in a place where government policy retards job creation. And I keep asking myself, what good would it do to buy more mortgage-backed securities or more Treasuries or extend our MEP program when we have so much money sitting on the sidelines? Yet we have no sense of the direction of the future of the federal government's tax and spending policy. I referred yesterday to running a three-legged race with a one-legged person. Obviously, that's the Congress. We have health-

care legislation awaiting resolution in the Supreme Court. We know that no business can budget its personnel costs until that case is decided. It crimps job creation. So if job-creating businesses have no idea what their tax will be, if they're clueless about how federal spending will affect their customers or their own businesses, and if they cannot budget their personnel costs, all on top of concerns about the risk to final demand posed by this imbroglio in Europe and slowing growth in emerging market countries, how can additional monetary policy be stimulative?

Now, I've listened to the arguments around this table from people for whom I have enormous respect because of open acknowledgment that they're so much better trained than I am. I've heard arguments that further monetary accommodation would raise inflationary expectations—magnify the fear, perhaps, that the Fed and other authorities are hell-bent on expanding their balance sheet, and consequently the money supply, so dramatically that inflation would inevitably follow. And the result, I've been led to believe, would be salutary. It would scare money out of the businesses' pockets into job creation and would lead individuals to conclude they'd better spend their money today rather than have it depreciated by inflation tomorrow, and thus pump up consumption and final demand. But I beg to differ—again, acknowledging my limited economic learning. I would argue that this would represent a form of piling on the already enormous uncertainty and angst that businesses face about reckless fiscal policy. To me, as I've said in many speeches, this would be "the road to perdition" for this Committee. There is in the marketplace a lingering fear that we've already expanded our balance sheet to its stretching point, and although we have articulated an exit strategy and have the tools—as you noted earlier, Mr. Chairman—they remain untested in practice and they remain theoretical. And there is a growing sense that we're unwittingly—or worse, deliberately, which I don't believe—monetizing the wayward ways of the Congress. So I believe that, were we to go

down this path to further accommodation through LSAPs or an MEP, we'd be simply pushing on a string, and we could be viewed by our critics as an accomplice to the mischief that's become synonymous with Washington. That's my concern. Now, my arguments seem to be falling on deaf ears, but I think we need to be very aware of what I just argued.

With regard to MEP, I thought Dennis Lockhart was most diplomatic in the way he expressed himself. One shouldn't expect great impact, particularly now that it's been leaked to the press to such an extent. I would, in vulgar conversation, refer to it as a "CYA" action, but I won't do that in this Committee. However, it's acting for the sake of acting. There is a positive point to it. One can argue that it does not expand our balance sheet and feed the fears that I spoke of earlier. But there is a difference in the way we normally operate. Short-term Treasuries are self-liquidating. They provide a quick and easy exit with little announcement and fanfare. Long-term Treasuries have to be sold prior to maturity to accomplish an exit, and therefore they're going to require Committee discussion and debate as well as delicate announcements and extra time to prepare the public and the markets, et cetera. I think maturity extension might be construed as the equivalent of an almost unconditional or noncontingent commitment to leave the fed funds rate at zero beyond 2014, perhaps until 2018 or so or some time well beyond the time frame that we've been referring to—even though some of us have been uncomfortable with it. You mentioned exit complexities, Mr. Chairman, and I appreciate that. The fact that the SOMA has a near corner on the long-term Treasury market, to me, only adds to the difficulty of extricating the Fed from our position, especially should deficits and therefore Treasury issuance be brought under control, however imaginary that seems presently or however gradually. We had a discussion about this yesterday, and Brian gave us some very interesting data in those tables. It is true that the Treasury market is wide and deep, but from my own experience, the sell

side in any volume for longer-term paper can prove illiquid very quickly, adding to the feeling of being locked in a corner for a long time. I don't have a vote here. I just ask that you consider these matters—particularly, Mr. Chairman, as you prepare yourself for your press conference.

With regard to the wording of the statement—again, acknowledging straight on that my alternative C has zero probability of being accepted—I do want to make just one editorial suggestion for alternative B, whether you go with B or B′. I have a problem with the phrase "and sustained improvement in labor market conditions." Our job is to enable full employment. The conditions are set by other forces as well as monetary policy. Unlike the authors of B′, I actually would argue for the paragraph in B′. If you look at paragraph 7 of B′, you could adapt it to the regular B: "The Committee's action today is intended to support a stronger economic recovery and mitigate downside risks," which is true, "thereby enabling a return of the unemployment rate to mandate-consistent levels." I don't like the word "faster," but we are in the job of enabling, and you could, indeed, in the version of paragraph 4 in alternative B take out the term "labor market conditions." What we seek to do is to enable a return to full employment. We don't determine the conditions of labor markets. Those are conditioned by fiscal policy, by regulation, by state and local laws, et cetera. I would argue for softening that term under either B or B′. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. President Fisher, I think that "labor market conditions" refers to a general description of labor markets, and we use the word "promote," implying no direct causality but simply one factor among many that should help get better outcomes. Vice Chairman.

VICE CHAIRMAN DUDLEY. I don't want to wait till my turn to respond to one thing that you said, President Fisher, about leaks. I think it's really dangerous to cast aspersions like

that on the Desk or other people on the Committee. It's completely reasonable that the *Wall Street Journal* can look at the same set of evidence that we look at and reach the same conclusion that we're going to reach; there's nothing surprising about that. I'm not saying that leaks never occur, but I don't believe you can conclude that because the *Wall Street Journal* concludes something similar to what we conclude. They're looking at the same set of information that we're looking at. They've studied how we've behaved in the past. It's completely logical for them to reach the same conclusion that we're reaching without there being any leaks whatsoever. So I think that's really dangerous to make statements like that.

MR. FISHER. I'm sure others feel the same way, Vice Chairman Dudley. I'm just making the point that when we talk about market expectations, we should consider what affects the American people over the long term and not be conditioned by market expectations. But I did not mean to cast aspersions. I just worry that this process goes on. And I see Governor Tarullo getting all upset.

MR. TARULLO. Richard, how could you say you didn't mean to cast aspersions?

MR. FISHER. But let me finish my sentence.

MR. TARULLO. You accused somebody here of leaking. You didn't identify who it was, but you said there was a leak.

MR. FISHER. What I'm saying is, I think we should work extremely hard to preserve every option that is debated at this table, and I have just noticed that this has been more intensely covered than I have seen in my seven years of sitting at this table. Everybody in this room is a decent person. I'm not casting any aspersions against anybody in this room. I'm just saying that if we can—in every way possible, however we do it—we should try to preserve the options to be debated at this table, and then not use the argument that markets expect us to do X or Y. What is

leading the markets to expect that? I haven't seen this broad-based discussion that we are having in the speeches.

MR. TARULLO. You haven't seen it in the speeches?

MR. EVANS. You haven't seen suggestions in the speeches and in the interviews? I get commentary from our staff all the time about what people are saying, and others have mentioned MEP as a possible option here. That's all it takes to get that discussion going.

MR. FISHER. Well, they are all possible options, but zeroing in on this—

CHAIRMAN BERNANKE. Okay.

MR. FISHER. Let me just summarize this way, Mr. Chairman. I apologize if I've given offense. I worry about the phenomenon, and I see it increasing. We've talked about this before. Let's just do our best to make sure that we give out as little as possible so we don't condition the market, in case we decide to do something else and therefore disappoint the market.

CHAIRMAN BERNANKE. Thank you.

MR. FISHER. And I apologize again for giving offense.

CHAIRMAN BERNANKE. President Evans.

MR. EVANS. Thank you, Mr. Chairman. I think yesterday Governor Tarullo made some comment about how it would be nice if people didn't always come with prepared statements. I can guarantee you, I don't have anything like that. Of course, having said that, my message won't sound very different to those who have heard it before, but there are two new Governors.

MR. POWELL. We've heard it, too. [Laughter]

MR. EVANS. When I was in high school, I was in our band, and I was not a very good member of the band. In fact, I chose an instrument at some point that insured my survival in the

band through my senior year. But at some point, we went to a festival tournament, and they had added a part to the festival where you had to do sight reading as a band. Of course, we were deathly afraid of this. You look at the music. You have about a minute. And then we started playing. I got to this one point where we went from something that was sort of a pianissimo type, and then it had a crescendo and whatnot. I could see that coming ahead of time, and I knew that others might not do it, so I started to play louder. I tried to overemphasize when no one else was really following along. Afterward, the evaluator gave us pretty good marks, but at one point, he looked right at me and said, "You know, you can't make up for what everybody else is doing no matter how hard or how loud you play." [Laughter]

Well, I'm sorry to say that I never really learned that lesson, so today I support any form of additional accommodation. Alternative B does provide additional accommodation, and I could support that, but I would prefer something more like alternative A or even more than that. I do think, having looked at all of the analyses in the Tealbook and by our own staff, that if we could provide more monetary policy accommodation, it would have a very noticeable effect on the economy and unemployment—not just tenths, but it could make quite a difference. We have options available—nominal income targeting, the optimal control policies, and things like that.

I think the risks that we face today are higher than at any time I can remember or have ever thought about. Europe is facing existential questions about their monetary and financial institutions. It's not clear how that will turn out. Emerging markets have never developed a self-sustaining economic independence apart from their apparent mercantilist approaches, where they depend on exporting to a somewhat vibrant rest of the world, and that creates a problem. Moreover, we're facing the U.S. fiscal cliff—it's a big risk. If we do not suffer through some chaotic event and if we find ourselves muddling along, I still think that we have very tough times

ahead of us. Over the next two or more years, the rest of the world is going to strive to grow through expanding their exports. The Asian financial crisis was an episode where the rest of the world was able to help. Through capital flows into the U.S., we had low Treasury rates. And we had a more vibrant American consumer. Financial conditions allowed everybody to take advantage of mortgage refinancing, and they had more income and could spend. But the 1990s American consumer doesn't live here anymore. They're not here available to help bail out the rest of the world. The arithmetic of imbalances kills in this case. On top of that, I think we really need to pray that there's not a second-generation George Soros somewhere who somehow devises a punishing short strategy against Germany. George Soros was able to break the back of the Bank of England when it tried to maintain a monetary policy to benchmark against the deutsche mark at that time, which wasn't in its best interest economically. Eventually, it failed, and Soros made a lot of money, and he was able to accelerate that. We'd better hope that that financial product doesn't exist and cause something to happen quicker than anybody is hoping.

I also think that we're fighting last century's war—that it's just normal bread-and-butter times for conservative central bankers. We have chosen to fixate on our 2 percent inflation objective at a time when the risks to us are enormous. I can't write down exactly the parallels to the gold standard in the 1930s, but it looks to me as though they must be there—where there's a tremendous debt overhang, and the restrictive policies that banks around the world were following in the 1930s led them toward more-restrictive policies. I think that all of President Fisher's comments about our ineffectiveness, with all of the funds on the sidelines and our current policies in place, were expressed in Friedman and Schwartz's chapter on the Great Contraction. These are not new observations, but they're extraordinarily challenging ones.

The standard errors of our inflation forecasts are large—unconditionally, they're always large. And they're large enough so that we could be facing, at some point, 3 percent inflation through no additional fault of what we're doing. That's just the statistics, and it can never be ruled out. But we're seeking policies that try to eradicate the risk of 2½ percent inflation, which is well within those types of bands. I frankly think that outcome can only be confidently delivered if we're trying to defend a lower inflation objective than our stated 2 percent objective, and I worry that future researchers are probably going to find evidence that we're acting as if our goal is symmetric around something that's below 2 percent, not 2 percent. At a time like today, I think these policies are actually quite restrictive. Milton Friedman expressed that about Japan and in other cases quite well. He said that low short-term interest rates are generally a sign that money has been too tight. When our medium-run inflation forecast continues to be below our inflation objective throughout our forecast horizon with unacceptable resource slack, I think Friedman's admonition is just dead right in that regard. If a recession occurs, we're not going to be able to escape the zero lower bound over the time horizon that any of us expect to be on this Committee. I favor strongly proactive monetary policy to push us as far away from these risks and horrific outcomes as possible. I think that, looking at the staff projections in the Tealbook, nominal-level income targeting would clearly have a positive effect. It certainly has risks, but we're facing risks everywhere. The optimal control simulations also display that. Of course, it's difficult to make the argument and convince people that we would have the commitment to do that, although I frankly don't think it's as challenging as a lot of people would say. There are a variety of asset purchase programs that we could embark upon and simply state what we're intending to do. I think that that could implement that. My suggestions about economic thresholds related to 7 percent unemployment and 3 percent inflation—it's just a poor man's

version of nominal-level income targeting. It might be too late for anything like that to really have much avail—but it's still an option. Can these policies fail? Yes, they certainly can. But I think that we should affirmatively choose what type of failure we're willing to live with going forward, because something is probably not going to go right, and we ought to choose how that should play out.

Having said all of that, I wholeheartedly endorse President Kocherlakota's suggestion about alternative A, paragraph 3. I think the language that we're seeking to support an economic recovery would be helpful in that regard. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Bullard.

MR. BULLARD. Thank you, Mr. Chairman. As you know, I'm not supposed to come right after President Evans. [Laughter]

MR. KOCHERLOKTA. That's why I sit between them. It's my role on the Committee, actually.

MR. BULLARD. I counsel standing pat for today. I would take alternative B without the MEP extension. I agree with the Chairman that this is a matter of tactics at this juncture, but I would play it a little bit differently. If anything, I think easing today might be worsening the situation in the EU and increasing the risks to the U.S. The ECB is at least temporarily on the sidelines, trying to force decisions from reluctant governments in Europe. Our easing, all else being equal, puts upward pressure on the euro, makes a recession in the EU worse, and increases the risks to us. I don't think that's a large effect, but it seems to me to be ill timed for the U.S. to be making a move at this juncture. On Europe, there's a lot of angst over the EU. My view is that much of what has happened—in the last two months, let's say—was basically predicted. Certainly, people were talking about Greek elections earlier this year and were well aware that

there was increasing opposition and increasing question about whether the Greeks would elect a government that would continue with the austerity program. So I don't think there's really been that much surprise, and I don't think there will be that much surprise going forward. I'm both more and less pessimistic than the group on this question. In one sense, I'm more pessimistic than many of you on Europe. I have been and continue to be very skeptical that there's any realistic solution on the table for the sovereign debt crisis that avoids substantial debt restructuring. And we heard yesterday more sentiment in that direction. Maybe that is more what has changed than anything else. But on the other hand, I'm less pessimistic than many around the table in that while I think that some EU scenarios could go very badly, and we have to cope with that risk, I think that this situation is much more likely to end with a whimper instead of with a bang. I expect a long period measured in years of disarray, eventually ending in substantial restructuring of some EU-area sovereign debt, but with the EU and the euro remaining intact. I see lower living standards in Europe generally and especially in the peripheral countries. I see the EU, even in this scenario, as generally unwilling to make the long-called-for structural reforms that may enhance medium- and longer-term growth prospects. So I just envision a weaker Europe coming out of this entire episode. I also doubt that increased political integration is likely to occur. My sense is that the crisis is actually driving Europe apart, not together; trust is breaking down.

While the U.S. outlook has weakened, longer-term real interest rates in the U.S. are substantially lower than they were a year ago and have moved sharply lower than they were at the time of the last Tealbook. A good approach at this juncture, in my opinion, would be to pocket the lower yields that the EU crisis has handed to us, while we remain in a wait-and-see mode about how the U.S. economy is going to evolve. The lower yields that we've been handed

are far more than we could accomplish with any policy actions that we take around this table. If the U.S. economy weakens substantially, then we certainly are in a position to take aggressive action, but I wouldn't recommend that at this stage. Current policy remains ultraeasy and therefore, in my opinion, appropriately calibrated to the situation that we're in. It's not as though we've been asleep as the economy has sluggishly recovered from the recession. The policy rate has been at zero for three and one-half years and is projected to remain there for several more years. Could there be more of a victory for the low-interest rate lobby than that? We have a large balance sheet, which threatens to create substantial inflation if we do not play our cards correctly in the next several years. It's true that we can go farther into uncharted territory if necessary, but I think we should be exceptionally careful in taking such action. I'm increasingly worried about permanent changes in the U.S. economy due to our exceptional policies. The notion that Europe is in turmoil cannot be a reasonable rationale for action all by itself. It seems obvious that the EU will be in turmoil for the foreseeable future. Furthermore, the turmoil has a silver lining for the U.S. in that we enjoy lower interest rates domestically.

I want to just take a minute to reiterate my comments on slack, because I haven't made these comments for a while. My position hasn't changed on this. I think slack is a very poor basis for making monetary policy, and it can lead to exceptionally poor decisions. I have three areas of concern. One is the theory side or conceptual side, the second is the measurement side, and the third is the relationship to inflation. On the theory side, just conceptually, we have a leading theory in monetary economics, the New Keynesian theory associated with Michael Woodford and his colleagues. We should use it, and we do use it. It does inform our judgments around the table, but we have a blind spot when we use that theory. The output gap in that theory is the distance between the flexible price level of output and the sticky price level of

output, and the flexible price level of output moves around in response to shocks. If the economy is hit by a large shock, output will fall even in the flexible price economy, and the only question is whether the sticky price level of output will be different from that flexible price level of output. That concept of the output gap is radically different from what we use around this table, and so on the conceptual side, I do not think we have this right, and we should get it right.

On the measurement side, if you say, "I don't care about New Keynesian theory—I'm just going to measure the output gap," there are many different measures of the output gap, as we've talked about repeatedly. The most difficult part of measurement is when there are permanent changes in trend. I have argued that there may be a permanent change in trend occurring in the U.S. economy as we speak, and that U.S. potential output growth is lower. The staff have ratcheted down their potential growth rates and, accordingly, have reduced the level of slack that they estimate in the economy. This is not just a technical issue. Athanasios Orphanides did exceptional work studying the 1970s and argued, I think pretty convincingly, that improper measurement of the output gap led to exceptionally poor decisions on monetary policy both in the U.S. and abroad. It led to global inflation that took decades to repair. The lesson from the 1970s is that high inflation was also associated with a volatile real economy. You had four recessions in the United States in 13 years. It wasn't just inflation.

Finally—in addition to the conceptual arguments and measurement arguments—there's the relationship to inflation. Even if I'm willing to accept existing estimates of the output gap and I want to use them to get an estimate of inflation, those relationships are also quite tenuous and do a poor job, in my opinion, of helping us predict inflation. We've seen that since, say, the fall of 2010. Inflation in the U.S. has moved up, even though many measures of the output gap were gigantic and suggested that inflation should have moved down or even been in negative

territory. So the predictive power of the relationship is also very much in question. I do think it's a poor basis on which to make monetary policy. I'm disappointed that it remains central to the discussion at the table here, but that's where we are, and I'm happy to continue to pursue this debate.

I just have one more comment. On the question of price-level targeting and its cousin, nominal income targeting, I do worry about this. Price-level targeting is optimal policy in a lot of the models that we look at. However, I think if you look at the price-level path in the U.S. since the 1990s, it's very consistent with a 2 percent rate of increase in prices. And in fact if you take as your starting point sometime in the mid-1990s and you look at where the price level is today, it's about on target or even a little bit above target. So I'm not too concerned that we've missed on the price-level aspect and that we've allowed the price level to move far away from the appropriate price-level path. Even though the Committee was not price-level targeting during that period, we've ended up on the right price-level path. If you look at the United States during the Great Depression, that was certainly not true. And if you look at Japan, it is also certainly not true—the price level in Japan has actually declined over time. In those circumstances, I think the price level moved far away from what might have been considered the optimal price-level path. But that has not occurred, and that gives me some confidence that we've got appropriate policy at this point. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President George.

MS. GEORGE. Thank you, Mr. Chairman. As I noted yesterday, the recent data suggest a somewhat slower pace of recovery than I anticipated in April. Heightened uncertainty—and indeed, now I sense some degree of fear—about the European financial crisis, the U.S. fiscal cliff and regulatory environment, and global growth prospects is currently restraining activity.

That said, on balance, going forward I continue to expect the economy to expand at a moderate pace sufficient to produce a gradual reduction in unemployment. With respect to inflation, the decline that we've seen in the headline numbers reflects lower energy prices. I expect that this decline will be temporary and, barring further monetary accommodation, that inflation will remain at or slightly below our 2 percent target over the medium to long term.

Given these circumstances, additional policy ease is likely to have little effect on output and employment but could lead to higher inflation expectations and, ultimately, higher inflation. Additional ease could also increase the risk of unintended consequences, such as growing financial distortions and mispriced risk. As a result, I believe policy should remain on hold today. The benefits of a further expansion of our balance sheet or a further lengthening of its duration appear fleeting and further complicate our eventual exit. Of course, if the European debt crisis erupts into a severe economic and financial crisis with spillovers to U.S. markets, our policy tools would be available, including emergency liquidity through the discount window or other credit facilities. Finally, I share President Lockhart's concern about introducing paragraph 5 on Europe, simply because of the challenges I think it may create for future statements as events continue to unfold in Europe. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. President Pianalto.

MS. PIANALTO. Thank you, Mr. Chairman. This is a close call for me today. I have a couple of reasons why I prefer to take no action today. First, I think that the level of uncertainty is extraordinarily high right now. As I said yesterday, my outlook is virtually the same as it was at the time of our meeting in January. I expect moderate economic growth and low inflation over the forecast horizon, with slow progress in the return of unemployment to its natural rate. Like the rest of us, I had hoped that the encouraging signs of greater strength that we saw at our April

meeting would endure, but of course, that didn't happen. With the benefit of hindsight, our decision in April not to move forward the liftoff date language for the fed funds rate was a prudent one. So our patience was justified. I would prefer to take action on the basis of more solid information, because it is quite possible that as events unfold, we might see today's desire to act dissipate. Or, if there is a material change in the outlook to the downside based on actual developments, then I could see the basis for supporting even stronger actions than are in alternative B today.

The second reason I have for holding off any action today is that I think it's worth reflecting on the fact that we have been in an environment of exceptionally low interest rates for a number of years now, and most of us expect that these low rates are likely to prevail for a couple of more years. We have a very large balance sheet and one with a much longer duration than we are accustomed to holding. We have done the best analysis we can, and we have decided that the risks to the economy from our actions are likely to be small. Partly as a result of this belief, the benefits of our actions appear to clearly outweigh the cost. However, I think that we should be mindful about how little we actually know about these costs—such as the disruption in market functioning that, Mr. Chairman, you mentioned earlier—and we should be mindful that we could be underestimating these costs. As Brian Sack reminded us yesterday, we are operating in uncharted waters. Clearly, the risks to the outlook have increased since our last meeting. I see considerable downside risks to the outlook for growth, particularly from Europe and our own fiscal cliff. So I can see some benefits of buying insurance against the risk that weaker economic growth could result, as I mentioned yesterday, in an unwelcome disinflation. I mentioned yesterday that the 10-year inflation expectations have been declining, and there is a risk that inflation could fall below our inflation objective over the medium term. As this

Committee has pointed out several times in the past, given the constraints of the zero lower bound, it will be tougher for us to deal with an unwelcome disinflation than an unwelcome rise in inflation. I can also see some benefits from signaling to the public that the Committee is paying close attention to how developments in Europe pose risks to the U.S. economy and to the financial markets. And by acting today, with the extension of the MEP, we show our willingness to take further actions as necessary. Again, this is a close call for me today, but I will join you, Mr. Chairman, and the majority of the Committee and support alternative B today. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Yellen.

MS. YELLEN. Thank you, Mr. Chairman. I support alternative B. With respect to language, I'd like to thank Presidents Kocherlakota, Plosser, and Williams for their constructive suggestions concerning reorganization of the statement, and I welcome your further work on this topic. With respect to policy, I agree with the Tealbook's reading of the data that, absent further monetary policy accommodation, economic growth is likely to be insufficient to achieve any meaningful progress in lowering unemployment. Moreover, the downside risks to growth are huge and predominate. Absent further policy action, inflation seems likely to come in somewhat below our 2 percent objective. If this assessment is correct, we will need to undertake significant new actions. An extension of the MEP is a very modest step and will not be sufficient to promote our objectives. On risk-management grounds, I believe one can make a strong case for action now. President Evans has made that case, and I'd like to associate myself with his comments on this score. However, I can support an extension of the MEP today, forgoing stronger actions for the time being, on the grounds that it makes sense to avoid a rush to judgment that might entail an overreaction to the spate of weak data we have seen. I see continuation of the MEP as a temporizing move, a way to signal to markets that we're awake,

that we're concerned by recent developments, that we do not see the economy as strong enough yet to withdraw the medication regime that's been in place, and that we're watching and waiting to evaluate what further actions may be necessary to promote economic growth and address downside risks. Today's action keeps the door open to doing more. It's natural to extend a program that's in place and would otherwise end now, and doing so has limited downside risk.

I consider it essential, though, for the FOMC to be forward leaning, to assure markets and the public that we will act if it's necessary to prevent the economy from stalling out, and I think the language in paragraph 4 of B accomplishes that without committing the Committee to QE3. If, as I fear, action proves necessary in the days ahead, I'm open to a further LSAP, including a program that's open ended, or an extension of our forward guidance. I also think we should give priority to attempting to devise something new, conceivably an innovative discount window program to stimulate lending along the lines announced by the Bank of England. If we do decide at a future meeting to move out the date, I'd like to say that I'm attracted to the revised forward guidance language proposed in alternative A that follows the suggestion of President Kocherlakota and Governor Raskin. The proposed language eliminates reference to the adverse economic conditions required to hold the funds rate at zero and substitutes in its place a more positive and confidence-building explanation for maintaining a highly accommodative monetary policy. I would wait to introduce that language until such time as we decide to change the forward guidance, on the grounds that today we would lack the context—I think it would be confusing. But it's a very constructive suggestion.

CHAIRMAN BERNANKE. Thank you. Governor Duke.

MS. DUKE. Thank you, Mr. Chairman. I'm in favor of alternative B. I think it's the right move, but try as hard as I can, I still can't say that I'm proud of it. I actually think it

illustrates just how limited our remaining arsenal actually is. So I want to thank you, Mr. Chairman, for acknowledging this in your opening remarks. I wondered why alternative B expressed the MEP extension as a flow with an end date rather than as a stock amount. It was my understanding, as President Plosser said, that we'd come to the conclusion that it was the stock rather than the flow that drove the market reaction. And I also thought that the end of the year, given the election and the fiscal cliff, was an odd time to choose for ending the MEP, and then I figured out why we weren't announcing a total. The whole program amounts only to a measly $267 billion—and I considered "measly," "dinky," "small." By December, we're going to be emptying the lint out of our pockets to find short-term securities to sell. We've talked often about the advisability of doing what we can as early as we can so that we can get the effects sooner and create a more resilient recovery in the face of shocks, but as we run out of options in the face of some pretty scary downside risks, I think we need to count our remaining moves and make sure that we use them when they'll have the greatest impact. Realistically, we have at best two $500 billion weapons left before the tradeoffs start getting really dicey in terms of market functioning, and while those aren't exactly "flash bang" options, we could need them if the European situation or the fiscal cliff creates conditions that require a confidence-building move from the Fed. At this point, I admit that my policy preferences are driven more by the desire to maintain confidence than by my forecast or a fine calibration of the costs and benefits. And I suppose that my stance doesn't fit well with anyone's view of better communication.

In terms of what we do with the statement, I'm going to continue to follow the Tarullo rule, which is to make as few changes that are not required as possible, and so I would keep 3 from B rather than A until we were changing something else in there. I would not use 5. I do

think I would prefer the language that President Williams offered, but I didn't get to write down all of it. So I'm not entirely sure.

Finally, Mr. Chairman, I'm in favor of extending the MEP as long as we can, but I'm worried about our additional options after that. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Tarullo.

MR. TARULLO. Thank you, Mr. Chairman. I will vote for alternative B. As a number of people have already commented, the effectiveness of it in real terms is probably somewhat limited. There's obviously some psychological benefit associated with it, particularly in light of the forecasts that we're all going to be putting forth. I think, though, that we've got, as Betsy just indicated and as others have said, a short- to medium-term problem, which is planning for what else we may do. As I listen around the table today, it feels to me as though there's a reasonably clear path in many people's minds if something really adverse happens in Europe—which is to say, another LSAP. But it's substantially less clear to me what people think reasonable options are in the event that we continue along in the mud, to resurrect my metaphor, for some time to come, with Europe looming over us; with the fiscal cliff looming over us; with clearly subpar, perhaps even subtrend, economic growth; but without the catalyzing event of a major shock in Europe that almost forces action by us and maybe on a coordinated basis with other central banks. I know that the answer a number of people would give would be to do nothing, but obviously there are a number of people around the table who would like options as well. And I'd like to echo what Sandy said a moment ago about the need to better understand the costs to market functioning that would be associated with larger or continuing purchases. We allude to those costs, and Brian occasionally tries to give us some, maybe somewhat intuitive, sense of when those costs will begin to be experienced. But trying to understand the costs side

of the ledger with a bit more precision, I think, is something I at least would find useful—not only the question of at what point we begin to experience potential costs to market functioning, but also the specification of what those costs will be so that they can be balanced against the potential benefits of large or unusually large purchases in the future. I also think, as several people have also said, that it is worth again returning to the question of whether there are things other than straightforward, clearly stated LSAP purchases that would be available to us, once again assuming that we face a prolonged period of subpar and perhaps even subtrend economic growth.

I think Charlie Evans was trying not to be alarmist while still stating a fact that is probably beginning to eat at all of us. We're now at least four years into crisis, recession, and poor recovery, and instead of seeing a clearer way out now and the kind of recovery that the Tealbook for a while kept bumping off another couple of quarters but still saw on the horizon, we're facing perhaps as serious a crisis as we experienced in financial markets in late 2008, even though the epicenter now would be across the Atlantic. This at least raises the prospect that we really are slipping into something substantially more chronic from which it's harder to emerge. And just sitting and waiting for things to repair themselves may be no more effective than it was in the 1930s, although for a different set of reasons and with a different set of dynamics than persisted then. I don't think Charlie tried to suggest that that was the case now; I'm certainly not trying to suggest it. But I do think, in the spirit of sensible—even lower-probability—contingency planning, we've got to at least begin thinking about that possibility and what it means for monetary policy given the other circumstances we confront.

In terms of today's statement, as I said, I will vote for alternative B for the reasons many of you have stated. I don't think now is the time to move to the B′ language. I would like to see

what Narayana, John, and Charlie would come up with as the B′ statement from their point of view. It would be useful to look at over time.

Finally, I wanted to come back to something that Narayana said in his intervention. As most of you around the table know, I ultimately didn't vote for the consensus statement in January, the principal reason being I didn't think it was going to communicate effectively exactly what our policies were and, most importantly, whether we genuinely had a symmetric loss function. And I believe Narayana points out ways in which those concerns have been realized through the perhaps unexpected mechanism of the SEP. But I do think that paying attention to the observation that Narayana made, which others are making as well, is going to be important for communicating effectively. I didn't hear anybody say during that debate that 2 percent was the upper bound of inflation, but it is the case that one could look at the SEP as well as at some statements that some people make, and think that was so. I had what were obviously, from most people's point of view, inartful suggestions as to how to make clearer that this is a genuinely symmetric loss function, but I don't think the statement did it. We are seeing today how it didn't quite do it, and we may be inadvertently compounding the problem when the results of the SEP are released. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Governor Raskin.

MS. RASKIN. Thank you, Mr. Chairman. At the outset, I'd like to show my support for the spirit that animates alternative B′, and look forward to the continued evolution of a statement by the so-called KPW team. Today I support alternative B as a defensible step toward the fulfillment of our public mandate. From that perspective, however, while fully cognizant of the risks involved in more balance sheet actions, I do wonder at times whether we are doing all that we can. In particular, I do see some limited policy space worth exploring regarding the forward

guidance—not simply with the date, as we've discussed in the past, but with the language immediately surrounding the date. So, like President Evans, President Kocherlakota, and Governor Yellen, I support the consideration of moving the wording from paragraph 3 in alternative A to the forward guidance paragraph because I'd like to make sure that expectations about policy are not clouded by pessimism in the outlook. Using communication as a monetary policy tool is intended to work through future expectations about the course of the recovery. In other words, the more we can tell the public about our long-term plans, the greater our ability to stimulate the economy, even at the zero lower bound. It turns out that communication requires skill. If the description of the action taken is so sobering that it mutes the desired stimulus effect of the low interest rates, then why would anyone buy anything or invest in producing it if you think the economic outlook is so awful that policymakers dare not raise rates until at least late 2014? Instead, why are we not letting the public know that the FOMC is committed to helping the recovery and won't risk it to fight less than 2 percent inflation? If households and businesses are rational, forward looking, and obsessed enough with monetary policy to be reading our statements, don't we want to focus on tuning the policy guidance to emphasize its positive features? Given the rampant levels of confidence-detracting news and perceptions, ranging from developments in Europe to suspicions that homeowner relief programs are disproportionately helping the banks, it seems prudent to strip the negative connotations from all but our outlook and consider the paragraphs related to policy as a means to influence expectations positively so that we don't have to declare defeat before the policy has had a chance to be credible. Accordingly, I would like to see us continue to consider a reframing of the forward guidance.

I find myself pushing on the communication effects of the forward guidance because I'm not sure this extension of the MEP constitutes new accommodation. Because the effects of doing

nothing in terms of extending it would be contractionary, it may be more of an on-hold strategy. And again, I wonder whether we intend to be communicating "on hold" now, given the weaker outlook. When the funds rate was the only policy instrument, the meaning of "on hold" was clear. When the Fed kept the funds rate constant, the stance of monetary policy was unchanged. But since late 2008, with the funds rate stuck at the zero lower bound, we have used a variety of unconventional tools to ease policy. Unlike with changes in the target funds rate, the degree of monetary stimulus from these actions may naturally decline over time. As a result, we may need to take active steps just to keep the policy stance constant. That's what the MEP extension seems to do for the time being. There are several reasons why inaction today could constitute a passive tightening and why extending the MEP could be viewed as being on hold rather than accommodative. Because markets are forward looking, the impact of the MEP depends not only on the announced stock of asset purchases but also on the entire expected profile of the central bank's balance sheet over time. So the effect of an MEP on rates is temporary because we've committed to normalizing the balance sheet in the future. Therefore, as time passes, the expected present discounted value of the excess asset holdings begins to decline as this eventual normalizing of the balance sheet gets closer.

Let's be clearheaded. We may not be doing much in the face of a weaker outlook, and the public may lose confidence in the institutional ability of our public institutions to do what's necessary to address this poor outlook and the pressing problems of the economy. In this regard, I haven't studied the details of the Bank of England's Funding for Lending Scheme but am impressed with the spirit and rationale that animate it. That spirit and rationale can be described in macroeconomic terms as an attempt to steer future expectations toward policy that can enhance future economic growth. It can be described in public terms as underscoring the view

that we live in an economy where there are solutions to economic problems, not just problems, and that fiscal and monetary institutions can be trusted to be working in a timely way on the creation of those solutions. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Stein.

MR. STEIN. Thank you, Mr. Chairman. I support alternative B. I'm essentially in agreement with the staff's forecast, which has us making disappointingly slow progress on output and on unemployment and which sees inflation as subdued, likely coming below our 2 percent target. So it seems to me that both sides of our mandate point pretty clearly toward a need for further accommodation. On top of that, there are the potentially severe downside risks associated with the current situation in Europe. I framed it, Mr. Chairman, as you did, which is, I started by asking myself, if we were away from the zero lower bound, what would we do? And I clearly say, I think it's not a close call. I would be unambiguously in favor of easing.

At the same time, I, too, find the analysis to be less straightforward when we have to provide that further accommodation by quantitative means—that is to say, by buying more long-term bonds. This is both because I think the further stimulative benefits of doing so at this time, while positive, are likely to be quite small and because I feel that there are a variety of potential costs and simply raw uncertainties—and here I would echo what President Pianalto said—associated with the bond purchases that at least I, in my own mind, have not fully come to grips with. A number of these have already been enumerated, and I won't go over them again. I did want to flag one particular cost that I thought was possibly relevant and which looms larger when we're in the interest rate environment that we're in. That is to say, the 10-year Treasury was, as of this morning, I think, about 1.62 and, as Brian described yesterday, term premiums—expected returns on these Treasuries—are near at least recent-history lows and are something like 150

basis points below their norms over the last 15 or so years. Here's a very gut-level way to say it: It just feels strange to me to want to be buying an asset—in this case, long-term bonds—when its price is abnormally high relative to its expected cash flows and when, in at least some sense of the word, we would be seeking to push that price further away from fundamental value rather than closer. And note that this is the opposite of what we did in QE1, when the Fed was effectively acting as a marketmaker of last resort in MBS. Spreads were abnormally wide, and in some sense, you could say that we were moving prices closer to where they would be in an idealized, frictionless world. Just to push the logic a little bit further, you could imagine a hypothetical situation in which we kept buying MBS to the point where somehow the spread on MBS was negative relative to Treasuries. Presumably this would have some stimulative effect, but one might at the same time worry that there are some allocative distortions beneath that stimulative effect.

Now, this is all, admittedly, very loose. And let me see if I can be more precise and characterize what I think the nature of the costs might be in this particular case. One story that has been repeated around this table over the last couple of days for why we have such strongly negative term premiums in long-term Treasuries is that right now, they're serving as a safe haven for investors who want, in some sense, absolute surety on their investment. They want to be able to park it in a place where they really don't have to worry about it. You might say, in some sense, that these investors are getting a flow of benefits from holding long-term Treasuries—that is, in a way, it's money-like. In the same way that you accept a reduced return on currency, you accept a reduced return on long-term Treasuries. So if this interpretation is right—if some of the negative term premium that we see is in some sense a money type of premium—it follows that if by buying in these long-term Treasuries, if you reduce the supply of this valuable money-like

commodity, you're imposing some kind of a welfare cost. Now, I don't want to overstate this. I'm not prepared to make any kind of quantitative estimate of the magnitude of this welfare cost. But I think as a conceptual matter, it belongs on the table. And I would also note that it's interesting that in other contexts Fed policy has been sensitive to precisely this sort of consideration. Earlier on—2007, 2008—it was short-term Treasuries that were essentially the scarce money-like commodity. They were on special, their yields were below zero, and policy responded to that. I interpret the TSLF as an attempt to lean against this scarcity issue.

Having raised these concerns, which I think belong on the table, let me try to keep them in perspective. As I said, I do believe that there is a cost side associated with further bond purchases, and it's a somewhat unknowable, at least to me, particularly given where interest rates and term premiums are. This would make me uncomfortable at this point with the more aggressive alternative A. At the same time, I think the argument that I've made is, again, a tentative one, and because I'm not in a position to flesh it out quantitatively, I don't want to take it too far. With respect to alternative B, it seems to me that the incremental costs, along these lines, of the maturity extension program are likely to be modest, as are, in my view, the direct stimulative benefits. And so, as a number of others have mentioned—President Lockhart, I think you made this point—this leaves the indirect signaling effects of alternative B as perhaps its most important element. I do think it is very important that markets understand that the Fed is on the job and stands ready to step up in other ways, perhaps with some of the other tools that we have available, if the situation in Europe deteriorates badly. To the extent that going with alternative B is helpful in communicating that message might be its biggest virtue at this point in time. Thank you.

CHAIRMAN BERNANKE. Thank you. Governor Powell.

MR. POWELL. Thank you, Mr. Chairman. I'm going to support alternative B as well. I have struggled with the nagging thought that there may be a plausible alternative, which is to hold off for now, wait and see how the economy and the situation in Europe evolve, and perhaps keep our remaining powder dry in case there's a need for coordinated intervention. I do share many of the concerns raised around the table. Briefly, to start back at the beginning, I am somebody who does see a substantial output gap, although I'm mindful of the history and of the dangers of relying on contemporaneous estimates of it. Nonetheless, I believe that the chances are that there's a substantial output gap now.

However, I harbor real doubts about the efficacy of further balance sheet actions to close that. So the argument is, why not try? And that leads you straight to the issues that the Chairman raised succinctly at the beginning, which I continue to struggle with, particularly the thought that we're approaching the limits of asset purchases. I note that there is an article on FT Alphaville this morning talking about illiquidity and that being a bar to the MEP. I mentioned this to Brian beforehand, and they're far ahead of Alphaville; I understand that. But just to echo what President Pianalto and Governor Tarullo said, I'd personally like to understand those limits much better. To the extent it's possible to be more precise about what they are, I would love to do that. But perhaps that's an argument for using further quantitative easing if we have to, beyond the MEP, as more of a defensive weapon going forward. As I weigh the arguments against extending the MEP, in the end, I don't find them carrying the day, mostly because of the presence of significant financial market stress and the very real threat that it could get a lot worse. This is a particularly bad time to withdraw accommodation. And I agree with what Governor Stein said—it's important that the Fed send the signal that we do have additional

ammunition and we're prepared to use it. I also would say that what is proposed is a relatively small program. It doesn't cost us much to extend the program and let events clarify themselves.

Finally, it's hard for me to say whether this action will have much of an effect on longer-term rates or produce the forecasted reduction in unemployment or the slight increase in inflation. It does seem fairly likely to me, however, that it would produce more-accommodative financial conditions, by which I mean lower risk premiums, increased liquidity, and reduced risk aversion at the margin—in the markets and, perhaps ultimately, in the real economy. So, on that basis, I find myself in support of alternative B. Finally, I join the chorus of those urging the non-inclusion of paragraph 5. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. Thank you. Vice Chairman.

VICE CHAIRMAN DUDLEY. Thank you, Mr. Chairman. I think most of us agree that we're not making adequate progress toward our employment objective—we don't expect that we will make adequate progress over the next year or two—and that the downside risks to our outlook for economic growth predominate. All of that implies to me, at least, that there is a good case for moving more forcefully now. Nevertheless, I support alternative B at this meeting because I think we'll soon know a lot more about the economy and Europe and because the statement holds out the prospect for further action should some of the downside risks we face begin to be realized. I don't think the continuation of the maturity extension program would do very much—it's just not that powerful—and it could actually result in tighter financial conditions if it were viewed as ruling out a further large-scale asset purchase program. Thus, to me, it's very important that the statement be written so as not to imply that the MEP extension precludes an additional LSAP—in other words, that we're somehow out of ammunition. I think that would be very damaging. Alternative B, as written, does meet the test. I read it as saying

that we are extending the MEP through year-end and are open to stronger action should the situation continue to deteriorate.

The question then is, what would that further action be? Obviously, that depends on the circumstances. In terms of monetary policy actions, as opposed to special liquidity facilities, if we need to escalate, I'd be most inclined toward another large-scale asset purchase program. I would favor agency MBS over Treasuries, at least at the start, because I think the MBS purchases work on two margins: first, the level of long-term interest rates; and second, the spread between agency MBS yields and Treasury rates. However, the potential size of an MBS purchase program is constrained by the volume of new agency MBS production, and if we go beyond a certain point, we start to disrupt market functioning. If you wanted to do something that was larger and more powerful—say, going beyond $500 billion over the next 12 months—that would almost certainly argue that some portion of the purchases would have to be in Treasury securities. I would also strongly consider altering our forward guidance and working to see what could be done in a coordinated way with our foreign colleagues. I can imagine that a coordinated LSAP program might be well received by markets. I think that seeing what could be done in terms of a long-term discount window lending program is something that we need to consider. I do think, though, that we have to be very clear in that about what problem are we actually trying to solve with such a program, how operationally feasible it is, and how quickly it could actually be stood up. I remember that during the crisis, there were a lot of proposals to do things, and then they took so long to come into effect that the programs actually turned out to be very ineffective. Also, we should recognize that the Bank of England is doing this in conjunction with the U.K. Treasury, and so we also have to be very careful that we don't step beyond the border and do something that's actually engaging in fiscal action.

In terms of the statement, I frankly don't read A(3) as that different than B(3). I read it a couple of times, and I don't really read it as meaningfully different. It's a very subtle distinction, and I think that changing the language would just confuse people: "Why are you making this change?" Regarding the KPW consortium and B′, I'm certainly open to going down that track in the future, and I encourage them to keep working on it. I am really torn on paragraph 5. I think it's an accurate statement of how we feel. We should include it if we think it's reassuring; we should exclude it if we think it's scary. And I've read it a couple of times, and I can't decide—which way does it tilt? Is it reassuring, or is it scary? So I could go either way on that.

Finally, let me make one final point about communication. We have these meetings, and some people don't always get what they like, and so the policy decisions of the Committee can diverge from what some of us would like to do individually. It's very important, when people don't get their way or when they disagree with the policy choices, that they do not totally trash the policy choices that the Committee has made, because in totally trashing the policy choices that the Committee has made, you're basically undercutting the efficacy of that policy. For example, I think, President Fisher, using phrases like "road to perdition" just goes too far. State why you disagree with the policy, state why you think the costs of the policy are greater than the benefits, but I don't think it's helpful to then use such inflammatory phrases associated with the policy that we've actually decided on, because it damages the Committee and the efficacy of the policy.

CHAIRMAN BERNANKE. All right. Thank you, all. Just to summarize, the outlook has gotten worse, the risks are more severe, and we have a forecast that, frankly, is very hard to defend—one in which unemployment is above everybody's estimate of the long-run natural rate and is coming down very slowly at the same time that inflation is less than our target. Again, all

of that makes a strong case for action in general. We are facing a situation where our policy tools are not as simple and not as easy to use as in normal times. That makes the situation more complex. Alternative B proposes what, I think, is being viewed as a temporizing move. It gives us a chance to respond to the evident need for some support for the economy while at the same time giving us a chance to observe further developments, to conserve some firepower if things worsen considerably, and to look at other types of programs, as we've been talking about a bit around the table. Again, I don't make any strong fundamental case for extending the MEP except that, as I said at the beginning today, I think it makes tactical sense at this juncture and gives us a great deal of flexibility to go forward and to make choices based on how the economy and the outlook evolve. I would push back just a little on the idea that this is an action that has essentially no consequences. The standard calculation suggests that this is roughly equivalent to a federal funds rate cut of between 25 and 50 basis points. Does that sound right, Bill?

MR. ENGLISH. Yes, that's right.

CHAIRMAN BERNANKE. That's not trivial. And even though term premiums are very low and interest rates are very low, this program should work through a variety of channels, including other asset prices and spreads, and should have some beneficial effect on financial conditions. I have some trouble with the argument that Europe has done the work for us. It's true that European stresses have lowered our Treasury yields, but they have, at the same time, lowered stock prices, increased volatility, increased spreads, and strengthened the dollar. If you put all of that together, you get an overall financial impulse that is a negative rather than a positive for economic growth. I take many of the useful comments around the room very seriously, and I think we should consider ourselves in a watchful mode, trying to evaluate both

the underlying situation in the economy and the global risks that we are currently facing. With respect to the language—Steve, today has been pretty calm, I think, in Europe. Is that correct?

MR. KAMIN. Yes. The sovereign spreads for Italy and Spain, having fallen yesterday, have fallen again today, at least as of this morning. The Greek government looks as though it's on the cusp of putting together its coalition government. So it does seem as though the markets are calm for now.

CHAIRMAN BERNANKE. I think I would therefore, along with a number of you, strike the bracketed paragraph at the end of the statement. This is something that we might consider doing, for example, in conjunction with other central banks should the situation arise that stresses intensify.

Let me quickly take up a couple of other suggestions. President Kocherlakota advocated Governor Raskin's suggestion on substituting A(3). As I mentioned, I have a bit of concern that this would be interpreted as completely unconditional. And I wonder if it would be acceptable for us to work on this over the intermeeting period to try to get something with this spirit, but that captures the idea that should conditions change, this would not be an unconditional commitment. Is that all right?

MR. KOCHERLAKOTA. That sounds very reasonable.

CHAIRMAN BERNANKE. The other suggestion was the one President Williams had on the language in paragraph 2. Perhaps we could just see if there's broad interest in this or not. Just to read it again—you can correct me, President Williams. This is in alternative B, paragraph 2, second sentence—the one that now begins, "The Committee expects economic growth . . ." As I have it, the introductory phrase would be, "With somewhat less recent momentum in domestic demand and greater strains in global financial markets, the Committee expects

economic growth to remain moderate . . .” and I would definitely take out the “downside risks” sentence in that case because it’s purely repetitive on the increased risks. That phrase is more descriptive. On the other hand, it changes the formula. We’d have to figure out how to update it next time, et cetera. Anyone want to speak for or against that change?

VICE CHAIRMAN DUDLEY. You’re taking out the “Furthermore” sentence, then?

CHAIRMAN BERNANKE. Don’t you think, if we’re already saying “greater strains in global financial markets . . .”?

VICE CHAIRMAN DUDLEY. I think that’s going to be weird to take it out at this particular meeting, given that the strains have actually intensified since the last meeting. People will have trouble parsing why we’re taking it out.

CHAIRMAN BERNANKE. Okay.

MR. POWELL. We just moved it.

MS. DUKE. Moved it up.

CHAIRMAN BERNANKE. How about, “With somewhat less recent momentum in domestic demand and with global financial markets continuing to pose significant downside risks, . . .”? Would that be okay?

VICE CHAIRMAN DUDLEY. Yes. If you phrase it almost the same way, then I think you can.

CHAIRMAN BERNANKE. President Williams, did you hear what I said? Was that okay?

MR. WILLIAMS. The point I was trying to make was that the greater strains in global financial markets are part of the outlook in our baseline forecast.

CHAIRMAN BERNANKE. Right.

MR. WILLIAMS. Then, in addition to that there are downside risks.

VICE CHAIRMAN DUDLEY. They are slightly different things.

MR. WILLIAMS. I see these as being both in play and both important parts of our decision.

VICE CHAIRMAN DUDLEY. So you would keep the second sentence, the "Furthermore" sentence.

CHAIRMAN BERNANKE. Okay. At a minimum, can we at least change the phrase "greater strains" so that it's not identical to the other?

MR. EVANS. What about "global economic developments in that first part"?

MR. WILLIAMS. Or "tighter financial conditions"?

VICE CHAIRMAN DUDLEY. "Tighter financial conditions" would be appropriate.

CHAIRMAN BERNANKE. "With somewhat less recent momentum in domestic demand and tighter conditions in financial markets, . . ."?

VICE CHAIRMAN DUDLEY. Just "tighter financial conditions."

CHAIRMAN BERNANKE. "Tighter financial conditions"?

MR. WILLIAMS. "Tighter financial conditions."

CHAIRMAN BERNANKE. Do you feel comfortable with that change?

MR. LOCKHART. Could you repeat that again, please?

CHAIRMAN BERNANKE. "With somewhat less recent momentum in domestic demand and tighter financial conditions, . . ."—and then we would go on—". . . the Committee expects economic growth," et cetera. President Lockhart.

MR. LOCKHART. Can we really support to the general public that the lower 10-year bond rate, combined with zero-lower-bound interest rates and a fluctuating equity market,

constitutes tighter conditions? I don't know if that's going to resonate with everyone out there. We're really referring to conditions that are related to Europe, it strikes me.

MS. DUKE. How about "more volatile" or something that gets to the uncertainty.

VICE CHAIRMAN DUDLEY. Their source may be Europe, but the conditions are germane here. What do Brian and Nellie think about this?

MR. SACK. Given the movement in equities, other risk prices, and the strengthening of the dollar, it seems that financial conditions broadly are tighter. Yes, the fall in yields is a partial offset to that, but we think the net effect is clearly tighter financial conditions.

VICE CHAIRMAN DUDLEY. I see Nellie nodding in the back as well.

CHAIRMAN BERNANKE. Was that an authorized nod? [Laughter]

MS. LIANG. I agree with what Brian said.

CHAIRMAN BERNANKE. Okay. Why don't we take a straw poll on this particular language—unless there are further suggestions or comments? [No response] How many people would like to make the change? All participants can participate. Three, four, five, six, seven, eight… How many are against? Then, it looks as though the change carries.

VICE CHAIRMAN DUDLEY. By a nose.

MR. TARULLO. Mr. Chairman, what do you want to do? Do you have a preference?

CHAIRMAN BERNANKE. Do I have a preference? I would have had a preference to have 15 more minutes to think more about the wording. [Laughter]

VICE CHAIRMAN DUDLEY. We do have 15 more minutes.

MR. TARULLO. We do have time.

MR. POWELL. If it's not a strong preference, we shouldn't do it. It's too complicated

MR. TARULLO. We should get comfortable with this, one way or the other.

MR. FISHER. Mr. Chairman, you have to express it, so what's your preference?

MR. KOCHERLAKOTA. Yes, you have to explain what it means.

VICE CHAIRMAN DUDLEY. Well, the Tarullo rule would say, no, don't make the change because it's such a close call, right?

CHAIRMAN BERNANKE. I'm really okay with it either way. Does anyone have any strong objection? [No response] All right. So we keep the first sentence as it stands. The second sentence begins, "With somewhat less recent momentum in domestic demand and tighter financial conditions, . . ."

MR. WILLIAMS. "It might be easier to say "some tightening in financial conditions." It might read better.

CHAIRMAN BERNANKE. How about, "and some tightening"—I-N-G—"in financial conditions, the Committee expects economic growth . . ." Okay?

MR. LOCKHART. Mr. Chairman?

CHAIRMAN BERNANKE. Yes. President Lockhart.

MR. LOCKHART. I'd make the argument that we seem to be responding to relatively short-term changes. Various elements of what we're calling tightening, like the dollar, could turn around quickly, and we're connecting that to a view that economic growth is going to remain moderate over coming quarters. That's a long time to pin on this short-term tightening, which could change dramatically depending on circumstances. Quite frankly, I don't see that it connects very well.

VICE CHAIRMAN DUDLEY. How much has the trajectory of financial conditions changed in the Tealbook forecast, for example?

MR. WILCOX. That's quite a big portion of our adjustment in the economic outlook. The dollar is worth several tenths on our adjustment to economic growth this year and next.

VICE CHAIRMAN DUDLEY. I thought that Steve Kamin's view on Europe was that this was going to be a cloud for an extended period of time. You could be right that conditions could change on a dime, but I think that the baseline view is that this is going to be around for a while. Is that fair, Steve?

MR. KAMIN. Yes, that's absolutely right. One issue is that, in some sense, our outlook is predicated not just on financial conditions in Europe being stressed but also on them getting more stressed. And that is something that would not be communicated by the sentence in the statement, nor would we want it to be communicated in the statement. Another, minor issue is that if there's a follow-up question—well, what are these financial conditions that have gotten worse? Then you'd have to cite the higher dollar, and that is a little problematic, too, but it can be dealt with.

VICE CHAIRMAN DUDLEY. Right.

CHAIRMAN BERNANKE. Anyone want to change their vote?

MS. DUKE. Yes. I was in favor of it, but with this much discomfort with it, I think I'd be more comfortable leaving it alone.

CHAIRMAN BERNANKE. There's the status quo rule. All right. Thank you. I'm sorry for the diversion. We gave it a serious look. So I think we're ready. Alternative B, I think, is unchanged as written, right?

MS. DANKER. Yes. But no paragraph 5.

CHAIRMAN BERNANKE. No paragraph 5—correct.

MS. DANKER. Okay. This vote is on alternative B—the statement as written, no paragraph 5—and the associated directive.

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

CHAIRMAN BERNANKE. Thank you.

Brian will just say a few words about our operational plans for the MEP. Very quickly, while he's distributing the handout, let me just remind you that the next meeting is July 31–August 1. That's Tuesday and Wednesday. There will be a press conference today at 2:15, and the Special Library will have a screen, if you are so inclined. After we finish today, there is coffee available, and then lunch will be available in half an hour or so. And let me note that we had earlier on talked about having a special topic on rules-based policy with and without the zero lower bound at this meeting. That was delayed because the work wasn't complete, and we will now do that in July. President Kocherlakota.

MR. KOCHERLAKOTA. Yes. Mr. Chairman, I just wanted to second the comments that I've heard around the table about exploration of our remaining tools, their costs and benefits. Everything I have heard leads me to believe that we're close to the end of our balance sheet tools. So I think that communication should be part of that panoply of tools that are under consideration.

CHAIRMAN BERNANKE. We will do that. President Fisher.

MR. FISHER. First, Mr. Chairman, I want to say to Vice Chairman Dudley that I will never refrain from expressing my views at this table, but I will be very conscious about the honey-fication of my comments in public. So thank you for your comments. I wanted to second what Narayana just said, because Vice Chairman Dudley started yesterday on this point about our contingency planning, not just on monetary policy but also on stability measures. I heard Governor Duke, Governor Tarullo, Governor Stein, and others—just now, Narayana—on it. As you know, I've spoken about contingency planning often, and I would like to see us flesh that out as much as possible and focus on the tradeoffs that Governor Tarullo mentioned in terms of the cost–benefit analysis. I think that's a very high-priority item for us. Thank you, Mr. Chairman.

CHAIRMAN BERNANKE. We are looking at the discount window option here at the Board. What that means exactly is not entirely clear, but something along the lines of the Bank of England's initiative. The Desk should be able to give us some estimates of how much space there is for other kinds of actions, and we need to address this in the intermeeting period. Okay. Anyone else? [No response] Brian.

> MR. SACK.[7] Thank you. Following recent practices, the Desk intends to release a statement with operational details on the continuation of the maturity extension program at the same time as the release of the FOMC statement. You've received a copy of a draft of that statement in the "Material for FOMC Presentation: Operational Plan for Maturity Extension and Reinvestment Initiatives." There are actually a few changes being made based on comments from the communications group, so there will be a few slight differences between this and the actual statement.
>
> The continuation of the MEP will entail the purchase of about $267 billion of Treasury securities with remaining maturities of 6 to 30 years, and the sale or redemption of an equal par amount of Treasury securities with remaining maturities of approximately 3 years or less.
>
> As highlighted in the table contained in the Desk statement, the purchases will be allocated across five sectors with the same weights that have been used in MEP

[7] The materials used by Mr. Sack are appended to this transcript (appendix 7).

purchases to date. This distribution allocates a large share of the purchases to long-term securities in order to extend the average maturity of the SOMA portfolio.

A combination of sales and redemptions of Treasury securities will be conducted to match the amount of purchases over the program. Sales will take place in securities maturing between January 2013 and January 2016. This range defines what is meant by "approximately 3 years." The maximum maturity to be sold will be 3 years and 1 month at the end of the program. And over the course of the program, we will add the longest maturities in this range gradually over time, so that the Desk is never selling a security with more than 3¼ years to maturity.

On redemptions, securities maturing in the second half of 2012 will be fully redeemed—that is, they will be allowed to mature without reinvestment. Note that redeeming maturing Treasury securities has a nearly identical effect on the portfolio as selling securities that are approaching maturity. This, operationally, has advantages and has the same effects as sales. Overall, sales are expected to total about $234 billion, and redemptions will total about $33 billion.

The average duration of the securities purchased is expected to be between 10 and 11 years, while the average duration of the securities sold or redeemed is expected to be between 1 and 2 years. Based on this difference, the average duration of Treasury holdings in the SOMA portfolio is expected to reach 8 years after having increased from 5 to 7 years as a result of the program scheduled through June. In terms of 10-year equivalents, the amount of duration risk removed by the continuation of the MEP is expected to be just over $250 billion. When added to the effect of the initial program, the total amount of 10-year equivalents removed by the MEP as a whole is expected to be about $700 billion.

The Desk anticipates conducting about 15 purchase operations and 5 sale operations per month on average. The Desk will continue to release a schedule of operations on the last business day of each month, covering the subsequent calendar month. The first release is scheduled for next Friday, June 29.

CHAIRMAN BERNANKE. Thank you, Brian. Questions for Brian? [No response] Once again, thank you for your service and the very important contributions you've made. The meeting is adjourned.

END OF MEETING